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PROCEEDINGS

Incodel Annual Conference
Pocono Manor, Pennsylvania
September 25-27, 1956

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THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS

INCODEL ANNUAL CONFERENCE

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POCONO MANOR, PENNSYLVANIA

SEPTEMBER 25-27, 1956

C O N T E N T S

FOREWORD

CONFERENCE PROGRAM

REGISTRATION LIST

NEWSPAPER COVERAGE

FOREWORD

Incodel's 1956 Annual Conference was held at Pocono Manor Inn, Pocono Manor, Pennsylvania, September 25-27, 1956.

In attendance were about 200 state and local governmental officials and citizens from Delaware, New Jersey, New York, Pennsylvania and Washington, D. C.

The Proceedings of the Conference are divided into three sections, as follows:

Conference Program

Registration

Newspaper Coverage

The section on Conference Program includes a copy of all prepared reports, in entirety or in digest, which were given at the Conference sessions. The official program for these sessions is presented at the beginning of this section.

The section on Registration consists of a list of all persons who attended the Conference and filled in a registration card.

The section on Newspaper Coverage consists of a montage of newspaper clippings about the Conference which were brought to the attention of the Incodel office.

PROGRAM

INCODEL ANNUAL CONFERENCE
POCONO MANOR, PENNSYLVANIA
September 25-27, 1956

TUESDAY, SEPTEMBER 25, 1956

3:30 p.m. Incodel Executive Business Meeting.

7:00 p.m. Joint Dinner Session - Incodel and Delaware River Basin Advisory Committee. (Members and staff only).

WEDNESDAY MORNING, SEPTEMBER 26, 1956

Hon. Joseph E. McLean, Chairman, New Jersey Commission on Interstate Cooperation, presiding.

10:00 a.m. Annual Report of Incodel Chairman

Mr. Francis A. Pitkin

10:20 a.m. Report of U. S. Supreme Court River Master

Mr. C. G. Paulsen
Chief Hydraulic Engineer, U. S. Geological Survey.

10:40 a.m. Report on U. S. Army Engineers' Delaware River Basin Programs

Col. Allen F. Clark
Philadelphia District Engineer.

11:20 a.m. Report on Delaware River Programs of the Legislative Committees of Pennsylvania and New Jersey

Senator Joseph J. Yosko - Pennsylvania.

Senator Wayne Dumont - New Jersey.

11:50 a.m. Discussion.

12:15 p.m. Luncheon Recess.

WEDNESDAY AFTERNOON, SEPTEMBER 26, 1956

Hon. Elisha T. Barrett, Chairman, New York State Joint Legislative Committee on Interstate Cooperation, presiding.

2:30 p.m. Delaware River Basin Advisory Committee Programs

Mr. James Kerney, Jr., Chairman.

3:00 p.m. Delaware Valley Council

Mr. James V. Baney, Chairman.

3:30 p.m. Watershed Protection and Flood Prevention Programs of United States Department of Agriculture

Mr. Gladwin Young
Deputy Administrator, Soil Conservation Service,
U. S. Department of Agriculture.

4:00 p.m. Discussion.

7:30 p.m. Conference Dinner - Mr. Francis A. Pitkin (Chairman, Incodel), Toastmaster.

Water—A Vital Resource

Mr. Ross L. Leffler
Assistant to Executive Vice President - Operations,
United States Steel Corporation, and
member, Pennsylvania Game Commission.

THURSDAY MORNING, SEPTEMBER 27, 1956

Hon. Raymond B. Phillips, Vice Chairman, Incodel, presiding.

10:00 a.m. The New Federal Water Pollution Control Program

Dr. Mark D. Hollis
Assistant U. S. Surgeon General.

10:30 a.m. Programs and Activities of Small Watershed Associations

Premier showing of film-o-graph,
"The Brandywine, A Watershed At Work."

11:10 a.m. Conference Summary - Federal, State and Interstate Responsibilities in Water Resources Development

Hon. Maurice K. Goddard
Secretary, Department of Forests and Waters,
Commonwealth of Pennsylvania.

11:30 a.m. General Discussion

12:00 Noon Adjournment of Conference

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

ANNUAL REPORT OF THE CHAIRMAN

Francis A. Pitkin

September 26, 1956

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

ANNUAL REPORT OF THE CHAIRMAN

Incodel Annual Conference and Meeting
Pocono Manor, Pennsylvania
September 25-27, 1956

This is Incodel's twentieth annual meeting. On behalf of the Commission I extend to you a cordial welcome to this general conference, an occasion which, with the single exception of 1954, has always been held in conjunction with our annual meeting.

Disclosure of the fact that Incodel is observing its twentieth birth-year may take many of you by surprise. I must admit that it hardly seems possible that nineteen years have elapsed since the Commission held its first annual meeting and conference at Shawnee-on-the-Delaware. There are probably only three or four among us today who attended that affair.

Much water—about 57 trillion gallons, according to my calculations—has gone down the Delaware since that historic meeting. For those who may be interested in statistics, this would be enough water to meet the present municipal requirements of the City of Philadelphia for over 400 years.

WATER RESOURCES POLICIES

I would like now, with your indulgence, to use as the theme for this annual report a sentence from President Eisenhower's message of January 17 of this year, transmitting the report of his Advisory Committee on Water Resources Policy to the Congress, which says:

> "The policies we adopt (today) for the development of our water resources will have a profound effect in the years to come upon our domestic, agricultural and industrial economy."

These words ring true and clear. There is nothing partisan or political about them. The same sentiment would have been uttered, I am convinced, under similar conditions, by the President's opponent in the forthcoming election, Adlai Stevenson, or by his predecessor, former President Truman.

The pronouncement will be equally applicable twenty years from now. And it would have been just as appropriate twenty years ago, when Incodel came into existence during the presidency of Franklin D. Roosevelt.

Our very presence here today indicates that each one of us realizes that the careful choosing of policies for the development of our water resources that will assure the maintenance and expansion of our national strength and well-being is a vital necessity.

This is because an adequate supply of good water, readily available at all times for necessary and useful purposes, is absolutely essential to our national welfare. Without water, it would be impossible to produce the materiel necessary to maintain the national defense or to provide the food and fiber, homes, schools, churches, automobiles, televisions, radios and other amenities of living that build health, happiness and moral character in our people. Water is the one resource for which there is no substitute. Therefore, it is mandatory that we plan now—and continuously—to assure that water will always be available in suitable quality and adequate supply when and where needed. By the same token, we must also plan to prevent this resource from being a destructive menace.

The policies for the development of the water resources of the Delaware River Basin which Incodel has adopted and pursued during the twenty years of its operations have been, in my judgment, sound and appropriate to the conditions of the times of their application. Most certainly, they have had a profound and salutary effect upon the domestic, agricultural and industrial economy of the region.

STREAM POLLUTION ABATEMENT

When Incodel came into being, the Delaware River and many of its tributaries, particularly the Schuylkill and Lehigh Rivers, were rapidly being ruined by pollution. Sections of these streams, not so long ago, were described by one writer as the "most grossly polluted in the world," and by another as "dead and dying." Former President Roosevelt, on one occasion, called them a national disgrace.

Operating on a shoestring, and on the theory that a group of state governments has the capacity to work together toward the solution of problems of mutual concern but extending beyond the boundaries of a single state, Incodel tackled the pollution problem as its first objective. Within two years, two of the states, New Jersey and New York, had given legislative sanction to the Commission's recommended four-state program for coping with pollution, and the other two states, Pennsylvania and Delaware, had adopted the program as their administrative guide. Both of these latter states later enacted the plan into law.

The Incodel pollution abatement program has been prosecuted diligently ever since its acceptance, with the result that today the waters of the Delaware, even in the most heavily populated and industrialized areas, are appropriately clean.

As a supplement to its basin-wide pollution plan, Incodel, a few years after its adoption, designed and secured the acceptance of a joint venture program by the Federal Government and the Commonwealth of Pennsylvania for the removal of more than a century's accumulation of coal culm from the bed and banks of the Schuylkill River and for the stopping of this source of siltation at its source. That program has been successfully completed. It has been described as one of the greatest river reclamation projects ever undertaken.

There cannot be the slightest doubt that these accomplishments in stream clearance and water pollution abatement, in which the Federal Government, state governments, hundreds of units of local governmental and private enterprise pooled their efforts and about $200,000,000 of their financial resources, have had a profound effect in attracting business and industry to the Valley and making the basin one of the finest places in the nation to work, live and play.

There is equally no doubt, to those of us who have closely watched this situation over the years, that the Incodel program set an example in coping with water pollution which led to the adoption of comparable pollution abatement programs for other river valleys, for entire states and for the nation as a whole.

SOIL AND FOREST CONSERVATION

With voluntary cooperation as its only tool, and without great appropriations of public funds or substantial grants of power and authority, Incodel undertook the task delegated to it by its four sponsoring state governments of formulating programs for other items of natural resources development in a manner substantially the same as was pursued in handling the pollution situation.

At the time Incodel was created, the soils and forests of the Delaware River Basin, like its streams, were in danger of being exploited to a point of destruction. The policy which the Commission adopted to protect and properly develop these natural resources was to encourage agencies of federal, state and local governments to integrate their efforts in encouraging farmers, landowners and other interests to put an end to the prevailing malpractices.

As a result, the scars of clear-cutting and burning of woodlands and of improper utilization of agricultural lands have largely disappeared from the landscape of the Delaware River Valley.

Certainly, the accomplishments in this field of operations have had a profound and wholesome effect in furthering the development of the land and water resources of the Delaware River Valley.

NEW JERSEY SHIP CANAL

A few years ago, Incodel played an important part in opposing a proposal for the federal construction of a ship canal across the State of New Jersey between Trenton and New Brunswick. Proposals to build storage reservoirs in the upper Delaware River Basin, at Cannonsville and at Tocks Island, to produce a source of water supply for the operation of the canal as a lock level structure in order to protect the waters of the Delaware below Trenton, were discredited and the project was shelved.

This service, I believe, has had a profound and beneficial effect in protecting and preserving the water resources of the Delaware River for their obviously more paramount purposes until such time as a comprehensive plan might be developed for all appropriately justified usages.

DELAWARE RIVER PORT

Likewise, Incodel, in my opinion, fulfilled its responsibility and performed a valuable public service when it made a special survey to support its contention that the development of port, harbor and related facilities along the lower Delaware River should be entrusted to an agency representing and jointly responsible to the affected states, Pennsylvania, New Jersey and Delaware, in opposition to a proposal advanced by Pennsylvania enthusiasts recommending, in effect, that each of these states should go it alone. Incodel's position on this matter, supported, of course, by other agencies and interests, culminated in the creation of the Delaware River Port Authority. This policy certainly has had a profound and desirable effect in the ensuing years.

MUNICIPAL AND INDUSTRIAL WATER SUPPLY

Ever since its inception, Incodel has been keenly aware that the waters of the Delaware River Valley constituted an attractive source of future municipal and industrial water supply for many municipalities and metropolitan areas in each of the states in which the basin is located.

The Commission was particularly conscious of the fact that, only a few years before it came into existence, the states had been in litigation over the issue of the division of the waters of the Delaware among them for this purpose. In 1931, the United States Supreme Court had denied New Jersey's suit to prevent New York City from diverting any water from the headwaters of the basin in New York State for municipal water supply purposes.

In the light of these circumstances, Incodel, from its very beginning, has taken the position that:

1. The use of the waters of the Delaware for water supply is superior to its use for all other uses, and

2. The Delaware can provide a supply of good water sufficient to meet the foreseeable requirements for all purposes in all areas of each of the Basin States that may be logically served by the Delaware, provided that its waters are properly developed and conserved.

Therefore, as soon after the general acceptance of its basin-wide pollution abatement program as its facilities and resources would permit, Incodel began to concentrate attention on the Delaware River Basin water supply situations.

Its first step was to re-examine the conditions imposed by the 1931 United States Supreme Court decree authorizing New York City to divert as much as 440 million gallons of water a day from the Delaware.

As the result of this survey, Incodel proposed, and the States of New York, New Jersey and Pennsylvania adopted, a reciprocal legislative program embodying formulas for the operation of future projects involving the diversion of the waters of the Delaware River Basin for water supply purposes in any of the states.

This program, I am convinced, had a beneficial influence in the adjudication of the issues raised by the 1952 New York City petition to the Supreme Court for an increase in its allowable diversion of water from the Delaware.

Consistent with its policy of taking first steps first, Incodel next recommended to its supporting state governments that the time had arrived for the states to act as a single unit, instead of separate entities, in surveying their future water supply needs.

Agreeing with this recommendation, the three upper basin states, New York, New Jersey and Pennsylvania, in 1949, before the severe drought of the same year which resulted in drastic restrictions on the use of water in New York City and northeastern New Jersey, enacted reciprocal legislation directing Incodel to make a special survey to weigh the advisability of a program for the joint use of the waters of the Delaware for water supply purposes.

In January, 1951, eighteen months after the survey was initiated, Incodel submitted a report to the Legislatures and Governors of its four supporting state governments covering its findings, conclusions and recommendations. The Commission recommended that the states should enact a compact creating a multiple-state agency with power to finance, construct and operate a water conservation project consisting of a series of four reservoirs in the upper Delaware River above Delaware Water Gap.

The total dependable water supply yield of the first stage project would have amounted to over 1500 million gallons a day. Of this amount, it was proposed that approximately 15 per cent should be allocated to New York City, and another 15 per cent to northeastern New Jersey as additional water supplies. The remaining 70 per cent was to be utilized for the augmentation of dry weather flows in the Delaware River in order to assure an adequate supply of good water for municipal and industrial requirements, recreation and other useful incidental purposes.

This program was approved and legislation was enacted for its execution by the states of New Jersey and Delaware in 1951, and by New York State in 1952. Unfortunately, it was sidetracked in Pennsylvania.

The sidetracking of the Incodel plan in Pennsylvania compelled the City and State of New York to petition the United States Supreme Court to be allowed to proceed independently with the construction of a reservoir in the New York State section of the Delaware River Basin in order to secure an additional 360 million gallons of water daily to meet the rapidly increasing water supply requirements of New York City. This petition was originally opposed by both Pennsylvania and New Jersey. However, an agreement was later negotiated by representatives of the litigant parties, and the petition was granted June 7, 1954.

The result of the Supreme Court decree containing this agreement was to provide an answer to New York's future water supply requirements. However, it did not provide a constructive answer as to how the Delaware River might be developed and utilized to meet the future water supply requirements in areas in the States of New Jersey, Pennsylvania and Delaware which could be logically served by the Delaware. This question was left hanging in thin air entirely unanswered. But the problems in these areas did not remain dormant. The need

for a plan then, and the need for a plan now, for an adequate water supply in northeastern New Jersey and in the southeastern section of Pennsylvania, centering around Philadelphia, grows daily more apparent. In New Jersey, an effort was made last year to settle on a plan for securing an additional large scale supply of water from a source that does not involve the Delaware. But a referendum last November on a bond issue to construct this alternative project was defeated.

COMPREHENSIVE WATER RESOURCES PROGRAM

As I reported to you at our last annual conference, Governor Leader of Pennsylvania, shortly after taking office in January, 1955, deplored the rejection of the Incodel plan by the preceding administration and concluded that his administration should assume the leadership in reviving official interest in resolving, in a manner mutually beneficial and acceptable to the affected states, of the many water resources problems in the Delaware River Basin which were unresolved by the 1954 Supreme Court decree.

Following a series of conferences with the Governors of the other basin States and with the Mayors of the Cities of New York and Philadelphia, a plan was formulated calling for the establishment of a Delaware River Basin Survey Commission to reappraise the Basin's water resources situation in the light of the 1954 Supreme Court decree and other interim developments. The effort would be to formulate a comprehensive multiple-purpose water resources program for the Delaware River Valley. These decisions were made before Hurricane Diane.

Meanwhile, in April, 1950, midway between the start and completion of the Incodel survey, the Public Works Committee of the United States Senate, pursuant to a request originating in Incodel, adopted a Resolution directing the Army Engineers to review previous surveys which it had made regarding the development of the waters of the upper Delaware River Basin in the light of recommendations being shaped by the Incodel survey. The Engineers were requested

to make this review to determine the magnitude of benefits of the proposed reservoir units in the Incodel plan to flood control, navigation and other purposes generally considered to be in the national interest. The objective was to determine a basis for Federal participation in the program.

The report of the Philadelphia District Engineer, made pursuant to this Resolution, was sent to the Chief of Engineers in Washington in July, 1955. The report stated there were no benefits in any of the proposed Incodel reservoirs which would justify Federal participation. The District Office also failed to find any circumstances warranting modifications in the conclusions and recommendations in its previous reports on the Delaware.

And then, a month later, in August, 1955, Hurricane Diane hit the Delaware with all its fury. This horrible disaster unquestionably ushered in a new era of planning and execution of water resources development programs in the Delaware River Valley. As evidence, consider briefly just a few of the events which have taken place since its occurrence.

1. The Chief of the Army Engineers quickly returned the 1955 review report on the Delaware to the District Office with instructions to take another look at the river's water problems "in view of the severe losses due to the floods caused by Hurricane Diane, and for the formulation of a basin water resource development plan for flood control, water supply, hydroelectric power and allied purposes."

2. Congress promptly adopted other resolutions supplementing the basic 1950 Resolution and appropriated $500,000 to cover the estimated first year's (1956-1957) cost of a three-year comprehensive survey of the water resources problems of the Delaware River Basin.

3. The survey commission, newly constituted by the chief executives of the four States and the Cities of New York and Philadelphia, modified its proposed work program for the purpose of integrating it with the Army Engineers' assignment and changed its name to the Delaware River Basin Advisory Committee.

4. There was awakened in the general public a clearer recognition of the need for and the advantages to be obtained from the orderly execution of the various component elements—pollution abatement, soil and forest protection, control and conservation of stream flows for water supply and other beneficial purposes—of a sound and practical plan for the development and utilization of the natural resources of the Delaware River Valley.

