

Water Uncertainties

PHILADELPHIA who study the final report of the Water Commission's Board of Consulting Engineers find no definite recommendations as to what ought to be done about the city's water supply.

The engineers had two questions to answer: Should the city depend on its present water sources? If so, what are the possibilities of getting good water from upland sources?

The final report deals exhaustively with the probable future quality of the present sources. The engineers seem to believe that a good, if not perfect, river water can be had if the city will spend \$62,000,000 in addition to the unexpended balance of the current \$18,000,000 water loan.

Since, though the engineers neither predict nor advise, one of the alternatives before the city is to see what can be done through expenditure of \$62,000,000 of its own money plus the efforts of other river cleansing agencies that are now on the move.

In their preliminary report, made last November, the engineers stated that if the present sources were to be abandoned, a project known as Yardley-Wallpack Bend was their choice. In the final report major emphasis is rather strangely placed on another plan—the so-called Delaware River project.

Both plans contemplate a dam at Wallpack Bend, on the Delaware, but the Yardley-Wallpack Bend plan would bring the water to Yardley through the bed of the Delaware, whereas the Delaware River project would bring it to a dam at Warrenton, in Bucks County, through a deep tunnel.

The Delaware River plan, which the engineers say the Commission itself "selected for development" in its final report, involves a capital expenditure of \$284,000,000. The Yardley-Wallpack Bend project involves capital expenditures of \$137,000,000.

Sticking to the present sources at a cost of \$62,000,000, or going to the upper Delaware at a cost of either \$137,000,000 or \$284,000,000, are the three choices which stand out as possibilities in the engineers' reports.

Either upland plan would probably give better water than the present sources, but whether it would be enough better to justify the cost is a question not answered.

When the hearings before Council get under way, it would be interesting to learn why the Water Commission selected the \$284,000,000 plan rather than the \$137,000,000 plan, or several others, for "development" by the engineers.

Meanwhile, the consumer will understand that water supply improvement is not going to be shown up in his water bills. He will have to ask himself what he wants—better water from present sources, at moderate increased cost; upland water which will double his water bills (in addition to the average charges now imposed), or something in between.

He will not have to hurry to make up his mind. The subject is draped up in technicalities; engineers differ about it. A layman will need all the illumination he can get to reach a right decision.

IMPORTED VS. DOMESTIC



Connoisseurs Sample City's Water; Find Queen Lane Drink is Worst

BULLETIN EDITORIAL 6-21-46

Eleven connoisseurs of drinking water, whose taste can detect the finest of the vintage stuff ranging from sparkling Schuylkill to bottled water, got together today and cracked their lips over sample slugs representing the various sections of the city and suburbs. They didn't know how bad it was going to be. They steeled themselves and each took a drink out of each of the seven set-ups. They tasted it all; and being brave men and women, they even swallowed it.

After doing all the tasting, they conferred among themselves, and when the votes were in, Morris Wood, in charge of the test, announced the order of the winners, or losers, or however you should measure Philadelphia water.

Second place went to the so-called "Springfield" water of the Philadelphia Water Suburban Water Co., Delaware County. Third was Springfield water in the Narberth area, fourth, to the Fairmount Park spring water, fifth, to the water of the Belmont reservoir, and sixth and worst, to the Delaware water, which is being the northeastern part of the city.

Wood said, "It is not significant that the Philadelphia water is so bad as it is, but that any way, Queen Lane water, second worst among seven samples.

Commercial Brand First

First place went to a ginger, rather, a commercial table water. The testing was done under the auspices of the Citizens' Commit-

LEHIGH COAL & NAVIGATION CO. GETS MORE OF THE WATER GRAB AS REFERENDUMS DEFERRED

Twelve million dollars is a lot of money! And unless the Lehigh Coal and Navigation Company stops "throwing its weight around" on the basis of that tremendous profit it stands to make on a water source deal, Philadelphia may find itself in the throes of the biggest scandal in its history.

The Lehigh Coal and Navigation Company is determined to foist its Lehigh-Pocono water source down the throats of Philadelphia taxpayers. How they plan to put that across despite engineers' findings as to the greater advantage of another supply, is anyone's guess.