A LOOK INTO THE FUTURE

The new era of water and related natural resources development will result, in my judgment, in greater and greater accomplishments in the future. In my opinion, it will be an era of good will and more effective cooperation among agencies of government—federal, state and local—and between government and the general public. I expect that all interests concerned will contribute in a spirit of unity and constructiveness in the molding of a fully comprehensive plan for the wise control and utilization of the resources of our great Delaware River Valley. I believe that twenty years from now many of the integral components of such a plan will have been completed and placed in operation. As I see it, our big responsibility today is to assist in the formulation and adoption of plans and policies for basin-wide development of natural resources which are so sound and logical as to assure an opportunity to this generation and to generations in the years to come to enjoy the fruits of our labors, to enrich the domestic, agricultural and industrial economy of our valley, our states and our nation.

# # #

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

REPORT OF THE U. S. SUPREME COURT RIVER MASTER

September 26, 1956

W. Vaughn Iorns
Hydraulic Engineer
U. S. Geological Survey

DELAWARE RIVER OPERATION
OFFICE OF DELAWARE RIVER MASTER

by

W. Vaughn Iorns,
Hydraulic Engineer
U. S. Geological Survey

September 26, 1956

It is a pleasure to again have an opportunity to attend Incodel's Annual Conference and to speak to the members and friends of Incodel. I know you would have much preferred to have had Mr. Paulsen, the Delaware River Master, address you. Last year, he had a prior commitment in the Pacific Northwest. This year, it is the Near East. Each time, he gets farther away. It is, however, his loss and my gain. I am glad to be here to enjoy the many enlightening discussions which always take place at your conferences. Mr. Paulsen asked me to give you his best wishes for a successful meeting and his regrets for being unable to attend.

Only in times of flood or extreme drought does the general public take serious notice of the amount of water flowing in our streams. Water, like the air we breathe, is usually taken for granted, attracting scant attention as long as it is not making a nuisance of itself by being too much or too little.

You in Incodel have never taken such a view of the Delaware. Instead, you have always been acutely conscious of its level and flow. To insure there will always be a plentiful supply of good water in the river, you have advocated many conservation and regulatory measures—one of which has been the augmentation of low flows through upstream storage and river regulation.

The first major instance of stream flow augmentation in the Delaware basin, by regulating releases from upstream reservoirs for the sole purpose of increasing low water flow at downstream points, began taking place this past summer. It has had a pronounced effect upon the Delaware River.

Many living along the upper Delaware noticed the change. Mr. D. N. Raynor, of Port Jervis, was one. He expressed his appreciation of the change in his column in the Port Jervis Gazette of August 7, 1956. I quote the following brief comment from his column:

> "Ever remember the Delaware River to have so much water in it all Summer? Ought to be good fishing for someone, and we ought to see a lot of sailboats out there to enjoy such a fine body of water."

I wonder, however, if Mr. Raynor gave any thought as to why the river had so much water in it this summer as compared to previous low water seasons. If he had, and had taken the time to travel upstream, he would have located the cause—at the outlets of the Pepacton and Neversink Reservoirs.

You may recall at the Incodel Meeting last October I informed you that the second phase of river operation under the United States Supreme Court decree of June 7, 1954, began upon the completion and placing in operation of the Neversink and Pepacton Reservoirs on September 1, 1955. In this phase, low flow augmentation was initiated in accordance with the Montague Release Formula. Therein lies the answer to Mr. Raynor's observation of a better volume of water in the Delaware as compared to past years.

A bottom limit had been placed on the minimum flows of the Delaware. Without stream flow augmentation, there would have occurred, in the past summer, an almost unprecedented period of low flow at Montague. Although the summer was not one of extreme drought, a moderately low natural runoff from the watershed combined with no releases from Wallenpaupack Reservoir would have resulted in a long period of abnormal low flow.

Beginning September 1, 1955, and extending to June 15 of this year, the applicable minimum basic rate of flow at Montague as specified in the decree was 1525 cubic feet per second (985.6 million gallons daily). During this period, the flow at Montague did not fall below this rate. However, on two occasions, one late in September and another early in January, it appeared that lesser flows would occur, but timely occurrences of precipitation raised the river.

On June 15 of this year, the first excess release period began. The decree provides that, beginning on June 15 of each year, certain storage waters in excess of the current needs of New York City are to be released down the Delaware to further augment the river flow during the usual low flow period. The effect of this provision in 1956 increased the applicable minimum rate of flow at Montague from the minimum basic rate of 1525 cubic feet per second to 2040 cubic feet per second (1,318.6 million gallons daily) with the addition of 515 cubic feet per second (333 million gallons daily) of excess release water. This increased rate continues until the excess water which amounts to 39.9 billion gallons for this year has been released or next March 15, whichever occurs earlier.

Estimates on the morning of June 17, 1956, of anticipated flow at Montague for June 20 indicated that releases would need to be made

from the upstream reservoirs to maintain the minimum rate of flow at Montague of 2,040 cubic feet per second. Directed releases from the reservoirs were started on June 17, and by July 1, the releases had been increased to 1,083 cubic feet per second to meet anticipated needs. The release on July 1, which reached Montague on July 4, accounted for 57 per cent of the resultant flow at Montague on that date. Without this release of storage water from the reservoirs, the flow at Montague would have been only 807 cubic feet per second on the Fourth of July.

A storm period beginning late on July 4 increased the runoff from the uncontrolled area above Montague sufficient to offset the need for releasing reservoir water on July 6 and 7. However, the respite was of short duration and reservoir releases became necessary again on July 8.

During the remainder of July, the need for releases from the reservoirs in order to maintain the specified flow at Montague varied from about 500 to about 1300 cubic feet per second. Beginning in late July and extending through September 16, except for a few days in early September, the amount of water needed to maintain the flow at Montague at the specified rate exceeded the capacity of the release works at the reservoirs and an average daily rate of flow of 2040 cubic feet per second at Montague could not be maintained.

The release works for the Pepacton and Neversink Reservoirs were designed at a time when the provisions in the 1931 decree of the Supreme Court were applicable. Under the provisions of the 1931 decree, the City of New York was not required at any time to release a total of more than 306.9 cubic feet per second (198.4 million gallons daily) from the Pepacton and Neversink Reservoirs. The 1954 amended decree eliminated

this limitation and essentially substituted for it the maximum capacity of the release works at these two reservoirs until the Cannonsville Reservoir is completed. Release works for the Cannonsville Reservoir will be of such capacity that in conjunction with Neversink and Pepacton a total of 1,600 cubic feet per second can be released under conditions of maximum reservoir depletion. When the reservoirs are at higher levels than the levels which would exist under conditions of maximum reservoir depletion, greater rates of release will be possible. Even with the limited capacity of the constructed works at Pepacton and Neversink, as much as 1,090 cubic feet per second was released from these two reservoirs in the past summer to augment low flows in the Delaware. The maximum need for storage release during the low flow period was estimated at 1,680 cubic feet per second.

From the beginning of the low flow period this year and extending up to the present time, no water has been released from the Wallenpaupack Reservoir. Releases from this reservoir, in the production of hydroelectric power, normally account for a fairly large part of the flow in the river at Montague. Early in June, the Pennsylvania Power and Light Company began replacement of the flow line from the reservoir to its power plant near Hawley. This work is expected to be completed and the power plant returned to operation in October.

The following brief summarizations illustrate the effect of the releases from the upstream reservoirs on the Delaware during the low flow period in the past summer. These summarizations do not take into account the natural contributions from Neversink and Eash Branch Rivers which would have occurred had the reservoirs not been in existence.

Of the flow at Montague during the period June 20 to June 30 totaling 16 billion gallons, 3.8 billion gallons came from releases from the Pepacton and Neversink Reservoirs. On the day of maximum reservoir contribution in this period, thirty-five per cent of the flow at Montague was derived from the reservoirs.

Of the flow at Montague during July totaling 47.2 billion gallons, 15.4 billion gallons came from the Pepacton and Neversink Reservoirs. On the day of maximum reservoir contribution in this month, fifty-seven per cent of the Montague flow was derived from the reservoirs.

In August, the total flow at Montague was 32.8 billion gallons, 21.3 billion gallons of which came from Pepacton and Neversink Reservoirs. On the day of maximum reservoir contribution in this month, seventy-six per cent of the flow at Montague was derived from the reservoirs.

And for the period September 1 to 16, the discharge at Montague totaled 18.4 billion gallons, of which 9.9 billion gallons was contributed by releases from the reservoirs. During this period, sixty-seven per cent came from the reservoirs at the time of maximum contribution.

A series of storms over the basin beginning on September 15 increased the flow in the river and releases from the reservoirs were cut to conservation flow on September 17.

From August 26 through August 28, the average flow at Montague was 1,400 cubic feet per second. Without the additional water from the reservoirs, it is estimated that the average flow for the three-day period would have dropped to as low as 338 cubic feet per second. In past years, when the river dropped to similar low flows, the water became quite slimy at Montague—not of satisfactory quality for swimming and other

recreational uses. Even during the lowest flow in the current season, the water was always clear and free of slime.

The effect of the upstream reservoir releases extended on down the Delaware River. At Trenton, low discharges which would have occurred were increased an average of about 1,000 cubic feet per second. The minimum daily discharge at Trenton during the summer was reported to be 3,300 cubic feet per second. This occurred on August 28. Of this flow, approximately thirty-three per cent came from Pepacton and Neversink.

The completion and placing in operation of the New York City reservoirs, we can all agree, came at a time of need. Had these reservoirs not been in operation, Mr. Raynor's observation would most likely have been,

> "Ever remember the Delaware River being so low all summer? The big eddies in the river are only stagnant pools in which no one wants to swim or fish and the rifts are too shallow to pass even a flat-bottomed rowboat."

# # #

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

REPORT ON U.S. ARMY ENGINEERS' DELAWARE RIVER BASIN PROGRAMS

September 26, 1956

Col. Allen F. Clark, Jr.
Philadelphia District Engineer

and

Russell Morgan
Chief of the Valley Report Group
Philadelphia District
Corps of Engineers, U. S. Army

Remarks by Colonel Allen F. Clark, Jr.
District Engineer, Philadelphia District
Corps of Engineers, U. S. Army at
Annual Meeting and Conference of
Interstate Commission on the Delaware River Basin
at Pocono Manor Inn, Pocono Manor, Pa.
26 September 1956

Mr. Chairman, Ladies and Gentlemen:

It is indeed a pleasure to meet with you again and to have this opportunity to report on the progress of the survey of the water resources of the Delaware River Basin.

When I spoke at this meeting last year we had just had the flood, we were surveying the damage, and wondering what to do next. If my memory serves me correctly, most of my talk was concerned with rainfall and runoff. However, I closed my remarks with a brief announcement that I had been directed to undertake a comprehensive report on the water resources of the Delaware. I could only announce it -- I knew little more than that. As I think all of you know, we are now well into that report and it is very fitting that I discuss it here where so many experts on water resources are gathered.

Most of our effort so far has been expended in the preparation of plans and gathering a staff. There is little concrete to show at this time - nevertheless we have made considerable progress.

We have met many crises, some we have overcome, some have overcome us. I will confine my remarks, however, to two major subjects. First, an indication of the scope of the report as it has developed over the past year; and second, to discuss the cooperative effort necessary for the preparation of the report, and where we stand in that regard.

First as to scope, let me say that this study is fully recognized as a pioneer effort. When General Sturgis assigned me the task a year ago, he

recognized it. It was extremely heartening to discover some months later when we started to go into details that the working level of the Office, Chief of Engineers, also fully realized that this was a new departure in planning. There are many reasons for the uniqueness of this report. The report involves an area with a major segment of the nation's population and with a major segment of its industrial strength. It is the first eastern watershed to be studied comprehensively. Because of its location it involves a requirement for mass recreation facilities. These are only a few of the many reasons I could cite but as a result of its unique nature, it is recognized that this report may consider departures from previous Federal policy in the water resources field. This makes it a pioneer effort for sure.

The ultimate objective of this study is to present to the Congress of the United States the best possible plan for the conservation, control, and use of all the water resources of the Delaware Basin. Within that broad objective, we hammered out a preliminary draft of a Procedural Plan and we disseminated it widely, sending copies to all interested agencies for comment. It has since been revised a couple of times to accord with those comments we received but unfortunately is not in final form even yet. I regret that I cannot make available copies of the final draft at this time. I would like to discuss just briefly some of the highlights of that plan or some of the points which appear unusual compared to the ordinary water resource study.

Probably the greatest departure is the requirement for an economic base survey of the Delaware River Basin and its contiguous economic area. It is not sufficient in a study such as this just to inventory the present development and use of the water resources of the area. Changes are occurring

almost daily in the factors which affect such uses. The population is constantly increasing and more and more domestic water supply is required. New factories and industries are being developed in the area to support this growing population. Water demands for such industrial use are increasing. In the rural areas population is also increasing with more rural water supply needed, and as you all know, there is a rapidly increasing use of water for irrigation.

We must then in our study, consult with outstanding authorities on economic development, resources planning, and area development with a view to producing as a foundation for the whole report a forecast of the growth and development of the area. This is the economic base survey. It will project population and industry growth throughout the basin and adjacent areas for as far into the future as it is feasible to go. We have set ourselves to look 100 years ahead but we may have to compromise that, when we come to the actual planning.

During the time this economic base survey is being made, other personnel will be studying and developing factors to show the water required per unit of population, acre of irrigated land, and ton of industrial production or other economic scale for application to the projected future conditions. These factors will be determined from the present uses of water and will be modified to reflect future expected changes in the technology of water uses. I need hardly emphasize to you gentlemen the complexities of this long range estimating. Just a few of the technological factors to be considered might include requirements of water for the production of electrical energy using atomic power; the possibilities of desalting sea water; the effect of widespread individual home air-conditioning. Also perhaps some of you saw in the newspaper a few weeks ago the article on the possibility of a

revolution in the installation of home sewage treatment plants with recirculation of water for home sewage disposal.

We well recognize that a significant scientific discovery of a major change in living patterns may upset our plans materially. Twenty years from now another District Engineer may be able to refer to our lack of foresight just as I last year could smilingly refer to the comments on floods in the Delaware in the 308 Report of 1932.

From the application of water use factors to the economic base survey, we will come up with some indication of the water demand for the future. We will then be in a position to locate the necessary engineering works which will provide that water. At the same time we will also be studying the prevention and control of floods. From the satisfying of water demands and from the prevention of floods we will develop benefits to be derived from structures which must then be weighed against the costs of those structures. It is a long road. Many other problems having to do with the availability of both surface and ground water supplies, the control of salinity in the lower river, the reduction and control of pollution throughout the basin, and the estimation and evaluation of recreation requirements must also be carefully and completely considered. I could go on discussing problems and facets of problems far into the night, but I think I have sufficiently indicated the complexities which we foresee and are ready to tackle.

These items which I have mentioned are those which are fairly standard and straightforward from an engineering point of view. There are subsidiary studies which we felt should go into this comprehensive survey but which we, as representatives of the Federal Government, did not feel we were in a position to undertake. Outstanding in this field is the study of the organizational structure which might be established to carry out such

a plan as we are preparing. I have felt all along that to draw up a plan without at the same time studying the ways and means which could make the plan operative would be to shirk our responsibility. However for representatives of the Federal Government to undertake such a study would be an invasion of the prerogatives of the states. The Delaware River Basin Advisory Committee has indicated a deep interest in this phase of the operation and I have every hope that they will undertake it. We can include the recommendations of such a committee as a part of our report and I hope that by the time the report is made, we will be able to indicate a political organization which will be satisfactory to the local people and to the federal interests, and will be capable of carrying out the plan which has been prepared. Also in this same category is a review of state water laws which certainly need study. We hope that this can be done by the states.

I would now like to turn to a subject of equal importance. That is the cooperation and coordination necessary to prepare the report. You all realize, I am sure, that although the Corps of Engineers has been designated by the Congress as responsible for its preparation, that we cannot by any stretch of the imagination undertake on our own all phases of it. If the intent of the Congress is to be carried out the utmost in cooperation and coordination among federal agencies, the states, municipalities, and other local political entities and private interests will be required. I would like to report at this time that the cooperation we have received has been outstanding in every respect. We have received wonderful response from all individuals and agencies and I assure you that I am most grateful. I would like to acknowledge briefly some of the items although I will leave

to Mr. Morgan the detailed discussion of the study coordination.

First and foremost I should like to acknowledge the wholehearted cooperation which we have received from our hosts here today. INCODEL. I assure you that it is much appreciated and I can also assure you that your offer of help will be accepted and INCODEL will be called upon from time to time for the assistance so kindly offered.

At our request the Governors of each of the four states in the basin have designated a coordinator for each of their respective areas who are to provide the necessary liaison between Philadelphia District and the states. These coordinators have been invaluable in securing policy decisions from their respective areas and in keeping the Governors, Secretaries, and other agencies in their jurisdiction informed of developments in the survey.

We have worked very closely with the Delaware River Basin Advisory Committee and its Executive Secretary, Mr. Walter Phillips, and there has been complete understanding of the purposes of this study and a willingness to assist that is most outstanding. As I mentioned before the Delaware River Basin Advisory Committee has been most helpful in considering taking on the phases of the report which the Corps of Engineers could not undertake.

There are many other agencies with whom we have been working closely whose contributions in their special fields must be a part of the report. Especially in this group are the various federal agencies, such as the Department of Commerce; several agencies of the Department of the Interior; the Department of Health, Education and Welfare; several agencies of the Department of Agriculture; and the Atomic Energy Commission. I am happy to report that as a result of conferences held, memoranda of

understanding have already been developed with some of them and will soon be completed with all of them. Here again cooperation has been most excellent and these agencies are generally already at work on solving problems relating to the water resources survey of the Delaware River Basin.

I will leave the more detailed discussion of these problems and their anticipated solutions to my civilian assistant Mr. Russell Morgan, who will report on that to you in a few minutes.

When I spoke last year here, I avoided any mention of how long it would take to prepare this report but in the question period following, some gentleman put the question to me precisely and pointedly. Although I hedged to the best of my ability, I did state that I thought if everything went well we would complete the report in three years; that is, some time about January 1959. I should like to report that at this time we are still holding to that goal and it is still possible if all factors work as well as we hope. Those factors are mainly money, which so far we have had in abundance, and completion of basic studies on our original time schedule. I will therefore say that we still expect that the report will be finished in three years, starting last spring.

For those of you who are primarily concerned with flood studies of the areas damaged so heavily in August of last year, may I report that we have underway and well along to completion, interim reports on major damage centers. These will not have to wait for completion of the comprehensive. We have coordinated our work with Secretary Goddard and his Department of Forest and Waters in order to get the best results from both Federal and State efforts.

Now I would like to introduce Mr. Russell Mogan, Chief of the Valley Report Group in my office. Mr. Morgan joined my staff in early July this year from the Kansas City District. He has an extensive background in planning studies with the Corps of Engineers, having worked in the planning phases on such rivers as the Muskingum in Ohio, the Conneticut and Housatonic in New England, the Upper Susquehanna in New York and numerous others in the Ohio and Missouri River Basins. Mr. Morgan.

Remarks by Colonel Allen F. Clark, Jr.
District Engineer, Philadelphia District
Corps of Engineers, U. S. Army at
Annual Meeting and Conference of
Interstate Commission on the Delaware River Basin
at Pocono Manor Inn, Pocono Manor, Pa.
26 September 1956

Mr. Chairman, Ladies and Gentlemen:

It is indeed a pleasure to meet with you again and to have this opportunity to report on the progress of the survey of the water resources of the Delaware River Basin.

When I spoke at this meeting last year we had just had the flood, we were surveying the damage, and wondering what to do next. If my memory serves me correctly, most of my talk was concerned with rainfall and runoff. However, I closed my remarks with a brief announcement that I had been directed to undertake a comprehensive report on the water resources of the Delaware. I could only announce it -- I knew little more than that. As I think all of you know, we are now well into that report and it is very fitting that I discuss it here where so many experts on water resources are gathered.

Most of our effort so far has been expended in the preparation of plans and gathering a staff. There is little concrete to show at this time - nevertheless we have made considerable progress.

We have met many crises, some we have overcome, some have overcome us. I will confine my remarks, however, to two major subjects. First, an indication of the scope of the report as it has developed over the past year; and second, to discuss the cooperative effort necessary for the preparation of the report, and where we stand in that regard.

First as to scope, let me say that this study is fully recognized as a pioneer effort. When General Sturgis assigned me the task a year ago, he

recognized it. It was extremely heartening to discover some months later when we started to go into details that the working level of the Office, Chief of Engineers, also fully realized that this was a new departure in planning. There are many reasons for the uniqueness of this report. The report involves an area with a major segment of the nation's population and with a major segment of its industrial strength. It is the first eastern watershed to be studied comprehensively. Because of its location it involves a requirement for mass recreation facilities. These are only a few of the many reasons I could cite but as a result of its unique nature, it is recognized that this report may consider departures from previous Federal policy in the water resources field. This makes it a pioneer effort for sure.

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Chief of the Valley Report Group,
Philadelphia District,
Corps of Engineers, U. S. Army at
Annual Meeting and Conference of
Interstate Commission on the Delaware River Basin
at Pocono Manor Inn, Pocono Manor, Pa.
26 September 1956

Mr. Chairman, Ladies and Gentlemen:

Colonel Clark, in broad outline, has covered the general goals of the comprehensive report. I follow him to explain certain details of our organization for writing the report.

In the nine months since last January, when Colonel Clark organized the Valley Report Group, to write the report, under Colonel Lee, we have had the most interesting duty that ever fell to an engineer in the Corps of Engineers. Yes, I even include General Goethals and his duty in the Panama Canal; I don't think any task is more absorbing than that which has fallen to Colonel Lee and to me.

In the years since President Teddy Roosevelt and Governor Clifford Pinchot, much has been written about the need for planning comprehensively in river basin development; that is, planning to maximize all possible benefits in water resources conservation, and planning each individual water resources project as an integral part of a total multi-purpose, multi-use, multi-agency plan. But in spite of all the writing about what ought to be done, to the best of our knowledge no one has spelled out how it should be done. We heartily subscribe to the principles of comprehensive river basin planning. Last January we knew that our goal was to produce the best plan for the conservation of the water resources of the Delaware for the benefit of mankind. Since that date, I think we have made great strides in finding out how to do the job.

Early in our thinking it was clear that to be truly comprehensive in scope, the report on the Delaware could not be the single purpose, inventory-type that had been prepared during the past quarter-century on river basins in this country. This comprehensive report on the Delaware would have to reach out into the future and probe all of the great range of things that could be expected to affect the use of water for the next 50 or 100 years. To do this we had to raise our sights - and we had to raise the sights of everyone connected with this effort - even our own superiors in New York City and Washington. I think we are, slowly but surely, getting this part of the job done.

To me has fallen the exciting day-by-day task of organizing to write the report. At each step several related problems have had to be solved. These are those concerned with:

a. Funds - their availability, and the criteria of their expenditure.

b. Personnel - in all bureaus, offices and agencies to do the work.

c. What tasks have to be done and their relative order or priority.

d. How to coordinate divergent views so that an overwhelming majority will accept the end product as being the best plan possible.

FUNDS

We have discovered that comprehensive river basin planning is expensive. It is clear that the pending report will cost at least a million dollars in Federal monies, which does not count the expenditures that may be made in the states, counties and cities. Nor does this estimate include the funds that we hope Delaware River Basin Advisory

Committee will bring to bear on certain research which will add immeasurably to the value of the report. The President's budget for the current fiscal year requested of the Congress $100,000 for our effort. You citizens of this basin requested the Congress to change that figure to $500,000, and this was done. The President signed the revised appropriation bill, and the onus was thus squarely placed on our shoulders to get the job done. We have three major areas of expenditure of these funds; we are using them to meet the payroll requirements in our office; to meet the payroll requirements and field investigations by other federal agencies; and to support certain field investigations and surveys, particularly at Tocks Island. Our transfers of funds to other Federal agencies have been for the purpose of fundings investigations or studies that they would not normally make, or which they would normally make, but not within the time limitations of this report. Each state has promised its cooperative support within its own available resources.

PERSONNEL

We have been fortunate in recruiting an excellent staff for this report in our Philadelphia District. Our single most evident shortage is a geologist trained in damsite reconnaissance. We have also been fortunate in obtaining the designation of excellent people in other Federal agencies to work with us in our cooperative venture. You kind people here representing the States know the wealth of talent that you have to help work on our mutual problems. Hence, I would summarize here by saying that in matters of funds and personnel we seem to be on fairly comfortable ground.

TASKS

We early realized that to write a truly comprehensive report we must have the views of all personnel concerned with water resources development. We know that we must include the views of all Federal

agencies concerned. But we also know that the views of many state agencies are of equal, if not over-riding, importance. At our four public hearings in January we solicited a recitation of the problems the report should solve. We have followed up those hearings with a great number of separate conferences. We hope we have a fairly complete list of the problems, and a complete inventory of the people concerned with the Delaware water service area who have thoughts that must be included in the report.

Our procedures for reaching these people have been to ask the appropriate Federal agency to coordinate the solicitation of the views of the appropriate people in the States. Thus the Federal Fish and Wildlife Service has assigned two biologists to work in the basin. These men have gone to each of the State fish and game management agencies, and to the heads of the agencies interested in shellfish and the commercial fishery in the Delaware estuary. Further, they have made some contact with citizens' organizations and private citizens in the basin. These two men are now writing a work plan which will assign specific studies to specific state agencies. The studies prepared in the states will in turn be consolidated and become the fish and wildlife management views concerning the Delaware. We hope by such similar procedures to obtain a truly comprehensive set of views by similar studies in every field.

In the first active year of studies for the report we hope to obtain reasonably close answers in six independent, but parallel, areas of study. Based upon these approximately correct answers, we in the Corps of Engineers plan to devise the comprehensive engineering plan in the second full year of work, while the various agencies concerned with the studies refine their studies and improve the general reliability of their results.

Much of the work of future predictions of water demands must await the tentative results of the economic base survey described by Colonel Clark. Until such results are available we can inventory present developments, present problems, and present needs. These six areas of study are -

(1) Inventory of present natural resources, land use, and water resources problems.

(2) Projection of future population and industrial changes and then the projection of the effects of these changes on land use, the recreation problem, and water resources needs.

(3) Inventory of present rates of water use and projection of the changes in rate of water use into the future.

(4) Inventory of present water availability and projection of changes in water availability due to changes in climatic regimen, or in agricultural and forestry practices.

(5) Inventory of present flood problems, development of stage-damage-frequency relationships in past floods, and projection of future flood problems.

(6) Development of the organizational framework best suited to execute the construction and financial operations of the pending plan.

We have asked the U. S. Department of Agriculture to determine the present land use pattern outside urban areas. The Soil Conservation Service and Forest Service are now extracting known data for this purpose. The inventory of present urban development can most easily be made by a tabulation of the cards on file in the Bureau of the Census, Department of Commerce. The U. S. Geological Survey will compile an inventory of all known mineral and water resources in the basin. The Fish and Wildlife Service is now inventorying the present shellfish, fish, and wildlife population of the region, and is studying the water quantity and quality requirements to support and augment that population. The National Park

Service is making an inventory of the present public and private recreational resources of the region, in the urban and suburban areas, along the Atlantic Coast, and in the Pocono-Catskill regions. The Bureau of Mines is inventorying the existing mining activities in the region. Public Health Service is inventorying the present requirements for vector control and bringing up-to-date its past studies of present pollution sources. These are the agencies working with us and with their counterparts in the States who are trying to find out what the present situation is.

The changes that population and industry will make in the region are the hard core of the economic base survey. We have requested the Office of Business Economics and the Bureau of Census in the Department of Commerce to make for us certain projections into the future. Some of these projections will be national, and others regional, in scope. We had hoped to obtain from these projections definite regional increments of change in time by appropriate inter-related statistical methods. However, it appears that the best we can now expect from the Department of Commerce will not be sufficiently definite for the purposes of obtaining firm regional increments of change. It appears that it will be necessary to procure the services of an outstanding group of economists, not in the federal employ, to finish the job. And, of course, of much more concern in water resources is disbursing these regional increments of change to particular parts of the water service area and locating them on a map. This last part is a regional or local planning effort. The Delaware River Basin Advisory Committee has employed the services of the Institute of Urban Studies, University of Pennsylvania, to prepare a design study of the economic base study that will be made. As we understand it, this design study, when finished, will incorporate the work that we plan to obtain from the Department

of Commerce and will also explain how these national and regional projections will be used in coordination with the various state, county, and city planning boards to obtain the final economic base survey. Once the basic changes in population and industry are approaching finalization, a number of other federal agencies and state counterparts will participate in completing the base survey. The length of the work week and the location of homes in the future will assist the National Park Service in projecting the future recreation needs in the basin, and will permit them to complete a master plan for public and private investment for recreation including water needs, in the future. The degree of urban development will permit the Agricultural Research Service to project the future economics of agriculture in the basin. This in turn will give us an answer of future demands for irrigation use of water. The future changes in urban development will control, to some extent, the development of optimum plans for fish and wildlife management in the basin. The Bureau of Mines will project the future of mining in the region, especially whether or not certain known low-grade ores may become economically workable in the future; this we particularly need to know in order to avoid inundating such ores in a reservoir site. Public Health Service will examine the future industrial and urban development to project future pollution sources and the need for water resources conservation. The Federal Power Commission will project the future needs for electric power.

In our studies of present and future rates of water use, we have turned to the Public Health Service for studies on municipal and industrial water rates and to the Soil Conservation Service for studies on rural rates. The Atomic Emergency Commission will be requested to give us future water demands in the nucleur industry. Since the Department of Commerce has collected certain data in this area, we will also obtain tabulations

of it. In projecting the technilogical changes of the future we know that we will have to bring a number of the best minds in the country to bear on the problem. We hope to obtain some help from various industrial organizations.

The studies of water availability will be made by the U. S. Geological Survey in particular, by the Weather Bureau and Soil Conservation Service and in our own office. The Geological Survey furnishes all known data on ground and surface water. We in the Corps will make the hydrologic studies from these data that all agencies will use. The Weather Bureau will give us their best projection of climatic changes in the future, particularly shifting hurricane paths. The Soil Conservation Service, working with the Agricultural Research Service and the Forest Service, will project the future hydrologic changes that will be brought about by future changes in land use and land management.

Naturally, we, in the Corps of Engineers, have been studying the flood problems of the Delaware for many years. We plan to consolidate our damage figures with Soil Conservation Service and to coordinate these data with the appropriate state agencies.

It is our hope that Delaware River Basin Advisory Committee will undertake independently the study of the best framework of organizations to finance the construction and maintenance of the various projects that will be included in the comprehensive plan. It is understood that several State Departments of Justice have expressed interest in cooperating in these studies, possibly leading to the publication of a model state water rights law.

When the approximate results of these six areas of study are known to us we should have a pretty fair idea of where water storage, or local flood control measures, or non-structural measures are needed to conserve the water resources of the Delaware, now and in the future. We will develop a comprehensive plan composed of a series of projects, each of which is independently economically justified. We will integrate these projects by phasing their construction in such a way as to maintain their hydraulic interdependence. At the same time that we are working up the plan, and making our appropriate field surveys, the other agencies concerned will be refining their studies and preparing their final appendices to the report.

As we develop project sites, another flurry of corrdination is required. When a project requires relocation of roads, we will turn to the Bureau of Public Roads, Department of Commerce. For coordination of forestry matters at reservoir sites, to the Forest Service. For structures at dams to permit the transit of fish, and for advice on the best water regimen for game fish propogation, we will ask the advice of the Fish and Wildlife Service, Department of Interior. We will turn to the National Park Service for recommendations concerning recreation and parks at project sites, and for checking that we are not inundating objects of archeological or historical importance. We will turn to the Navy to find out if they have any need for seaplane bases on our reservoirs, and to the Federal Power Commission for coordination of the hydraulic power aspects at any or all projects.

Concurrently with all these studies, we, in the Corps, in coordination with the Maritime Administration and the Navy Department, will be studying the future navigation needs in the basin.

We are using the hydraulic model of the Delaware estuary at Vicksburg, Mississippi, to investigate the potential changes in salinity intrusions that a 50-foot ship channel from Philadelphia to the Sea might cause. With the U. S. Geological Survey and State agencies, we will also investigate ways of combating salinity intrusions in the ground water resources of the basin.

COORDINATION

The above remarks concerning our areas of study with various federal agencies have emphasized the importance of organization so that all personnel working on the report may coordinate their views and to determine, as early as possible, any divergent views. Obviously,

such coordination must include machinery that will bring together these divergent views whenever possible. Counting the agencies in the 4 states and the federal agencies too, there are approximately 100 various groups that need to know what each other is doing in the report. The problem is large.

Our plan of coordination is to request all state agencies to permit the consolidation of their papers by the federal counterpart. The federally consolidated studies will be submitted to our office for reproduction and will be mailed to all our addressees for review. The review of these papers will produce constructive comments and, occasionally, a divergent view. Should the latter occur, the District Engineer will appoint an AD HOC committee to iron out the difficulty. The committee should be able to find an area of fact gathering which will bring new facts to bear, new light to shine, and a resolution of the difficulty. At least, this is our earnest hope.

To guide the District Engineer through the maze of this coordination, it was, until recently, our intent to form a Formal Survey Review Committee, formed of individuals from each of the States; from each of the inter-state agencies, the Inter-state Commission on the Delaware River Basin, and the Delaware River Basin Advisory Committee; and from each of the Federal offices, bureaus, or agencies concerned. We had also considered adding representatives from New York City and Philadelphia. Recently, however, we have learned from the Delaware River Basin Advisory Committee that the Executive Office of the President is considering forming what is known in water resources parlance as an Inter-Agency Basin Committee. Therefore, we have held up forming our Survey Review Committee until we learn whether or not the President will form a similar organization.

In summary, my report to you covers these points. We are embarking on an extremely complex undertaking that directly, or indirectly, involves all citizens in the basin concerned with either economic planning or water resources conservation and use. We have reasonably adequate funds and personnel for our present purposes. We have received excellent cooperation and help at all levels of government. We have evolved specific understandings concerning who is to do what work and have assigned tasks. We have established machinery to coordinate our work and to iron out difficulties when they occur. We will have a formal review committee to help us guide the report. We hope to give you in the next two and a half years an acceptable plan for the Delaware water service area that will be comprehensive, multi-purpose, and the best plan possible for the conservation of our water resources.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

REPORT ON DELAWARE RIVER PROGRAMS OF THE LEGISLATIVE COMMITTEES OF PENNSYLVANIA AND NEW JERSEY

September 26, 1956

Senator Joseph J. Yosko - Pennsylvania

Senator Wayne Dumont - New Jersey

Summary of Remarks
of
Senator Joseph J. Yosko - Pennsylvania
Senator Wayne Dumont - New Jersey
on
DELAWARE RIVER PROGRAMS OF THE LEGISLATIVE COMMITTEES
OF PENNSYLVANIA AND NEW JERSEY
September 26, 1956

SENATOR YOSKO

Pennsylvania State Senator Joseph Yosko urged greater coordination of efforts and speedier action in the planning and execution of water resources projects in the Delaware River Basin.

He recommended that Incodel should function as a coordinator of the various groups which are studying the problems of the Delaware valley. He said that, in this way, there should be faster action toward building a flood control and water conservation dam on the section of the Delaware River bordering on Pennsylvania and New Jersey above Delaware Water Gap.

Senator Yosko said that the Pennsylvania Legislative Study Committee, of which he is chairman, had held a series of public hearings concerning proposals for the development of the water resources of the Delaware River Basin. The last of these, held in Easton on August 30, 1956, indicated a strong demand for protection against flood hazards, but that no specific program was advanced for accomplishing this objective. He stated that the committee expected to hold one more hearing, at which representatives of utilities, industries and municipalities would be invited to testify as to their present and prospective needs for water.