But it remains a fact that \$12,000,000 is a lot of money and proprietary use can court considerable favor to any scheme.

It has already been decided that the people of Philadelphia are not competent to vote on a choice of water supply in the June primary, as had previously been planned.

Powerful figures are at work "selling" the Lehigh-Pocono water source. A very small portion of the \$12,000,000 the Navigation Company stands to realize on the deal can provide for a magnificent payroll.

The Navigation Company maintains its project would cost the city only \$142,000,000, including the \$12,000,000 the firm would receive for a few acres of worthless mountain land. But engineers hired by the city declare that water source would cost at least \$350,000,000.

When one of the Navigation Company "salesmen" put forth the \$142,000,000 cost figure before a city business men's group, he was asked if his firm would undertake to bring the water here for that price.

"Well," he stammered, "we're not in that kind of business."

The fact remains, however, that the Lehigh Coal and Navigation Company could procure those whose business it is, just as the City of Philadelphia will have to do.

There is little hope that the people of Philadelphia will get the water supply source which is to their best advantage. The Wallpack-Bend Project, which takes water from the upper Delaware, and which has been favored by experts, has no \$12,000,000 bait to put it across.

Last week Earl C. DeLoach, president of the Lehigh Coal and Navigation Company, told that city's stockholders there would be a new year of prosperity.

He did not elaborate on his prediction, nor did he reveal whether the prosperity would come from coal, navigation—or water.

Glenn O. Kidd, secretary and chief water peddler for the Lehigh Coal and Navigation Company, continues to act as groups with the same old story of how cheap Lehigh-Pocono water will be.

He has the gall to do this in spite of the fact that Water Commission engineers have set the cost of that water source at almost three times the amount Kidd claims it will be.

Kidd applauded the action of City Council in deferring a referendum on the subject of a new water source until the people of Philadelphia are better acquainted with the facts.

What he probably means is the people will become better acquainted with facts AS PRESENTED BY THE LEH COAL AND NAVIGATION CO. (P&N).

Mr. Kidd gets through "selling" his firm out about how soft the Lehigh-Pocono water is, he may do well to read a report from an im-

consider not only the capital expenditures required, but also the costs of operation, maintenance and debt service—also depreciation and replacements.

To sum up the whole situation, Philadelphia, through the expenditure of only \$63,000,000 could provide as good water from its present sources as runs through the faucets of any large American city.

With both the Delaware and Schuylkill being cleaned up, that project would seem the most desirable from the standpoint of economy.

But it is doubtful whether the Lehigh Coal and Navigation Company will allow Philadelphia taxpayers to decide the issue from that standpoint.

Twelve million dollars is a lot of money!

It states: With a definite program underway to reduce pollution in the Delaware and Schuylkill rivers, it seems pertinent to examine the remedies required to eliminate the faults that would still remain with the present raw water supply.

Popular judgment condemns the water supplied by the city because of its taste and occasional odors. Tastes are noted in water drawn generally from vegetables and animal matter, and chemical and other wastes not removed from the water by filtration, or from excessive chlorine, or from the reaction of chlorine on foreign matter remaining in the filtered water. In recent years more than 200 cities have solved their taste and odor problems by super-chlorination (using large quantities of chlorine in the water before it is filtered), or by treating the filtered water with activated carbon or with ozone (an allotropic form of oxygen).

Philadelphia's most extensive experiments have been with ozone. During 1941 and 1942 the city treated Schuylkill river water with ozone, and obtained excellent results in the reduction of objectionable tastes and odors, as well as in the sterilization of the water, and also the elimination of manganese, which makes a slate brown. Water from the Schuylkill averages 130 parts per million of hardness arising largely from the presence, in solution, of carbonates or sulphates of magnesium of lime. Water with a hardness of less than 50 p.p.m. is classified as soft water, and ordinarily is considered unobjectionable for domestic use. It is doubtful whether the cost of softening the water to below 50 p.p.m. would be justified, even though water users would obtain substantial savings in soap and in the cost of maintenance and replacement of heating equipment.

Taken together, the Delaware and Schuylkill rivers can provide all the water the city requires. However, in times of drought, water from the Schuylkill has been used to make up for the nearly equal flow of water shortage from that source. A number of solutions are possible. The facilities at Torresdale may be enlarged so as to draw more water from the Delaware; water may be obtained from wells in South Philadelphia; or water may be obtained in old development of the Perkiomen and Toleikon watersheds.