In the interest of accelerating action, Senator Yosko made a number of specific proposals. One of these would call for the continuance

in Pennsylvania of the one-cent emergency tax on gasoline and cigarettes to finance Pennsylvania's share of the cost of a dam on the Delaware River above Easton. The Senator proposed that these taxes should be put into a fund which would draw interest until needed for construction purposes. He asserted that the earned interest on these funds would offset, at least in part, the interest which would have to be paid if bonds were floated for the project.

Another suggestion made by Senator Yosko was that the citizens of the basin should establish a "lobby" to see that adequate federal and state funds are appropriated for the development of the Delaware River.

Senator Yosko also urged that an immediate start should be made in the drafting of a bill for the consideration of the Pennsylvania Legislature at its next session, convening in January, 1957, to enable the state to exercise its option to construct a dam on the Delaware River in the vicinity of Wallpack Bend. The Senator also suggested that Incodel and/or other appropriate agencies should expand its public relations activities and give consideration to the circulation of a newsletter to educate and inform the general public and the public's representatives in the legislative, executive and administrative branches of government—federal, state and local.

SENATOR DUMONT

New Jersey State Senator Wayne Dumont, in his opening remarks, gave a brief resumé of the history of the formation and operations of the New Jersey Legislative Committee studying the Delaware. He told of

meetings of the New Jersey group with legislative and administrative officials of Pennsylvania and New York.

Senator Dumont recalled the passage of the act in New Jersey in 1953 to repeal the provision in the compact between Pennsylvania and New Jersey of 1783, prohibiting the construction of dams across the river between the two states. He told the conference that other provisions of this legislation gave to Pennsylvania the right to build a storage dam on the Delaware River within the next fifty years, with New Jersey having the optional right to use up to thirty per cent of the water developed by such a project provided that New Jersey shared in the cost in the same proportion. Senator Dumont indicated that it might be desirable to make adjustments in the allocation provided by the present legislation to enable New Jersey to share the benefits and the costs of a reservoir on the Delaware River in equal proportions with Pennsylvania.

The Senator stated that New Jersey "is not unreceptive" to the construction of a reservoir at Tocks Island rather than at Wallpack Bend, even though it appears that there would be less opposition to a dam at the latter location.

In concluding his remarks, Senator Dumont said that he was taking advantage of every opportunity, and he hoped others would do the same, to suggest to appropriate federal officials that the Delaware River Basin states were clearly entitled to much more federal financial aid for the planning and execution of water resources programs in the Delaware River Basin.

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THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

DELAWARE RIVER BASIN ADVISORY COMMITTEE PROGRAMS

September 26, 1956

James Kerney, Jr., Chairman

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Statement of James Kerney, Jr., chairman,
Delaware River Basin Advisory Committee,
at
Incodel Annual Conference,
Pocono Manor, Pennsylvania
September 26, 1956

Since the Delaware Basin Advisory Committee is less than a year old, a brief outline of its origins and purposes in the overall program for river development is necessary.

In 1953, when Pennsylvania turned down the Incodel water allocation plan, efforts to develop the resources of the Delaware River were stalled. No program for joint development was in sight. Pressures to relieve water supply problems built up in some states and localities. And the United States Supreme Court continued to sit in the role of permanent referee. It was clear that some new approach was needed if the basin were to be spared being carved up by special purposes.

Early in 1955, Governors Leader of Pennsylvania and Meyner of New Jersey and Mr. Joseph Clark, then Mayor of Philadelphia, took the initiative. Joined by Governors Boggs of Delaware and Harriman of New York and Mayor Wagner of New York City, the chiefs of these six principal jurisdictions agreed, as Governor Leader said:

"If further development of the Delaware is to occur, new evaluations will have to be made of the present status of the river and the future development that can be equitably planned by all the affected states and cities."

Then came Hurricane Diane and with it new urgency. By the end of last year, each of the four Governors and two Mayors had

named a personal representative to a joint committee to study the problems of the Delaware River. Meanwhile, Diane did more than add a note of urgency; it brought interest in Delaware River problems on the part of many public and private agencies. Perhaps most important of all, it loosened the purse strings of Congress and brought the Army Corps of Engineers to the basin with the program that was ably described to us this morning by Colonels Allen Clark and John C. H. Lee, Jr.

These are familiar events. I review them here because they are quite different from the circumstances when the study committee was first conceived in the middle of last year. In the first place, the Army Engineers' survey meant that this valley would be the fortunate recipient of engineering, hydrologic and other technical surveys far more extensive and complete than those our committee would have been able to provide. This, in turn, meant that our committee was free to devote its attention to specialized research not covered in the Federal program.

A second circumstance is the change in general public interest that only a disaster such as Hurricane Diane could bring about. It would be pleasant to report that the Delaware Valley is no longer at all apathetic about its water resources, but this is not entirely the case. However, there is a rumbling of public concern that demands action. The Delaware River Basin Advisory Committee is one of the public bodies which hopes to help in meeting this demand.

The committee consists of six men. In addition to myself, representing Governor Meyner, there is General Norman Lack representing

Governor Boggs, Mr. John Robin representing Governor Leader, Mr. Thorndike Saville representing Governor Harriman, Mr. Joseph Clark representing Mayor Dilworth, and Major Irving Huie representing Mayor Wagner. We have a budget for this fiscal year of $55,000 to cover operating expenses and program activities. A small staff has been established under the direction of Walter Phillips in Philadelphia, in close proximity to Incodel and to the field offices of the Federal agencies. The committee recently created a separate entity, known as Delaware River Basin Research Inc. This is expected to be a research agent for the committee, equipped to receive and disburse private funds for research programs.

I have already mentioned how the job of this committee has changed since it was first devised. We are determined not to duplicate any work now being done, but to be as helpful as possible with every agency contributing toward the development of the Delaware River. I believe this can best be illustrated by the name of our committee. Originally, we were named the Delaware River Basin Survey Commission. We discovered that the Army Engineers were preparing a massive survey, so we changed our name to "advisory". It was also clear that there was in business a commission on the river, Incodel, so we changed our name from commission to "committee". This was not casually done. We each requested our appointing authorities for formal permission to make the change. And we wished from the outset to make it clear that ours is a temporary chore. As soon as a plan is completed, we go out of business. It is not up to us to put the plan into effect nor to hang on afterward in any manner. But we are determined that we will help develop a plan which will not be

filed on a dusty shelf, but will be so designed that the several states and cities will put it to work.

Allow me to read you the core paragraph from the Governors and Mayors telling our committee what to do:

"We ask that you give your attention to the collection and evaluation of existing and newly-developing information about water and related land resources of the Delaware River Basin, cooperate closely with other agencies making studies in relation thereto, assist in setting up and obtaining financing for new studies and research which are needed for the completion of a comprehensive, multi-purpose plan, obtain the review and advice of the best technical experts available on all major aspects of the planning work, help in the final formulation of such a plan, aid in the marshalling and dissemination of information necessary for adequate public understanding of the subject, assist in keeping local governments of the Basin advised and alerted to their interests, report to us from time to time as the planning progresses, and make recommendations to us on fundamental questions of policy relating to the plan and means of carrying out the developments provided for in the plan."

After carefully checking with interested agencies, the committee is going ahead with two significant research undertakings, one in the field of economics and the other in the field of government.

Under a grant from Resources for the Future Inc., a foundation located in Washington, the design of a research program on the economic base of the Delaware watershed was started early this summer. This design is being prepared by the Institute for Urban Studies of the University of Pennsylvania and is now nearing completion. Let me emphasize that this is the design of a research program, not the program itself. In a nutshell, this research is aimed at projecting future levels and locations of economic activity and population as a basis for long range water development. We want and need to know where, when and in what amounts future demands on the river may be expected. For a region as large as the Delaware River basin, this is a tremendous undertaking.

In the field of government, the committee has, with its budgeted funds, contracted for the preparation of the design of a research program in the fields of public administration, law and public finance. This has been carried out by Dr. Roscoe Martin of Syracuse University, as a staff consultant to our committee, and is also now nearing completion. This program will be aimed at answering the question, "Through what agencies of government and by what legal and financial means can the operation of a comprehensive plan for the Delaware basin water resources be made?" The answers will involve careful research into many kinds of administrative devices in use elsewhere, such as interstate compacts, conservation districts and public corporations. We will also need to know what constitutional and statutory problems must be solved, and what sources of financing are or could be made available to

a regional resources agency. These are not all of the questions in the field of government, but they are the most basic ones.

We have certain other responsibilities. The committee intends to provide expert technical review of the reports and studies provided by the Federal agencies. It will serve as a friendly but technical watchdog. Most of this review work will be handled by professional consultants.

Another program of our committee stems from the rumbling of public opinion caused by Hurricane Diane. We have been instructed to "keep local governments advised and alerted to their interests." In addition, there are many private groups throughout the valley interested in our water future. With slight effort, our committee staff gathered a list of over 150 organizations and associations interested in some phase of the Delaware River, and this is only a partial list. These interested citizens should be encouraged. There should be no lapse back into apathy. We want to offer the public every opportunity to share in decisions which must be made. Experience with river basin development in other parts of the country shows clearly the danger of failure to alert the public. Indeed, we need not go far afield; it is quite possible that Incodel's water supply plan might have been successful if it had been possible to have a vigorous program of citizen information, education and participation. The point running through these observations is that there may be great gain from a basin-wide citizen organization, which might be called, for example, The Citizens' Conference on the Delaware.

It is important that such a conference should not be a mouthpiece for special interests, but should be truly representative of public interest. If so set up, it might well become the determining factor as to whether sound and acceptable plans will both be produced and put into operation.

One important work of our committee is its advisory responsibility to the six chief executives who appointed us. Through the research programs, by using professional consultants and by careful cooperation with such other agencies as Incodel, the Corps of Engineers, and the various departments of states and cities, we hope to be able to render farsighted advice. In some ways, we travel parallel to Incodel, but our job is advisory and temporary, where Incodel has permanent, administrative functions.

Let me emphasize that we believe it is of first importance that interstate agreement be achieved. We know that Incodel has worked on these objectives before and is still working on them. We look forward to laboring as a team with Incodel.

The Delaware River basin, like many other important river basins, has seen too much waste, delay and inefficiency, often resulting from minor differences. It is long since time to develop and set in operation a comprehensive, multiple-purpose plan for the Delaware River.

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THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

DELAWARE VALLEY COUNCIL

September 26, 1956

James V. Baney

DELAWARE VALLEY COUNCIL

Remarks
of Mr. James V. Baney
Chairman, Delaware Valley Council

Pocono Manor, Pennsylvania
September 26, 1956

Mr. Chairman, members of Incodel and friends, it is a pleasure to meet here again in this beautiful mountain resort for the purpose of surveying the extent of the progress achieved in developing the water resources of this great Delaware River Basin.

Although I have been assigned the topic of the Delaware Valley Council, nevertheless, I believe that you would be more interested in learning how an organization such as ourselves can usefully serve an agency such as Incodel than you would be in learning the details of how our Council came into being and how it operates. For this reason I will not bore you with the Council history, but rather outline its present objective and scope.

The Council, formerly an affiliate of the Chamber of Commerce of Greater Philadelphia is an independent non-profit corporation chartered under the laws of the Commonwealth of Pennsylvania. It is managed by a board of Governors consisting of directors elected by the contributing membership, civic and business organizations in the eleven county tri-state area. Also serving on the board are the principal elected officials of the eleven county tri-state area together with the Mayors of the Cities of Philadelphia, Camden, Trenton and Wilmington. We, therefore, feel that the Council as now constituted is truly representative of all segments of the eleven county tri-state portion of the Delaware Valley in which 4,500,000 people live, a large portion of the total basin population.

In scope of activity, the Council embraces the Counties of Bucks, Chester, Delaware, Montgomery and Philadelphia in Pennsylvania and the Counties of Mercer, Burlington, Camden, Gloucester and Salem in New Jersey, as well as New Castle County, the upper most of the three counties, in the State of Delaware. This region, lying on both sides of the Delaware River, is one of the truly great industrial centers of the world. In recent years, it has become nationally known as "Delaware Valley, U.S.A."

Since the Council separated itself from the parent organization, the Chamber of Commerce of Greater Philadelphia, in April this year, it has achieved widespread support and cooperation from every section of this important area.

It is dedicated to the coordination and promotion of the efforts of business organizations, planning commissions and other agencies, public and private, official and unofficial, in planning for the economic development of this region. The Council's procedure is to attack problems confronting the area by bringing about the coordination of the valuable work of all the agencies which are striving to make the Delaware Valley — both as we in the Council delineate it and as you view it in the sense of a complete topographical watershed — a better place in which to live and do business. It is our aim to assist in every possible manner in the preparation of such plans and in securing public support for the execution of projects embodied in such plans that are deemed by our Board of Governors to be necessary or desirable for the enhancement of the region in which our interest lies.

Although the Council is interested in attacking our manifold area problems on an overall regional basis through the work of our expert technical committees, nevertheless, it recognizes the subject of water resources as its number one problem. The Council feels that one way in which it can make an important area contribution is by promoting a better understanding of the aims

and objectives of Incodel. We feel that, unfortunately, much of the value of the important work done by the Commission has been dissipated through a failure to acquaint the people of the Basin with the basic underlying facts of the Incodel Plan. This is particularly significant, but unfortunate, for those of us who live on the Lower Delaware because it is we who stand to derive the maximum benefit from the completion of the Incodel program.

We are also convinced that if more civic and business leaders had been better acquainted with some of the engineering aspects of the plan and what those plans mean as a practical matter to the ordinary citizen that the group of selfish interest which ham strung Incodel's forward progress would not have been able to make the inroads that have been made.

The Council's Water Resources Committee has studied the findings of the President's Cabinet Committee on Water Resources Policy. It agrees with the recommendation that the best approach in accomplishing flood control and water conservation is to make a survey of each major river system in its entirety. We believe that such a survey could achieve more prompt recognition of the merits of the Incodel Plan and its active implementation than could be accomplished by an attempt to reactivate the plan at the State Government level. That is why the Council was so successful in rallying support in the Congress to have appropriated $500,000, to cover the first years cost for the preparation of a comprehensive survey of the water resources in the Delaware River Basin by the Army Engineers. This study, as you know, is to cost at least $1,000,000 and, if given all out area support, can possibly be completed within three years. Upon completion, such study will be the first comprehensive survey of a major eastern watershed since the "308 Report of 1932." We hail this accomplishment as one of the most important steps ever achieved in the interest of this areas betterment. In order to expedite progress, we would like to urge the use of existing data compiled by the many organizations

interested in this subject and especially Incodel. We anticipate, with the endorsement of the President's Cabinet Committee, no difficulty in winning support in the Congress for an appropriation of the balance of the funds which will be needed in forthcoming fiscal periods. We are especially delighted that this report is to be treated in the same comprehensive manner as the $700,000,000 Colorado River Basin Study. We also feel that ultimate success will depend in a large measure on how well we organize and develop area understanding and support of the plan and we are reasonably sure of this — that if we accord the findings of this survey the same lack of understanding and support that was given the Incodel Plan, we shall have to await the availability of State funds which will surely mean piecemeal implementation of plans and fifty years of actual delay.

In order to obviate such a disastrous possibility, the Council is already organizing an educational campaign to acquaint the people of the region with the salient facts and in seeking necessary public understanding and support which is so essential to further Federal appropriations.

Before closing, I wish to acquaint you further with the work of our Water Resources Committee as it relates to the desirability of a dam in the Delaware River. We originally took the position that a retaining dam at Wallpack Bend would be a good solution to the problem of water supply in the Delaware River. We have been advised, however, of the recent action of the Army Engineers in re-evaluating another site on the Delaware River at Tock's Island. I should like to state that our Water Resources Committee will be very glad to examine, in the light of any new facts that may be developed, the desirability of a dam at any particular location in the Delaware River.

In conclusion and speaking for the Council, we wish Incodel another successful year and again pledge the full and complete cooperation of the Council in aiding the Commission in any way in which we can be of service.

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THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

WATERSHED PROTECTION AND FLOOD PREVENTION PROGRAMS OF UNITED STATES DEPARTMENT OF AGRICULTURE

September 26, 1956

Mr. Gladwin E. Young
Deputy Administrator
Soil Conservation Service
U. S. Department of Agriculture

WATERSHED PROTECTION AND FLOOD PREVENTION PROGRAM OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

by

Gladwin E. Young, Deputy Administrator
Soil Conservation Service, U. S. Department of Agriculture

Pocono Manor, Pennsylvania
September 26, 1956

I am indeed happy to participate in this annual conference of Incodel. For a good many years I have read about your organization and heard about your work. A year or more ago when the President's Advisory Committee was preparing its report on Water Resources Policy, I had the pleasure of getting well acquainted with your Executive Secretary, James Allen. I was very pleased to receive Mr. Allen's invitation to attend this conference and talk about the Watershed Protection and Flood Prevention Program of the Department of Agriculture.

Legislation on which this program is based fills a missing link that had existed for a long time between river basin development programs on the main stems of major rivers and the soil conservation programs on the farms and forests of the watersheds that make up the river basins. From the standpoint of river basin development, the Watershed Protection and Flood Prevention Act now completes a chain of legislative authorities that enables the Federal Government to provide a complete range of assistance in development of land and water resources of the nation. It extends all the way from help to the individual farmer with his land and water resources down through the minor water courses and creeks to the major rivers.

The passage of this Act in 1954 added a new chapter to the nation's policy concerning proper functions of the Federal Government in water resources development. President Eisenhower, on the occasion of signing this Bill said

in part: "This Act recognizes by law for the first time the great importance of upstream watershed protection in an over-all water resource policy. For the first time also, this Act provides a broad program of Federal technical and financial assistance to such local watershed groups as are willing to assume responsibility for initiating, carrying out, and sharing the costs of watershed protection which will help conserve water for agricultural use and supplement any needed downstream flood control measures."

The significance of what the President said is that the nation's investment in water resource conservation and development shall no longer be limited to engineering works on the main stem of the rivers. Prior to this Act, the Federal Government's active participation in water resources development consisted almost entirely of works of improvement on the major rivers and harbors for navigation, flood control, irrigation, and power. The concept of the use of multi-purpose or flood control dams on major rivers in the past has largely dominated the thinking and planning for water resource development.

It is very significant, therefore, that the Congress through the passage of the Watershed Protection and Flood Prevention Act, and the President through his endorsement of it have brought about a major change in national policy on this issue.

Water and Land Resources as Inseparable Components for Purposes of Planning and Development

The Watershed Act provides for a sound program of soil conservation and water conservation on all the fields and forests in the watershed. In addition, it provides for the construction of such additional measures as are necessary and economically justified to control and make best use of water that falls on the watershed.

The watershed management concept is certainly not new. Legislation establishing national forests and authorizing forest and range conservation work and research in these fields dates back to the last century. Embodied in this early legislation was the concept that good watershed management on forests, ranges, and farms has a beneficial effect on stream flow and will help prevent flood damage.

During the 20 years that the Soil Conservation Service has been responsible for a nationwide program of soil and water conservation carried out with farmers through their organized soil conservation districts, there has developed a growing appreciation of the relationship of land management to water management. Farmers have seen the effects that their soil conservation measures have had on the behavior of runoff and stream flow. They have seen their terraces, diversions, and small dams, together with good rotations and forest management, cut down damage from flood producing storms. They have seen these same measures conserve moisture to help in periods of drought.

A lopsided policy of Federal investment of billions of dollars in tremendously large dams and other major structural work on major rivers had failed to take into account that if we wait until water reaches the main rivers before we begin to use it or control it, much of its value has already been lost and much of its damage has already been done. Such a policy had failed to recognize the inter-dependence of land and water — that water falls first on the watershed lands and at that point is the first opportunity to use it productively and to begin to influence how it runs off the land into the river. Those who still look at water resources development as strictly an engineering construction job continue to ignore this land-water interrelationship and, therefore, contend that all the water resource functions should be transferred to strictly engineering agencies.

We have developed great projects to provide water for irrigation, for power, and to provide flood control. The benefits from these efforts have been widespread. Cities have grown up. New industries have been generated. New wealth has been created. Protection of established settlements and economic values has been afforded.

But only as we now begin to face up to our rapidly expanding needs for more water and to the annually recurring damages from floods in our small watersheds are we beginning to understand some fundamental principles relating to water, its maximum use and development. One basic principle is that land and water are inseparable. Water is collected not alone in the major streams but from all the land of the watershed, beginning at its uppermost limits. Water is first of all an agricultural resource. Its use and management in the initial stages is an agricultural problem. Water falls upon the land as rain or snow.

It soaks into and through the soil surface maintaining soil moisture, the flow of creeks and springs, and recharging underground reservoirs, or it runs off sometimes, too often in our small watersheds, with great destructive force.

More than 80% of our total water supply comes from surface waters. The management of the farm range and forest lands on which it falls or over which it flows, or through which it percolates, is an important key to water management. The passage of the Watershed Protection and Flood Prevention Act for the first time gave national recognition to these important principles. The initial behavior of precipitation depends on what kind of land it falls on, on what the land is used for, and what kind of cover it has.

Water Resources Development — A Partnership Undertaking between Federal, State and Local Governments

In the process of enacting the Watershed law and making provisions for its administration, a new policy position was crystallized relative to the participation of the Federal Government with State and local governments in water resource development. It places major responsibility on local organizations for the initiation of watershed projects by making these organizations responsible for carrying out, operating, and maintaining the projects. It also places responsibility on the State government for reviewing all projects proposed by local organizations and planned with the aid of the Department of Agriculture.

When the President prescribed the rules and regulations for administration of the Act, he said, "Local initiative and responsibility, and close cooperation with state agencies are key ingredients in carrying out the works of improvement made possible by this law." It has been made clear that it is the intent that the Federal Government shall have a junior partnership position in the program to be carried out under the authorization of this Act. A similar policy position with respect to Federal participation in all water resource development appears to be developing.

Beneficiaries Should Pay An Appropriate Share of Project Costs

The Water Resources Policy report of the Presidential Advisory Committee on Water Resources Policy recommends as a national policy that State and local interests should participate in planning for development of water and land resources and that provision be made for equitable sharing of costs among beneficiaries.

This is the general policy position that was expressed on cost sharing in the Watershed Act, which provides that local organizations shall "assume such proportionate share of the cost of installing any works of improvement as may be determined by the Secretary to be equitable in consideration of anticipated benefits from such improvements."

The amendments to the Watershed Act, P.L. 1018, signed by the President on August 7, 1956, changed the cost-sharing provisions with respect to construction costs of flood prevention. It divides cost-sharing into three categories and makes the following provisions:

(1) Costs allocable to flood prevention must be borne entirely by the Federal Government.

(2) Costs allocable to agricultural water management, primarily irrigation and drainage, must be borne by the local organizations to the extent determined by the Secretary to be equitable in consideration of the direct identifiable benefits. This means in substance that the local organizations will bear the proportion of the total costs which is allocable to direct identifiable beneficiaries and the Federal Government will bear that proportion of the cost which is allocable to secondary benefits. Under the Secretary's policy, leeway is provided for taking into consideration non-monetary or intangible benefits which may be found to exist to the extent of sharing a greater proportion of the costs than may be determined by the ratio of direct identifiable monetary benefits to total monetary benefits. In no event, however, may the proportion of costs which the Federal Government will bear exceed the proportion which the Government will bear for similar measures under other Federal programs. For example, the proportion of costs that will be borne by the Federal Government will not be greater in any case than the present worth of the interest which the Federal Government foregoes on an interest-free loan made for reclamation purposes under Federal Reclamation law or under the recently enacted Small Reclamation Projects Act.

(3) For other water-management measures, such as municipal or industrial water supply, local organizations must pay the full cost of installation.

For all measures, local organizations must continue to provide all land, easements, and rights-of-way; acquire all necessary water rights; bear the cost of administering contracts; and assume all costs for operation and maintenance. The foregoing provisions for cost-sharing apply only to installation costs consisting of installation or engineering services and costs of construction.

I am sure that many of you are generally familiar with the Watershed Act before it was amended. I believe it was discussed at your annual conference last year. The Administration of the program provided for in the Act is assigned to the Administrator of the Soil Conservation Service. The objectives and major purposes of the Act remain unchanged. I shall, therefore, review briefly the major amendments in addition to the amended cost-sharing provisions just mentioned.

The amended Act broadens the definition of works of improvement to include not only structural and land treatment measures for flood prevention or the agricultural phases of water management but also measures for non-agricultural purposes such as municipal or industrial water supplies and streamflow regulation. In fact, any type of measure that contributes significantly to water management in any form may now be included as a part of watershed projects.

The new Act increases the total capacity of structures that may be included in upstream watershed projects to twenty-five thousand acre-feet but limits the amount of storage for floodwater detention that may be provided in any one structure to five thousand acre-feet.

The Act is amended to provide for loans or advancements to local organizations at the Government's long-term borrowing rate for periods up to 50 years from the date the principal benefits become available, with a limitation on the amount of loan or advancement for any one project to $5,000,000. Such loans are available for all purposes of the Act, including municipal or industrial

water supply. The benefits to upstream municipalities in need of water supply lie principally in the loan provision although they will receive the advantage of cheaper storage where it can be combined with floodwater-detention capacity and costs allocated between the two purposes.

The new Act requires local organizations to provide engineering services for all municipal and industrial water supply features of a project. It provides that local organizations may, at their option, contract for non-Federal engineering services for all other features of projects including flood prevention, irrigation and drainage. The Federal Government must reimburse the local organizations for such services. It also authorizes the Government to advance up to 5 percent of the estimated construction cost to local organizations for securing such engineering services. Moreover, it authorizes the Secretary to contract for private engineering services if local organizations are unable to do so, but permits the Secretary to provide Federal engineering services for all project features except municipal or industrial water supply.

The new Act extends the benefits of the Act to Hawaii, Alaska, Puerto Rico and the Virgin Islands.

The new Act amends the requirements for approval of projects by exempting projects which have an estimated Federal contribution to construction costs of less than $250,000 or contain no structure having a capacity of more than 2,500 acre-feet from formal review by other Federal agencies and from transmission to the Congress. Such projects can be approved by the Secretary, who has delegated his authority to the Administrator of the Soil Conservation Service. The amendments provide that all projects which have costs or structures exceeding these limitations must go through the same inter-agency review and Congressional review as provided for under the original Act, except that the period allowed for inter-agency review is reduced from 60 to 30 days and no waiting period is required in the Congress. Every project that is transmitted to the

Congress, however, requires a resolution of approval from appropriate Committees thereof before appropriations can be made for Federal assistance on this project. If a project contains no structure having a total capacity in excess of 4,000 acre-feet, it must be approved by the Committee on Agriculture and Forestry of the Senate and the Committee on Agriculture of the House of Representatives. If the project contains any structure having a capacity of more than 4,000 acre-feet, approval is by the respective Public Works Committees of the Senate and the House.

The provisions of the Act are extended retroactively to all 26 projects heretofore approved under prior procedures for Federal assistance under authority of Public Law 566.

Most Procedures for Project Development Remain the Same

Although these amendments make significant changes in the potential scope of projects, in cost-sharing, in procedures for review and approval, and in other ways, they do not change in any respect the basic concept of the program nor of the relative positions of the Federal Government, the States, and local organizations. The process for initiation of a project remains the same. A project application must be formulated by a local organization which has authority under State law to carry out, operate, and maintain the works of improvement provided for in the Act. Often two or more local organizations must sponsor a project jointly in order to have between them the requisite authorities to carry out all features of the project which are desired by the local people. A typical example in this area would be the combination of a soil conservation district, a conservancy district, an irrigation district, and a municipality to carry out a joint program including soil and water conservation practices on the land, up-stream flood prevention structures, irrigation improvements and municipal water supply.

When a project application is developed, the local organization is required to submit it to the agency designated by the Governor to have responsibility for approval of applications on behalf of the State. By law, this agency is allowed 45 days for review. If it disapproves the application, no Federal action can be taken. It is the policy of the Department, however, to take no action unless there is a positive approval by the State agency. Once the application has been approved, it is submitted to the State Conservationist of the Soil Conservation Service who transmits it to the Administrator of the Service in Washington.

When the Service has planning resources available to assist local organizations in the State, the State agency is requested to recommend priorities among those projects which it has approved. These priorities are the basis for determination by the Service as to the order in which planning help will be given to local organizations.

National Status of Public Law 566 Program

It may be pertinent at this point to give you a few facts on the national status of the watershed program authorized by Public Law 566.

As of September 8, the Service had received 569 State-approved applications from local organizations in 46 States for assistance under the Act. The Service had authorized assistance in planning on 195 watersheds in 46 States to the same date. Plans were completed and cleared through the past session of Congress under the original P.L.566 procedures on 26 of these watersheds where operations are now in progress. Plans on several others are completed and can be authorized administratively under the new Act.

The current rate of planning assistance should result in completed plans on about 100 projects per year, possibly somewhat more depending on availability of technical personnel and non-Federal funds.

One of the significant factors in the operation of this program to date is the extent of State action. In the two years since enactment of P.L.566, 27 States have enacted 47 separate pieces of State legislation designed to strengthen the positions of the States and local organizations in carrying their share of the responsibility for this program.

Program Coordination

The amendments to the Watershed Act broadened the purposes to provide for the inclusion in a watershed plan any type of water management improvement and land treatment which contributes to protection or enhancement of water resource development. The Act, however, limits the size of a watershed plan to 250,000 acres and the size of any single structure to 25,000 acre-feet with not more than 5,000 acre-feet in any structure for floodwater detention.

Legally in planning a watershed, consideration can be given to (1) flood prevention (which includes land stabilization and sediment control), (2) drainage, (3) irrigation, (4) municipal or industrial water supply, (5) power, (6) navigation, (7) water management for pollution abatement, (8) water management for fish and wildlife improvement, (9) agricultural water supplies other than irrigation, and (10) water management for recreation.

Practically, however, several of these aspects of water management can be readily eliminated from the standpoint of coordination and from the standpoint of practical consideration in small watersheds.

Under the Act no financial assistance could be provided on navigation improvements; such improvements are primarily a Federal responsibility and are assigned by specific Federal Acts to the Corps of Engineers.

Streams within a 250,000 acre watershed offer little or no opportunity for firm power development.

Water management features for fish and wildlife and recreation must be paid for wholly by local organizations or the States. It is expected that such features will be incorporated in many projects. Numerous State fish and wildlife agencies, as well as local organizations, are expressing interest in such features. So far as foreseen now, however, such features of watershed projects would be strictly incidental and would not likely conflict with any downstream developments.

In general, the same could be said for maintaining stream flow regulation on small watershed streams in the interest of pollution abatement. Any storage for this purpose would have to be paid for wholly by local organizations.

All costs of municipal or industrial water supply must be borne in full by the municipality or industry, which moreover must have the necessary water rights under State law.

Drainage

Drainage assistance is authorized under both the Watershed Act and the Flood Control Acts. Neither specifies a limit on size of improvements except the general limit of 250,000 acres in the Watershed Act. Coordination in drainage, as we see it, is a matter of agreement as to what assistance may be available in a specific watershed from the Corps of Engineers or the Department of Agriculture. In any event a fully beneficial plan must extend from farm fields to major river outlets. There is no possible upstream and downstream program conflict. The upstream part cannot work without the downstream part and the outlet channels produce no benefits without the farm and headwater drainage improvements. The principal problem of coordination, if any exists, is more likely to be that of reconciling any conflicts between drainage and fish and wildlife. The Service has a Memorandum of Understanding with the Fish and

Wildlife Service providing for full investigation by that agency in any watershed where significant damages to fish and wildlife might be caused by proposed project improvements. No projects have thus far been authorized where any fish and wildlife conflicts remain unreconciled.

Irrigation

Financial assistance under the Watershed Act in any improvements for irrigation and agricultural water management will be strictly conditioned on local organizations or landowners having perfected water rights under applicable State laws. We recognize potential conflicts between upstream and downstream irrigation interests over water rights, even between local organizations or landowners and the Federal Government. It is the policy of the Department to scrupulously respect the State laws. When local interests in a watershed have perfected water rights and apply for assistance in irrigation improvements as a part of a watershed project the Department will provide such assistance as is authorized by the Watershed Act and compatible with its administrative rules and regulations.

River basin coordination with respect to irrigation, therefore, is contingent in our approach to the problem upon the rights acquired under State law. When these rights are fully adjudicated there is no problem of planning the facilities where they need to be.

Land Treatment Measures

Good land use and treatment is the keystone of any watershed program. This is recognized specifically in the Watershed Act which requires treatment of 50% of the land above any floodwater detention structure before Federal assistance can be provided for its installation. It has not been considered necessary to provide any financial assistance under the Watershed Act for land treatment measures because this is available to all landowners under other national programs. Under our administrative procedures to be eligible for a

project, a watershed must have significant needs for structural water management measures that cannot be met under other programs. Therefore, land treatment alone cannot be the sole purpose of authorizing a watershed project.

Flood Prevention Structures

The amendments did not change the objectives or authorizations for flood prevention structures. It is the purpose of structural measures to supplement land treatment measures to reduce flood damages on flood plain lands in the tributaries of watersheds of 250,000 acres or less in size. Such structures may include retarding reservoirs and improvements in channel capacity.

In any river basin plan for reducing flood damages, this work on the smaller watersheds will be significant but in most situations cannot be a substitute for major dams or protection works on the major rivers. The most effective and economically justified combination of land treatment on the watersheds, flood protection works on the minor waterways and creeks, and major flood control works on the rivers, is a goal we are all seeking in river basin planning and development.

But protection against flood damage cannot rest solely on structural works to hold water back in reservoirs or in improved channels. The flood plain of all rivers is the water's highway to the sea. That is how the flood plain was made over the ages. When man encroaches on these flood plains, he should do so with the knowledge that the river will sooner or later again claim its highway to the sea. Therefore, a major part of the job of protecting against flood damage is to avoid uses of the flood plain that invite disaster. Flood plain zoning is a device for warning prospective users of possible disaster. It should be used more widely by states, counties and municipalities to supplement the development programs of the Federal Government.

In conclusion, I would like to emphasize again the tremendous increase in demands against our usable water supply and the important place that good management of our watershed lands has in meeting these growing demands. I would like to emphasize also that the program authorized by the Watershed Protection and Flood Prevention Act is not a cure-all — but it is a major addition that rounds out the soil and water conservation program of the Department of Agriculture. It needs to be a significant part of any river basin development.

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THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

WATER - A VITAL RESOURCE

September 26, 1956

Mr. Ross L. Leffler
Assistant to Executive Vice President
United States Steel Corporation, and
member, Pennsylvania Game Commission

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FOR RELEASE IN A. M. PAPERS
THURSDAY, SEPT. 27, 1956

WATER - A VITAL RESOURCE

by

Ross L. Leffler

Assistant to Executive Vice President - Operations

United States Steel Corporation

at the

Annual Conference

Interstate Commission on the Delaware River Basin

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Pocono Manor, Pennsylvania

September 26, 1956

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We live in a country richly endowed with natural resources: fertile land, extensive and varied forests, an abundance of mineral wealth beneath the soil. All these things are gifts of nature, which our people have used to build a civilization unmatched in human history for its material productivity. From the products of our land, our forests, our mines and oil fields, we have raised great cities and spanned a continent with railroads and automobile highways. But without one vital resource, water, none of these miracles of human achievement would have been possible.

I am sure that this fact has been stressed repeatedly today by Mr. Pitkin, Colonel Clark and Colonel Lee and probably by every speaker on the Conference program.

In the brief span of a century and a half, American farms and cities have spread over the land from the Appalachians to the Pacific. Great harbors have been built, navigable streams maintained and improved; large cities have been supplied with adequate quantities of pure domestic water and their wastes carried away by more water. In the arid and semiarid West, deserts have been made to bloom; and large and small dams provide for flood control, hydroelectric power, and irrigation. All these things are the achievements of human ingenuity and enterprise -- the work of many pioneering individuals and many men of technical skill.