Treatment of the water from the city's present sources can produce a very satisfactory water, palatable as well as safe; and continuation of the use of these sources will keep Philadelphia's eggs in more than one basket. Decision as to the best or pretention to be based on variety of factors.

Among the most important of these are the cost of many of the present sources compared with the cost of supplementary sources that would be adequate and satisfactory in both instances, it is necessary

other \$10,573,600, estimated. That adds up to \$137,573,600.

The \$284,588,000 estimate for the Wallpack Bend plan figures \$243,151,000 to bring the water down to Philadelphia and \$41,437,000 for a new Queen Lane filter plant and distribution connections.

The Commission engineers say if they used the Lehigh River as a basis of design and unit costs on the Wallpack Bend plan it would figure up to only \$107,000,000.

Wallpack Dam Questions

There is little doubt that all the engineering problems of building a dam at Wallpack Bend on the Delaware, to impound water for Philadelphia, could be solved. Whether the legal problems would also yield is predictable.

The Bureau of Municipal Research shows that the full legal power necessary to build the dam is not now possessed by the city and cannot be delegated to it by the Pennsylvania legislature alone.

New York, New Jersey, and Delaware also have rights in the Delaware water, and extensive areas of New Jersey and some in New York would be flooded by the Wallpack Bend reservoir. The right to flood them would have to be acquired, and after that it would be necessary to work out some way to insure protection of water sheds in New York and New Jersey from pollution.

As the Bureau remarks, these difficulties are not necessarily insurmountable. Yet it is obvious that no final decision could be made for a dam at Wallpack Bend unless the necessary legal rights had first been acquired; and acquiring them might consume several years.

The report suggests the Lehigh estimates must have been based on pre-war costs.

As the report says, the Commission engineers disapprove the low-cost unlined grade tunnels, near the surface of the ground, which the Lehigh plan proposes to carry the water most of the distance from the upland reservoirs.

They disapprove "tunnels" which they say are concrete lined pressure tunnels deep in bedrock "such as New York uses, as safe and more durable."

LEHIGH PLAN IS TOO EXPENSIVE

Water Engineers Claim Company Underestimated Cost

(Continued From First Page)

By LEEDS MORRELEY to the northeastern city limits. That is as far as it goes.

The Commission engineers' consistent report that the Lehigh plan on virtually every point.

First of all, the Commission's engineers accuse the Lehigh engineers of estimating the yield of water at 74% percent more than the actual stream flow as recorded over a 16-year period.

They declare the reservoirs would fall so low at times that "many hundreds of acres" of reservoir bottom would be exposed in the dry periods. They assert, "would offer opportunity for the growth of vegetation which on subsequent rainfall, the reservoir would produce offensive tastes and odors."

Would Need Filtration

They report that the water set for use as drinking water for other upland supplies, still contains enough pollution, color, corrosion and turbidity (cloudiness) to require "filtration and supplemental treatment" to permanently maintain a palatable, clear and altogether satisfactory water supply.

"Without filtration," says the report, "the average turbidity would be at least twice the average turbidity of water presently being used in the city of Philadelphia."

But the commission's engineers find those considerations of little importance. What they regard as of primary importance is the question of cost. And this is what they have to say:

"The Lehigh Coal and Navigation Company has greatly underestimated the total cost of their plan for a water supply. Part of the underestimation is due to the use of inadequate unit prices for various classes of work and materials. Other underestimations occur because of inadequate design."

Disapprove Tunnel Designs

"The Lehigh Coal and Navigation Company has presented a condensed breakdown showing a few of the important cost elements. The significant items listed is earth fill for construction of various dams, 75 cents per cubic yard in two instances at 70 cents per cubic yard and in another instance at 65 cents per cubic yard.

In September 1945, the New York Board of Water Supply received bills for the completion of Morristan Dam in the Upper Delaware River basin. An item for 5,600,000 cubic yards of earth was bid at 83 cents, \$1.03 and \$1.15 per cubic yard respectively by the three lowest bidding contractors.

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