We have destroyed forests, leaving barren, denuded mountainsides from which rain water and melting snow pour unchecked; we have overplowed and overgrazed our lands; we have dangerously increased soil erosion, allowing precious topsoil to be carried to the sea; muddying our streams, filling up our reservoirs, and increasing the damage from floods. And we have polluted many of our streams and rivers.

These are serious wastes. If permitted to continue unchecked, they will impoverish us and our children. And yet, one of the strengths of our free society is that we can recognize and correct our mistakes. Our society is dynamic and flexible. In all parts of the country -- among engineers, conservationists, farmers, householders, and other ordinary citizens -- there is a growing recognition that we must conserve and develop, as well as use, our natural resources. And in conservation and development, as in use, water is the vital resource.

Now, midway in the twentieth century, two facts have become compellingly clear. The first is that water is limited in relation to the many and varied needs for its use. These needs will grow in size and complexity as the population grows and as industry develops. More water for domestic use is needed by our growing towns and cities. More water must be used to bring new lands into production. And new industrial techniques bring with them increasing demands for water.

The second fact which we can now see clearly is that the management, conservation, and proper use of our water are inextricably bound up with the management, conservation, and use of our land and that both are essential to our expansion as a nation. Water control inevitably leads back to the proper conservation of forests and agricultural land.

The states creating Incodel are to be commended for their early recognition of these facts and for taking constructive steps to cope with the problems involved. And Incodel itself is to be complimented for doing an excellent job in establishing the foundation and framework of a comprehensive water resources development plan, a cooperative venture of federal, state, municipal and private agencies, under the guidance and supervision of the U. S. Army Engineers.

The great over-all problem of wise control and utilization of our water and related land resources is becoming even more vital year by year because our population will reach an estimated 190 million in about 25 years. Merely to maintain our present standards of living, therefore, we shall need to take better care of our water and use it more wisely to irrigate the fields, supply industry and municipalities, and produce the power required to meet the needs of increasing numbers of people. The wise development and conservation of our vital resource, water, is essential to further economic progress.

In addition to their economic importance, water areas have a special appeal to man. From wading and swimming pools to rivers, lakes, and beaches, they provide our day's pleasure -- our recreation. To some they mean the chance to catch that "whopper" or to bag the limit of waterfowl; to some, a refreshing swim or boat ride; to others they suggest the competition of water sports; and still others find near water the quiet relaxation and inspiration which the high tempo of our lives frequently requires. Provision of more opportunities for physically and emotionally satisfying activities is an accepted social goal, and one which we all seek to attain.

What we must do is strike a balance. We must decide which of the many important uses of water are the most important. Then we must develop these uses, being careful not to harm the water any more than is absolutely necessary. By good planning we can make every river work for us in many ways. This, I understand, is to be the key objective of the resources development plan now being developed for the Delaware Valley.

It cannot be too strongly emphasized, though, that planning for water resources development must not mean rigidity; instead it should call for intelligent flexibility; not dictatorship and centralization, but cooperative and shared responsibility. The American system succeeds only as it encourages initiative,

enterprise, and a sense of responsibility for the common good. I would suggest that no "plan" can be acceptable which weakens or fails to use these qualities.

The high standard of living which we enjoy in America and of which we are so proud is mainly the result of the productive capacities of our many industries. And in order to produce, industry needs water -- staggering quantities of it. Industries in the United States require 60 billion gallons of fresh water each day. In fact, the water needed by industry weighs fifty times as much as all the other raw materials combined. And these figures do not include the stream flow that is used to create power.

We all recognize that industry is a contributor to the pollution of streams and surface waters. May I assure you that industry is well aware of its responsibilities to others who use water from rivers and streams. Industry, by and large, is currently busily engaged in a sincere effort to meet their responsibilities. In turn, there should be, and I believe there usually is, public recognition of the complexities of industrial water supply and disposal problems.

However, we must all admit that we shall never be able to restore a number of our waterways to their original state of beauty and cleanliness. But we can keep them useful and we can restore enough of their purity to make them an asset for richer living. This huge national problem is made up of local problems. And herein lies our hope. Each of these local problems can be solved by the community or industry concerned. We shall be well on our way toward the solution of our national problem when the citizens of each community in all sections of the country recognize, as the citizens of the Delaware River Basin have recognized, that they are responsible for cleaning up the pollution they create.

Because industry does occupy such a vital position in our economy, I suggest that it should be permitted, along with other groups, to make recommendations to the regulatory agencies on matters concerning policy and procedure for

control measures. Together with all groups, industry should be consulted regarding the principles on which policy is based and the manner in which control measures will be determined and applied. And a rational and not an emotional attitude should be the foundation of any effective approach to pollution abatement. There is no reason why the public, American industry, and our regulatory agencies, possessing factual information and reasonable determinations of stream uses, cannot produce results in any pollution abatement program.

Perhaps you might be interested to know how water is used in an integrated steel plant and how important a good water supply is to the production of steel. Actually, it is so important that the failure of water services would shut down a steel plant in a very few hours. Water is used as a solvent, as a conveying medium for the transport of materials, as a dispersive medium, as a cooling agent, as a cleansing agent, and in the production and distribution of heat and power.

Nearly 150 net tons of water are required for every ton of finished steel produced. A little more than 80 per cent of the water used in a steel mill is for cooling purposes. Water is needed to cool certain parts of blast furnaces where temperatures are high. A blast furnace with a capacity for making a thousand tons of iron daily requires about 11 million gallons of water every 24 hours.

Water is also used to remove scale -- the oxide of iron which forms on the surface of hot steel -- during many rolling operations, and of course for this particular application it is used under high pressure. One of the largest users of water in a steel plant, as perhaps some of you know, is the continuous strip mill. A strip mill of the kind we have at the Fairless Works, for example, uses thousands of gallons each minute to cool rolls, descale hot steel, and remove the scale.

The scope of a steel plant's water requirements can be understood a little better, perhaps, when you consider that this new plant requires approximately 230 million gallons per day for all services, which amounts to about two-thirds of the daily requirements of a city the size of Philadelphia.

Briefly, that is a thumbnail sketch of the water supply required at the Fairless Works. U. S. Steel realized its responsibilities in Bucks County, and we believe by installing the most modern equipment available for handling and treating water, we have made great strides toward fulfilling these responsibilities.

In other industries, it takes 365,000 gallons to produce a ton of rayon yarn; 510,000 gallons for 1,000 yards of woolen cloth; over one million gallons of water for a thousand barrels of aviation gasoline. The steel industry alone requires 13 billion gallons per day. Nor do these figures tell the whole story. The fast growing industries -- such as the synthetic and chemical industries -- are those which make great demands on water, and experts predict that by 1975 our industries will need more than twice as much water as they are using today.

The solution, therefore, of our problem of pollution abatement alone involves the expenditure of years of continuous research and the capital investment of billions of dollars, a cost which in the first instance must be borne by municipalities, industrial organizations and water treatment plants. The ultimate solution of the problem, though, must eventually be absorbed by the population as a whole. And one logical approach to such a problem would seem to involve a determination of what degree of stream purity the people of the country want and are willing to pay for. As long as we farm our land, depend on industry for our material well-being and improvement, and live in great urban areas, we will not be able to purify our rivers and streams to their former pristine state. But we

can -- and must -- arrive at some practical and healthful compromise. I believe that the basin wide pollution abatement program for the Delaware Valley has been effectively founded on this principle.

In my talk this evening I doubt that I have told you anything startling about pollution abatement, or even anything which you did not already know. Actually, you people are certainly not the ones who need education in this subject. Nevertheless, I have enjoyed talking to you on this particular subject because the preservation and development of natural resources -- and human resources -- are subjects to which I have devoted much of my life. And because of my experience in basic industry, I believe I understand many of its problems and ambitions, nearly all of which are directly involved with the country's natural resources. It is true that industry is the source of much pollution, and yet we must not forget that our industries are also the source of the high standard of living which we proclaim so widely and so justifiably.

I do think that when we talk about natural resources we are inclined to "view with alarm." True, there is much to be alarmed about. In many ways we have not been wise in our dealings with nature. We have found quick riches, but in doing so we have used resources which might have been saved for our children and our children's children.

But we have accomplished much, to which we can "point with pride." We have made a start. We find terraced hillsides on many farms -- we find rotation and strip-cropping, as well as selected cutting of the timber in our forests. Today many streams are running clear again, unpolluted by either the soil of the earth or the soil of man's cities and industries. We are making a good beginning.

But we still have not decided definitely or collectively -- and this is where you people are very important and are rendering a great service to the country -- that we will take the road of conservation.

The choice is ours. We must choose wisely and soon. Time and our rivers will not wait.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

THE NEW FEDERAL WATER POLLUTION CONTROL PROGRAM

September 27, 1956

Dr. Mark D. Hollis
Assistant U. S. Surgeon General

THE NEW FEDERAL WATER POLLUTION CONTROL ACT

by
Mark D. Hollis
Chief Engineer, Public Health Service
Department of Health, Education, and Welfare
Washington, D. C.

I bring you greetings from the Surgeon General. As you may know, Dr. Burney is a past Commissioner of the Ohio River Valley Water Sanitation Commission, and has been deeply interested in water resources for many years.

Today, everyone is emphasizing the importance of our water resources. It has been stressed by the President in many of his public statements. It is given a prominent place in the platforms of both major parties. Recent Inter-Agency Committee reports present the problem in detail. Last night's speaker discussed the urgency and importance of water resources. In view of this widespread and growing interest, it is not necessary for me to repeat here how important water resources are.

Greater technological advancement has been compressed into the last 50 years than in the previous 2,000 years. We have undergone a transition from an agricultural to an industrial economy in the last 50 years. During the same period there has been a population shift from rural to urban areas. Two thirds of our people now live in cities.

Present water consumption is at the rate of 1500 gallons per capita per day—more than a half million gallons per capita per year.

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* Meeting of Interstate Commission on the Delaware River Basin, Pocono Manor, September 27, 1956.

It is estimated that the present rate of water use will double by 1975. One hundred million people now depend on surface streams for their water supply. There is a growing awareness of the relation between water pollution and satisfactory drinking water supplies.

From this background, the present Water Pollution Control legislation has emerged. The key to Public Law 660 is in the first paragraph, which reaffirms the policy of Congress "to recognize, preserve, and protect the primary rights and responsibilities of the States in preventing and controlling water pollution." Each section reaffirms this policy. The original Senate Bill, S. 890, was designed to extend and strengthen Public Law 845. It continued the development of comprehensive programs and the encouragement of interstate groups. As we move ahead in this next decade, there is more than ever a need for this interstate cooperation. The approach should be on a total basin - total water use basis. The interstate compact provides a good mechanism for this approach. There has been a transition in our thinking of the varied uses of water—the new concept is to look on flood control, reclamation, water pollution control, and other factors affecting the streams, as allied, not conflicting interests.

The new Act continues the authorization for grants to States to aid them in developing internal machinery to carry out their water pollution control programs. The interstate agencies are included in these program grants. Obviously, the larger States do not need this assistance to the degree that some of the smaller ones do. But there are more than 30 States with water pollution control budgets of less than $50,000 a year; 22 have less than $30,000 a year. There is need for

incentive grants to help the smaller States develop effective programs.

The Act strengthens the research grants provisions, broadening the research base and including authorization for research contracts to encourage university research centers to expand their work in this field, and utilize the research potential of those institutions. The basic data collection provisions of P.L. 845 are broadened in the new Act. There is also a section covering cooperative action to control pollution at Federal installations.

On the sections I have mentioned, there was little difference of opinion among the many witnesses who appeared at hearings on a water pollution control bill. There was substantial agreement on these needs.

There were two other features, however, that were somewhat controversial. The Administration suggested revisions in the provisions for enforcing abatement of interstate pollution--pollution which crosses State boundaries and affects the health or welfare of persons in a State other than the State in which the pollution originated. The 1948 Act set up specific procedures to be followed. There were a number of steps to be taken in cooperation with the States, which involved waiting periods of about two years. If these all failed, the Federal Government, through the Secretary of the Department of Health, Education, and Welfare, could recommend legal action, if the State in which the pollution originated agreed. The feeling in Congress was that this was an unenforceable law, and therefore provided no appropriations for enforcement.

Hence, the Administration proposed to amend this section, deleting the provision requiring permission from the offending State. It

was felt that the veto power should be removed. Because there was considerable opposition to this revision, S. 890 did not pass at the first session of the 84th Congress. During the period between the two sessions, we met with the States and arrived at a compromise which I think is a good one. In this compromise, it was agreed that before formal action by the Federal Government, the following steps would be taken: A conference would be called by the Surgeon General with the States concerned—no fanfare or public meetings, but an honest effort to resolve the differences. If the differences cannot be resolved through this conference, a further series of steps is provided: A public hearing before a Board appointed by the Secretary, including representation of the States concerned; transmittal of the Board's findings and recommendations to the polluters, with notice specifying a reasonable time to secure abatement; then, if no action is taken within the time specified, the Secretary is authorized to recommend Court action, either at the request of the receiving State, or with the consent of the polluting State.

This new provision brings the rights of the States in proper balance: (1) the right of the State to control its own pollution; and (2) the right of the offended State to seek remedial action. This is a reasonable balance. Today this is the law.

Another point that was controversial was Section 6—the construction grants. President Eisenhower issued a public statement on this when he signed the bill:

> "In one respect the bill goes beyond the recommendations of the Administration by providing for Federal grants to localities to pay part of the cost of constructing municipal sewage treatment works. In doing so, however, it directs the

Surgeon General of the Public Health Service, in every case, among other factors to give consideration to the propriety of Federal aid. I have requested the Secretary of Health, Education, and Welfare, and the Surgeon General to prepare criteria by which the propriety of Federal aid will be determined.

"Meanwhile, I urge that no community with sufficient resources to construct a needed sewage treatment project without Federal aid, postpone that construction simply because of the prospect of a possible Federal grant. It should be clearly understood that Federal aid will not be available to all communities and, with respect to any one project, the Federal funds are limited in amount under the provisions of the bill."

In his message to Congress transmitting the request for appropriations to implement the new provisions, the Presidend said:

"The Secretary of Health, Education, and Welfare and the Surgeon General have prepared tentative criteria in accordance with my request, and a draft of them is attached. It is the present intention of the Executive Branch to administer the statute in accordance with criteria such as these, subject to further study and consultation inside and outside the Executive Branch. I believe it important, in the light of the appropriate limitations which Congress has placed on this program, to make it clear that not all projects will be eligible for Federal aid and to make known as soon as possible the criteria which will be used in determining the 'propriety of Federal aid' in the administration of the law."

Section 6 (a) provides that the construction grants are for the construction of necessary treatment works to prevent discharge of waste into any waters. Thus the grants are not limited to projects on interstate waters.

Section 6 (b) sets up procedures to meet the State plan and comprehensive programs approved by the Surgeon General.

Section 6 (c) includes the propriety of Federal aid provision. The legislative history shows that it is the intent of Congress

that these be incentive grants to accelerate construction of sewage treatment works.

The States and interstate agencies will have an important part in administering the law in the States, especially Section 6. Many of the people here at this meeting will have a hand in it. Because of ambiguities in the language of this section, we do have a rather complicated situation, which we are attempting to unravel so that reasonably simple procedures can be set up for administration of the program.

As originally written, Section 6 authorized $100,000,000 per year up to a total of $1 billion for the construction grants. This was later reduced to $50,000,000 a year with an aggregate of a half billion.

The Conference Committee developed a formula for computing the total to be allotted for grants in each State—basically, one-half on financial need and one-half on population. The Committee also added the requirement that the States determine priorities on the basis of both financial and water pollution control needs.

The law limits the amount of any grant to 30 per cent of the cost of the project, or $250,000, whichever is smaller.

On that basis, and without any allocation by States, $52 million would have provided aid to every community that constructed a plant in 1955. Somewhat less would have been needed to give aid to all cities constructing plants in the years 1950 to 1954. With construction of sewage treatment plants at an annual rate of $350 million, the level required to take care of population increase, plant obsolescence, and backlog, we estimate that about $75 million in grants each year would

take care of all communities.

I appreciate that, at the $50 million amount, and under the present apportionment system, some of the larger States such as Pennsylvania and New York will not have enough to take care of eligible projects each year. But for the nation as a whole, particularly in the South and Midwest, these grants will be very significant and will provide a real incentive to launch an accelerated program. The grants should be especially helpful in the Missouri Basin where it is essential that sewage treatment plant construction move ahead in view of anticipated industrial and municipal expansion.

In every possible aspect, the construction program will be administered through the States, even though Section 6 might be interpreted as permitting us to work directly with the municipalities. We feel, however, that the traditional pattern of federal-state-local relationships should be maintained and are more than happy that the States have agreed to take the initiative.

The law isn't an ideal one, but it does provide a framework within which the Federal Government, States, and cities can move ahead cooperatively.

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THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

CONFERENCE SUMMARY - FEDERAL, STATE AND INTERSTATE RESPONSIBILITIES IN WATER RESOURCES DEVELOPMENT

September 27, 1956

Hon. Maurice K. Goddard
Secretary, Department of Forests and Waters
Commonwealth of Pennsylvania

Conference Summary
FEDERAL, STATE AND INTERSTATE RESPONSIBILITIES
IN WATER RESOURCES DEVELOPMENT

by
Hon. Maurice K. Goddard
Secretary, Department of Forests and Waters
Commonwealth of Pennsylvania

September 27, 1956

May I start my remarks by quoting from Fairfield Osborn's book, "The Limits of the Earth":

"At that period .... her mountains were heavily afforested—a fact of which there are still visible traces. There are mountains here now which can keep nothing but bees, but which were clothed, not so very long ago, with fine trees producing timber suitable for roofing the largest buildings. The annual supply of rainfall was not lost, as it is at present, through being allowed to flow over the denuded surface into the sea, but was received by the country, in all its abundance, into her bosom where she stored it .... and so was able to discharge the drainage of the heights into the hollows in the form of springs and rivers with an abundant volume and wide territorial distribution. The shrines that survive to the present day on the sites of extinct water supplies are evidence for the correctness of my present hypothesis."

That statement was not written by a modern observer. It was written by Plato over two thousand years ago as he traced the history of Athens and foretold the tragic eclipse of Greek civilization.

I am grateful to Clayton Hoff, Mr. Leffler and Mr. Young for stressing the fact that water resource development cannot be limited to engineering works. I again wish to emphasize that good land use is the key to any watershed program. Why?

The new film, "The Brandywine—A Watershed at Work," the first public showing of which you have just seen, gives some of the answers as to why this is so.

I would like to give further stress to a few things that happen when we do not have good land practices. First and foremost, there is a tremendous and unnecessary loss of fertile top soil, an indisponsable resource for the production of food, fibre and materiel which, as Mr. Pitkin pointed out in his report, are vital for the maintenance of national defense and the promotion of the public health and welfare.

Again, silting of reservoirs and harbors is an end product of the lack of good land practices.

Good land practices, of course, should include the treatment of land in forests. They should be protected against fire and disease, ruthless clear cutting and unwise use for grazing. One of the difficulties in instituting good forest management programs lies in the fact that there are in Pennsylvania over 277,000 owners of forest lands of less than 100 acres. Obviously, it is a large order to reach and educate all these people.

But, by the same token, it shows that the whole program of watershed protection and flood abatement through land management is a difficult assignment that must be carried out primarily by the local

people, even if there is a federal program to help us, such as is provided for under P.L. 566.

Now, as ardent a conservationist as I am, I know that good forest management and good farming practices will not supply sufficient water for our great cities, industries, agricultural needs and recreation. It is obvious, from Mr. Iorns' remarks yesterday, that the excellent condition of the Delaware River this summer was due to the presence of the Pepacton and Neversink reservoirs on the upper reaches of the Delaware in New York State.

Please remember that in July, Mr. Iorns reported, 57% of the flow at Montague on the day of maximum reservoir contribution came from the reservoirs. And, in August, on the day of maximum reservoir contribution, 76% of the flow at Montague was derived from the reservoirs.

Remember, even at Trenton, well downstream, on August 28, approximately 33% of the flow came from the Neversink and Pepacton reservoirs.

I also wish to emphasize that the drainage area above Neversink and Pepacton is only about 1/10 of the area above Montague. Or, in simpler terms, in August, on one day, at least 3/4 of the water in the river at Milford came from only about 1/10 of the area above Milford and only 1/4 of the flow came from the other 9/10 of the area.

These figures obviously prove that if we are to make truly significant changes in the stream flow of the river, it will be by the construction of storage facilities.

Now, all of us here are obviously interested in the accomplishment of this objective. We are grateful to the United States government, Colonel Clark and his staff, for undertaking the comprehensive study of the Delaware Basin. I am confident every agency represented here today is willing to do everything within its power to aid Colonel Clark, Mr. Morgan and their staffs in carrying out the task assigned to them.

We are pleased to learn from Mr. Kerney, of the Delaware River Basin Advisory Committee that his group will undertake two very important and essential studies; one, in the field of economics and the other, in the field of government. The Committee has already recruited a fine staff and has already secured at least one significant grant of $55,000. I am confident that this Committee, under the excellent leadership of Mr. Kerney and Walter Phillips, will make significant contributions to the development of the water resources of the Delaware River.

I concur with Senator Yosko in his emphasis for action. It is true that Pennsylvania has spent a million dollars on studies of the Delaware Basin. It has not all been wasted, but if we must await the completion of the Corps of Engineers' comprehensive report before we can go ahead, I will agree that most of the million dollars was wasted. I also agree that, if too many agencies are studying the same problems and their actions are not carefully and skilfully coordinated, we will be in real difficulty.

We must all agree with Mr. Pitkin's remarks yesterday that we are entering an era of better cooperation and spirit of unity. It is this spirit of cooperation and sense of loyalty that will keep the diverse

agencies working toward a common goal. Colonel Clark also stressed this point and emphasized how the Corps of Engineers proposes to coordinate its activities with all the federal, state, local and private agencies interested in the Delaware River Basin.

Now, this was actually what I was to discuss—Federal, State and Interstate Responsibilities in Water Resources Development.

You will recall that Colonel Clark and the Corps of Engineers exercise great responsibility in the fields of navigation, flood control and other aspects of water resources development. You will recall that Mr. Young emphasized the role of the federal government in watershed protection and flood prevention programs of the U. S. Department of Agriculture.

Dr. Hollis has just outlined the new federal water pollution control program.

It would appear that the federal government could do everything for us that we need. Actually, this is not true, but I am sure all Easterners will agree we want more done for us in the field of water development than in the past. We believe we are just as good as the Westerners and that water for the City of Philadelphia is as essential for the national economy as is water for Los Angeles.

Unfortunately, federal action has not been too favorable for Pennsylvania and at the present rate of allocation of funds, we will have to wait decades before projects already authorized by Congress and others just as important can be constructed and placed in operation.

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Let me review for a moment, the federal appropriations made in 1956 which relate directly to water activities. Of the total appropriation of $401,173,000 made for rivers and harbors, only $2,401,000 was for projects of direct interest to Pennsylvania. In other words, Pennsylvania's "share" of the total appropriation was only six-tenths of one per cent of the total. Or, if we look at the total federal appropriation for all water functions, which was almost a billion dollars for the fiscal year 1956, Pennsylvania's "share" shrinks even further—to less than one-fourth of one per cent. If we compare these two percentages with the proportion of federal revenue which has its origin in Pennsylvania, which is variously estimated at from 7 per cent to 9 per cent, we see that for every dollar of federal money to be spent in Pennsylvania from these appropriations for 1956, slightly over $33 of Pennsylvania money will go elsewhere in the nation for flood control and water resource development. It is true our share of the 1957 appropriation is better, but I still feel that our share is too small.

From Dr. Hollis' remarks, it also sounds as though the South and West will have an advantage over the East in the matter of incentive payments for sewage treatment plants.

We must strive for our share of funds for water development.

But, while we want more federal help, clearly, the job calls for action by the states—and by the local governments and private agencies as well.

Let me assure you that the states have been and are now providing plenty of such action. Speaking for Pennsylvania, the programs

of which I have intimate personal knowledge, I am convinced that no state in the country, with the possible exception of California, is expending more efforts and energies in the field of land and water management and control than the Keystone State.

For example, in the field of pollution abatement, we have been giving incentive payments on a retroactive basis for a number of years for the construction of municipal sewage treatment plants.

Day in and day out, such agencies as the Water Power and Resources Board, Sanitary Water Board, Ground Water Division of the Department of Internal Affairs, Soil Conservation Service, Department of Commerce and Department of Agriculture, to mention a few, are working hard and cooperatively on many phases of land and water conservation.

In closing, I wish to emphasize what Mr. Leffler said yesterday:

"Without one vital resource, water, none of the miracles of human achievement would have been possible."

Also remember his closing remarks about conservation:

"We must choose wisely and soon. Time and our rivers will not wait."

It's a great big job that requires lots of work. The power of the people working together will accomplish miracles.

So, let's go home and go to work!

# # #

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

REGISTRATION LIST

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

REGISTRATION LIST

Incodel Annual Meeting
Pocono Manor, Pennsylvania
September 25-27, 1956

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ZELLERS, Roy E.	City Engineer, City of Easton	Easton, Pa.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

NEWSPAPER COVERAGE

Stroudsburg RECORD September 27, 1956

Yosko Backs Tock's Island



NO WATER OVER THE DAM—NO DAM YET— Gathered together to talk about water (Delaware River water) yesterday were these State and Army officials. From left: Sen. Joseph Yosko, D-Northampton; Col. Allen Clark Jr., chief district Army Engineer, Philadelphia; Francis Pitkin, head of Incodel, whose 20th annual convention was the occasion and Sen. Wayne Dumont, New Jersey Republican.

(Staff Photo by MacLeod)

Northampton Lawman Seeks Close Efforts

(Picture on Page 8)

POCONO MANOR — Sen Joseph Yosko said yesterday that he feels Tock's Island will prove feasible as a site for an Upper Delaware River water control-flood deterrent dam and that it would cost about $100 million.

Yosko make this statement while addressing the 20th annual meeting of the Interstate Commission on the Delaware River here at the Inn. Yosko also set down these major points:

That if Pennsylvania, New Jersey, New York and Delaware — the states which benefit from Delaware River water — want to enlist Federal aid in a water resource control program they are going to have to coordinate their efforts and work together for it.

He said that "lobbying" unfortunately, is the way in which most legislation is secured. He pointed out that Western States do a heavy degree of lobbying in State legislatures and in Congress and that they therefore get most of the dams built.

Yosko said that he had investigated interest costs on $100 million which might be needed to build the dam. These costs — at three and one-eight percent per annum — would be about $48 million, he said.

He went on to say that, for this reason, he felt the cost of the dam could best be financed by levying of gasoline or cigaret taxes in the two states involved.

There are three manners in which the dam could be financed, Yosko said. He listed them as: One — an Inter-state authority; Two — direct appropriations by New Jersey and Pennsylvania; Three — Federal grant.

Denounced

Yosko emphatically denounced the idea of an "inter-state" authority. He cited, as an example, the Delaware River Joint Toll Bridge Commission which, he said, "hire hootchy-kootchy dancers for entertainment" with money taken in from toll-paying travelers in the two States.

The Northampton county Democrat suggested that public relations concerning the Delaware can be bettered by the publication of a regular newsletter sent to State and national legislators.

He said, also, that a finance committee should be formed to appeal to certain industries and interested groups for donations to continue the fight for development of the Delaware.

Another speaker on the second day of the Incodel meeting was Sen. Wayne Dumont, New Jersey Republican. Dumont repeated what he called "New Jersey's" opposition to the present plan to share water on a 70-30 percent (with New Jersey getting the latter) basis from a Delaware dam. He said it should be 50-50. The States would share costs in proportion to the amount of water they take from the river.

Dumont also said his State favors Wallpack Bend as a site for the dam. Engineers have pointed out that Tock's Island, if feasible, would provide more water storage space.

Col. Allen F. Clark Jr., in charge of the Philadelphia office of the US Army Engineers, which has been ordered to survey the river and make recommendations for future uses, told the conference that a report won't be available until January, 1959. He said interim reports would be released, however

Allentown Morning CALL

September 25 -56

Incodel Parley Tomorrow To Hear Progress Report

The Delaware River, its tributaries and its future will be the subject of discussion when the annual conference of the Interstate Commission on the Delaware River Basin (Incodel) begins tomorrow morning at Pocono Manor, Monroe County.

A prelude to the two-day session will be held at 3:30 p.m. today when the Incodel executive committee meets at the Monroe resort.

The opening conference session tomorrow will be given over primarily to reports of action taken to date by the federal, state and private agencies concerned with development of the Delaware's resources.

Incodel chairman Francis A. Pitkin will submit the annual report of the commission and presumably will discuss agreements reached by Incodel and the Delaware River Basin Advisory Committee at today's pre-conference sessions.

State Sen. Joseph J. Yosko of Bethlehem and State Sen. Wayne Dumont of Phillipsburg, N. J., will present reports on basin programs involving legislative committees of both states.

September 28 — 56

Incodel Told 'Unite to Get Federal Aid'

Goddard Urges 4 States Guard Water Resources

POCONO MANOR, Pa., Sept. 27 (AP) — Dr. Maurice K. Goddard, Pennsylvania's secretary of forests and waters, said today the four states in the Delaware River Basin will have to stop squabbling over water resources and form a solid bloc to obtain more federal help.

Dr. Goddard was one of the principal speakers at the concluding session of the annual three-day conference of the Interstate Commission on the Delaware River Basin (Incodel).

Dr. Goddard said that eastern states have been lax as compared with some western states in seeking additional federal financial aid in their water resources programs. He urged the representatives of Pennsylvania, New Jersey, Delaware and New York —the four Delaware River Basin states—to stand closer together in their fight for government help.

Dr. Goddard said, "other states will divide us and conquer us."

He added that the states involved apparently worked on the assumption each could do a better water job alone and wound up obtaining far less in the way of federal funds and technical aid.

The eastern states, he said, have just as much right to federal assistance as their western neighbors.

"For the national economy," he said, "water is just as important in Philadelphia as it is in Los Angeles. We're not giving our lives away if the federal government builds us a reservoir. I'm sure the residents of such towns as Allentown, Bethlehem and Easton wouldn't mind it a bit. I know I wouldn't."

Dr. Goddard pointed out that the four Delaware River states didn't expect the federal government to do all the work involved in their needed water projects.

"Pennsylvania has gone a long way," he said. "in pollution abatement. We give incentive payments for sewage treatment on a state level. Pennsylvania, through various committees, has done a great deal in flood control and water pollution problems. In fact, Pennsylvania is very much above all other states with the possible exception of California in these activities." and he added:

"We will do local protective work where it is not feasible for the government."

Another speaker at today's concluding session — Dr. Mark D. Hollis, assistant U. S. surgeon general — told the delegates amendments to the federal water pollution control act should serve as an incentive to the various states to go ahead with their water pollution control projects.

The act, as amended last summer, he said, reaffirms the policy of Congress in allowing the states to control water and water pollution, and, at the same time, to strengthen and extend existing national laws on the subject.

Urging that the less active states "get going," Dr. Hollis said more than 30 states appropriate less than $50,000 annually for water pollution control and 20 states less than $20,000 a year for such work.

The amended water pollution act, he added, should push these states in particular toward further action.

While providing a broader research base, Dr. Hollis said the new act also sets up procedures for settling interstate pollution disagreements.

Before the federal government can take any action in such disagreements, Dr. Gollis said, federal authorities must confer with the two states involved, hold a public hearing and then take it to court in cases where no other form of agreement can be reached.

He said the present national water project construction level of $200,000,000 a year would have to be raised to $350,000,000 annually to keep pace with expected increases in population, to handle replacement of obsolete equipment and to take care of the World War II backlog.

F. Francis Pitkin, Harrisburg, Pa., was renamed chairman of Incodel for another year. Vice chairmen named were Joseph C. McLean, Trenton, N. J., and Raymond B. Phillips, Wilmington, Del. No vice chairman was named from New York pending a further meeting of the delegates from that state, but it was expected the present vice chairman, E. T. Barrett, Bayshore, N. Y., would be reelected.

September 25 -56

Incodel Opens 2-Day Parley At Pocono Manor

Sens. Yosko, Dumont Will Talk; Army To Make Report

The annual conference of the Interstate Commission on the Delaware River Basin (Incodel) opened today at Pocono Manor with some 200 officials from federal, state and local governments together with representatives from private industry on hand.

Col. Allen F. Clark, head of the office of the U.S. Army Engineers, was scheduled to present a report at the first session. Col. Clark was to give a resume of the progress being made on Army Engineers' projects for deepening the Delaware River channel between Philadelphia and Trenton, N.J. He also was to discuss construction of the Lehigh River Bear Creek Flood Control Reservoir and the comprehensive survey for the development of the water resources of the Delaware Valley.

Joseph E. McLean, commissioner, New Jersey Department of Conservation and Economic Development, chairman of New Jersey's Commission on Interstate Cooperation and vice chairman of Incodel, was to preside at the session.

James Kerney Jr., chairman of the Delaware River Basin Advisory Committee and a New Jersey member of Incodel, was scheduled to unveil proposals of the committee and Incodel. The two groups met yesterday to coordinate new proposals of the both agencies for assisting the Army Engineers in a basin-wide program to develop the waters and related natural resources of the Delaware River.

Ross L. Leffler, assistant to the executive vice president of operations, U.S. Steel Corp., was to speak at tonight's dinner.

The concluding session is set for tomorrow morning. Then Dr. Mark D. Hollis, assistant U.S. surgeon general, is to report on the new federal water pollution control law which was signed by President Eisenhower July 9.

Maurice K. Goddard, secretary of the Pennsylvania Department of Forests and Waters, will give a conference summary on federal, state and interstate responsibilities in water resources development tomorrow.

Other speakers at the two-day conference will include: F. A. Pitkin, Incodel chairman; C. G. Paulson, Delaware River master for the U.S. Supreme Court; Joseph J. Yosko, of Bethlehem, and Sen. Wayne Dumont, of Phillipsburg; James V. Baney, recent temporary chairman of the Delaware Valley Council; and Gladwin Young, deputy administrator of the U.S. Soil Conservation Service.

Easton EXPRESS

September 26 — 56

Army's 3-Year Survey Of Delaware River Is Called 'Pioneer Effort'

Army District Engineer Calls Area 'Unique' Because Of Population, Industrial Strength; Sees 'Departures' From Previous Policies

By EDWARD P. KENNEDY
Express Staff Writer

POCONO MANOR — U. S. Army Engineers have launched a million dollar comprehensive study of the Delaware River Valley described as a "pioneer effort" because it may consider departures from previous federal policies in the water resources field.

Col. Allan F. Clark Jr., Philadelphia district engineer of the U.S. Army Corps of Engineers, described the study, expected to be completed about January 1959, at the 20th annual meeting here of the Interstate Commission on the Delaware River Basin (Incodel). The sessions are being held here today and tomorrow.

Pointing out that the Delaware River Valley is "unique" in that it involves an area containing a major segment of the nation's population and industrial strength, Col. Clark said the Delaware is the first eastern watershed to be made the subject of such a comprehensive survey.

Because of the large population in the area adjacent to the Delaware River Valley, Col. Clark said the Army's survey includes a "requirement" for mass recreational facilities.

Due to the population, industrial, recreational and other factors involved in the Delaware River study, Col. Clark declared the survey "may consider departures from previous federal policies in the water resources field. This makes it a pioneer effort for sure."

'Economic Base Survey'

Clark said "probably the greatest departure" from former policies is that an "economic base survey will be made of the area surrounding the Delaware River basin," and may consider population and other trends for as much as 100 years in the future.

Russell Morgan, chief of the Army Engineers' Valley Report Group, told the Incodel meeting that during the first year of the three-year survey many federal, state and local agencies will study phases of the report.

In the second year, he continued, the engineers plan to devise the "comprehensive engineering plan" for improvements on the river.

The first year's studies, Morgan said, will be in these areas: projection of future population and industrial changes, inventories of present and future rates of water use, of water availability and the flood problem, and development of an organizational framework.

Assisting Agencies

The agencies which will assist in compiling data, Morgan said, are the U.S. Department of Agriculture, the Soil Conservation Service, Forest Service, U.S. Geological Survey, Fish and Wildlife Service, National Park Service, Bureau of Mines, Public Health Service, and the Office of Business Economics and the Bureau of Census in the Department of Commerce.

An outstanding group of private economists, Morgan continued, are expected to be employed to correlate the statistics. The Delaware River Advisory Committee and many state, county and city planning agencies will participate in the work, he said.

Morgan described the program as "an extremely complex undertaking that directly or indirectly involves all citizens in the basin concerned with either economic planning or water conservation and uses."

Francis A. Pitkin, Incodel chairman, spoke on the organization's accomplishments during the 20 years it has been in existence.

He said that its accomplishments in control of pollution and conservation preserved the waters of the Delaware until the comprehensive plan could be started.

Pitkin said that floods caused by Hurricane Diane in August 1955 ushered in a new era of planning in the Delaware Valley, making the Army study possible. Pitkin predicted that the result in the future will be an era of good will and cooperation among all agencies of government for wise control and utilization of the resources of the river.

Pitkin said he felt the river would be fully controlled within 20 years.

'Pronounced Effect'

Vaughn B. Iorns, of Milford, representative of the Delaware River master, said that releases from the Pepatcong and Neversink dams in the New York state headwaters of the river had a pronounced effect in reducing low flows in the Delaware River throughout the summer. This summer was the first in which full releases were required from the New York state reservoirs under a Supreme Court decision governing division of the Delaware's water.

By way of example, Iorns cited the period from Aug. 26 to 28 at which time, he said, the flow at Milford was 1,400 cubic feet a second. Without the reservoir discharges, he said, the flow would have been only 328 cubic feet a second. At the latter stage, he said, the river would have been unsuitable for swimming and other recreational uses.

The amount of water which can be released for low flow augmentation will be increased when the reservoir under construction at Cannonsville, N.Y., has been completed, according to Iorns.

Joseph E. McLean, chairman of the New Jersey Commission on Interstate Cooperation, presided at this morning's session.

Three Easton representatives are attending the meeting. They are Mayor Orion H. Reeves, City Clerk Chester E. Rogers and City Engineer Roy E. Zeller.

Philadelphia- BULLETIN

September 26 - 56

Incodel Hears Survey Report

Col. Clark Tells of Changes Along River

Pocono Manor, Sept. 26—(AP)—Colonel Allen F. Clark, Jr., head of the Philadelphia office of the U. S. Army Engineers, today told the annual meeting of the Interstate Commission on the Delaware River Basin that his agency is faced with constant changes in a survey being made of the Delaware.

Clark delivered a report on the status of the engineers' survey which won't be ready for publication until January, 1959, although interim reports on some phases of the study will be disclosed before then.

Best Plan Sought

The prime objective of the study, being made in conjunction with state agencies in Pennsylvania, Delaware, New Jersey and New York as well as some federal agencies, is to present to Congress the "best possible plan for the conservation, control and use of the water resources of the Delaware basin."

"Changes are occurring almost daily," said Clark, "in the factors which affect such uses. The population is constantly increasing and more and more domestic water supply is required.

Demands Increasing

"Industries are being developed in the area to support this growing population. Water demands for such industrial use are increasing. In the rural areas population is also increasing with more rural water supply needed, and there is a rapidly increasing use of water for irrigation."

Clark said the survey would help the Army Engineers to "come up with some indication of the water demands of the future" along the reaches of the Delaware.

September 27 - 56

Incodel Hears U.S. Aid Plea

Goddard Says East Should Get More

Pocono Manor, Sept. 27—(AP)—Pennsylvania's secretary of forests and waters today called upon the Federal Government to increase its aid to eastern states for water sewage projects.

Dr. Maurice K. Goddard told the final session of the annual conference of the Interstate Commission for the Delaware River basin (Incodel) that, "easterners want more federal aid than they have received in the past."

"We're just as good as westerners," Dr. Goddard said, adding: "For the national economy water is just as important in Philadelphia as in Los Angeles."

Dr. Goddard scored those who look askance at federal aid. "We're not giving our lives away if the Government builds us a reservoir."

The secretary said the states were not looking entirely to the Federal Government. "We will do local protective work where it is not feasible for the Government."

Dr. Goddard said New York, Pennsylvania, New Jersey and Delaware would have to stop fighting with each other over water problems and stand fast as a single bloc in seeking federal help.

"If we don't stand together, other states will divide us and conquer us," he said.

September 27 - 56

Incodel Efforts Draw Praise

Pitkin Tells Group Of Responsibilities

Pocono Manor, Sept. 27—(AP)—Speakers at the 20th annual conference of the Interstate Commission of the Delaware River Basin (Incodel) yesterday lauded the organization's continuing efforts to insure an adequate and safe water supply for citizens of New York, Pennsylvania, Delaware and New Jersey.

These four states use the waters of the Delaware for consumption and industrial purposes and have joined in various ways to see that the river's resources are not wasted.

Francis A. Pitkin, Incodel chairman, said, "An adequate supply of good water, readily available at all times for necessary and useful purposes, is absolutely essential for our national welfare."

"Our big responsibility," Pitkin said, "is to assist in the formulation and adoption of plans and policies for basin-wide development of natural resources which are so sound and logical as to assure an opportunity to this generation to enrich the domestic, agricultural and industrial economy of our valley, our states and our nation."

Easton EXPRESS

September 26 - 56

Yosko Wants Tax Continued, Used To Build Dam

Dumont Urges 50-50 Water Division At Incodel Meet

POCONO MANOR—State Sen. Joseph J. Yosko, Bethlehem Democrat, proposed today that a one-cent emergency tax on gasoline and cigarettes be continued in effect and the proceeds used to finance Pennsylvania's share of the cost of a dam on the Delaware River above Easton.

Yosko made the suggestion at the 20th annual convention of the Interstate Commission on the Delaware River Basin (Incodel) in session here today and tomorrow.

Yosko and State Sen. Wayne Dumont Jr., of Phillipsburg, N.J., Republican president of the New Jersey Senate, reported at this morning's session on activities by Pennsylvania and New Jersey legislative committees set up to study flood control and water conservation.

Yosko proposed that the tax imposed last year to finance flood relief in Pennsylvania be put in a fund where it would draw interest until needed for construction of a dam. In that way, he said, interest which would be paid if bonds were floated for the project would be saved. Yosko said "I will fight for that kind of a bill."

Another Yosko suggestion was that Incodel set up a "lobby" to keep in touch with legislators in Harrisburg, Trenton and Washington.

The purpose of the "lobby," Yosko said, would be to see that adequate funds are appropriated for development of the Delaware River.

Yosko proposed that Incodel function as a coordinator of groups which are studying the Delaware basin. In that way, he said, "there can be faster action toward building a flood control and water conservation dam."

The Bethlehem senator said the Pennsylvania legislative study committee, of which he is chairman, expects to hold one more hearing.

Representatives of utilities, corporations and municipalities will be asked to testify at this hearing, he said, on their present and future needs for water.

Dumont, a member of the New Jersey legislative commission studying the Delaware, said that New Jersey would like to have a 50-50 split of water from a Delaware River reservoir.

Under present legislation, Pennsylvania will get 70 per cent of the water and New Jersey 30 per cent, with the cost of the reservoir being divided in the same proportion.

Dumont said that New Jersey "is not unreceptive" to use of the Tocks Island site near Shawnee-on-Delaware for a dam." However, he said, it appears that New Jersey's interests would be best served by a reservoir at Wallpack Bend near Bushkill.

Army engineers, who are studying both sites, have indicated they favor Tocks Island. The legislation adopted by Pennsylvania and New Jersey contemplated a dam only at the Wallpack Bend site.

Dumont suggested that the states should try to get all possible federal participation in the proposed reservoir. He suggested to the Incodel members that they contact their representatives and senators in this respect.

EDWARD P. KENNEDY

September 28 — 56

4 Incodel States Urged To Unite In Asking U. S. Aid

POCONO MANOR (AP)—The annual conference of the Interstate Commission on the Delaware River Basin (Incodel) ended yesterday with a plea for a united 4-state effort for additional federal aid.

Dr. Maurice K. Goddard, Pennsylvania secretary of forests and waters, told delegates from Pennsylvania, New York, Delaware and New Jersey they should work together for more government aid in their water resources programs.

"If we don't stand together," Dr. Goddard said, "other states will divide us and conquer us."

He said it appeared to him the four states previously had assumed they could do a better job separately and had ended with less in federal funds and technical aid.

He said federal aid was as important to eastern states as ones in the West and declared:

"For the national economy, water is just as important in Philadelphia as it is in Los Angeles. We're not giving our lives away if the federal government builds us a reservoir. I'm sure the residents of such towns as Allentown, Bethlehem and Easton wouldn't mind it a bit. I know I wouldn't."

Goddard said the four states did not expect the government to do all the work in pollution abatement and the water resources program, and added that Pennsylvania had "gone a long way" on its own.

"We give incentive payments for sewage treatment on a state level," he said. "Pennsylvania, through various committees, has done a great deal in flood control and water pollution problems. In fact, Pennsylvania is very much above all other states with the possible exception of California in these activities."

F. Francis Pitkin, of Harrisburg, was renamed Incodel chairman. Vice chairmen named are Joseph C. McLean, of Trenton, N. J., and Raymond B. Phillips, of Wilmington, Del. New York delegates withheld election of their vice chairmen for a further meeting. It was expected E. T. Barrett, of Bayshore, N. Y., would be re-elected.

PHILADELPHIA INQUIRER

September 26 - 56

Channel Report Given Incodel

POCONO MANOR, Pa., Sept. 25 (AP).—The annual conference of the Interstate Commission on the Delaware River Basin (Incodel) opened sessions today.

Col. Allen F. Clark, chief engineer of the office of the U. S. Army Engineers in Philadelphia, gave a report to some 200 officials from Federal, State and local governments and representatives from private industry.

PROGRAM OUTLINED

Col. Clark discussed Army Engineers' projects for deepening the Delaware River channel between Philadelphia and Trenton; the Lehigh River Bear Creek flood control reservoir and a survey for the development of Delaware Valley water resources.

Joseph E. McLean, vice chairman of Incodel, presided.

James Kerney, Jr., chairman of the Delaware River Basin Advisory Committee, gave a report on proposals agreed upon by the committee and Incodel to assist the Army Engineers in the Delaware River project.

STEEL OFFICIAL SPEAKS

Ross L. Loffler, assistant to the executive vice president of operations, U. S. Steel Corp., spoke at tonight's dinner.

Dr. Mark D. Hollis, Assistant U. S. Surgeon General, is to speak at the concluding session tomorrow morning. Maurice K. Goddard, Secretary of the Pennsylvania Department of Forests and Waters, will give a conference summary tomorrow.

Other scheduled speakers at the conference included F. A. Pitkin, Incodel chairman; C. G. Paulson, Delaware River master for the U. S. Supreme Court; State Sens. Joseph J. Yosko, of Pennsylvania, and Wayne Dumont, of New Jersey; James V. Baney, recent temporary chairman of the Delaware Valley Council, and Gladwin Young, Deputy Administrator of the U. S. Soil Conservation Service.

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September 28 - 56

Incodel Renews Plea for U.S. Aid

POCONO MANOR, Pa., Sept. 27 (AP).—Pennsylvania's Secretary of Forests and Waters today called upon the Federal Government to increase its aid to Eastern States for water projects.

Dr. Maurice K. Goddard told the final session of the annual conference of thee Interstate Commission for the Delaware Basin (Incodel) that "Easterners want more Federal aid than they have received in the past."

"We're just as good as Westerners," Dr. Goddard said, adding: "For the national economy water is just as important in Philadelphia as in Los Angeles."

SCORES FOES OF AID

Dr. Goddard scored those who look askance at Federal aid.

"We're not giving our lives away if the Federal Government builds us a reservoir. I'm sure the residents of such cities as Allentown, Bethlehem and Easton wouldn't mind it a bit. I know I wouldn't."

In urging that Pennsylvania, New Jersey, New York, Delaware and other Eastern States "strive for our proper share of funds for water problems," Dr. Goddard emphasized that the States were willing to do a lot of things for themselves.

ABOVE OTHER STATES

"Pennsylvania has gone a long way in pollution abatement," he said. "We give incentive payments for sewage treatment on a State level. Pennsylvania, through various committees, has done a great deal in flood control and water pollution problems. In fact, Pennsylvania is very much above all other States with the possible exception of California in these activities."

The Pennsylvania Secretary noted an earlier address by Dr. Mark D. Hollis, assistant U. S. Surgeon General, who he said indicated that Eastern States were about to be short-changed in Federal water help.

REAFFIRMS POLICY

Dr. Hollis said the new Federal water pollution control act reaffirms the policy of Congress to allow the States to control water and water pollution and to extend and strengthen existing national laws on the subject.

He emphasized what he described as a need for more commissions such as Incodel.

"There is a real need for commissions like this to join in converting conflicting interests to allied interests in the problems of water resources," he said.

OFFICERS ELECTED

He pointed out that more than 30 States appropriate less than $50,000 a year and some 20 States less than $20,000 annually for water pollution control. He said the new act should provide an incentive to "get these States going."

Officers elected today by the Incodel delegates were F. Francis Pitkin, Harrisburg, Pa., chairman; Joseph C. McLean, Trenton, N. J., a vice chairman, and Raymond B. Phillips, Wilmington, Del., also vice chairman. The election of a New York vice chairman was deferred pending a caucus of the New York delegation.

It is believed E. T. Barrett, Bayshore, N. Y., the present vice chairman from that State, will retain the post.

Flood Control Seen Key In New Delaware Study

Newark (NJ) NEWS

By WILLIAM J. McFADDEN
Staff Correspondent.

MOUNT POCONO, Pa.—Proposals for a comprehensive study of the economy of the Delaware River basin, from the river's headwaters in the Adirondacks to its entry into Delaware Bay, 326 miles to the south, will be aired here today and tomorrow as the Interstate Commission on the Delaware River Basin, or the "Incodel," holds its 20th annual conference, at the Pocono Manor Inn.

The proposals, which were reviewed yesterday at an executive session of Incodel and its companion agency, the Delaware River Advisory Committee, will be outlined at the conference today by James Kearney of Trenton, N.J., member of Incodel and chairman of the advisory committee.

The study has been designed to back up a three-year, one-million dollar survey, begun last July, in which the U.S. Army Corps of Engineers is to prepare a basin-wide program for development and utilization of the waters and related natural resources of the river.

The twin studies, according to James H. Allen, Incodel executive secretary, represents a major shift in regional planning for the valley since it will broaden the 1951 Incodel plan. That was focused primarily on development of new potable water supplies for New York City, North Jersey and Eastern Pennsylvania.

Flood Control Factor

The primary and motivating factor in the new studies is flood control, a consequence of last year's Hurricane Diane, which swept across the valley with a loss of 75 lives and an estimated loss of 140 millions in property values. Other factors include stream flow regulation, navigation, control of pollution and salt water intrusion, development of hydro-electric power, and irrigation.

The 1951 plan was halted when Pennsylvania refused to enter a compact with New Jersey, New York and Delaware under which a river basin commission would have been set up to finance, build and operate four new reservoirs.

Concern Overshadowed

Allen said the new studies also represent a major shift in that the federal government has entered the picture and probably, on the grounds of flood control, would take a share in the financing of any river projects.

A few years ago that possibility was looked on with distaste, since it also opened the prospect that the federal government might interfere with subregional plans for utilization of river basin resources, such as recreational areas.

This concern is also apparent now, according to conference leaders, but it is overshadowed by Hurricane Diane and the flood loss of last year; by a realization that any comprehensive plan for river basin development will cost a vast sum—preliminary estimates run as high as two billion dollars—and by growing conviction that river basin development is becoming increasingly urgent because of the metropolitan demands for potable water and the industrial, commercial and residential boom in the river valley.

Army Making Report

Major development at the conference was the announcement that the Army Engineers would, by 1959 and at a cost of $1 million, draft a comprehensive report for development of the river basin and that the Delaware River Basin Advisory Committee would undertake economic studies and prepare a report on how river basin projects should be financed and administered.

Stressing the importance of comprehensive planning, rather than of piecemeal work, Goddard urged all the close to 100 federal, state and regional agencies concerned with the area to show "the power of people working together." Only in that manner, he said, could an integrated plan, answering the need of the basin's 4,200,000 population, its growing industrial complexes, its shopping, commerce and agriculture, be produced.

New Law Discussed

Goddard's talk followed a report by Dr. Mark D. Hellis, assistant U.S. surgeon general, on how the new federal water pollution control law, signed by President Eisenhower July 9, could be applied to the problems of the lower Delaware. A film was shown on conservation practices as undertaken in the Brandywine River watershed.

Francis Pitkin of Pennsylvania re-elected chairman of incodel for the ninth year. Also re-elected as vice chairmen were Joseph E. McLean, conservation commissioner of New Jersey; Elisha T. Barrett of New York and Raymond B. Phillips of Delaware.

September 28—56

Help Urged For Incodel

Speaker at Conference Windup Calls for Federal Aid

By WILLIAM J. McFADDEN
Staff Correspondent.

MOUNT POCONO, Pa.—The case for federal funds in the development of water resources of the Delaware River basin was stressed yesterday by Dr. Maurice K. Goddard, secretary of the Pennsylvania Department of Forests and Waters.

He spoke at the closing session of the two-day conference at the Pocono Manor Inn of the Interstate Commission on the Delaware River Basin (Incodel).

"I am sure all Easterners will agree we want more done for us in the field of water development than in the past. We believe we are just as good as the Westerners and that water for the city of Philadelphia is as essential for the national economy as is water for the ctiy of Los Angeles," Goddard declared.