AWWA Mainstream

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Two Pennsylvania Water Utility Groups Vote Support for Point Pleasant Project

The controversial Point Pleasant water diversion project in Pennsylvania has received the endorsement of two influential water resource groups.

At a meeting in March, the memberships of the southeast district of the Pennsylvania AWWA Section and the eastern district of the Water Works Operators' Association of Pennsylvania voted unanimously to support the project, which could supply as much as 180 megalitres (47 million gallons) of water per day for community water needs in Bucks and Montgomery counties, Pennsylvania.

"There can be little doubt that we have to take steps to reduce the stress on our water resources caused by the 1980–81 drought," said Richard Riegler, vice chairman of the local AWWA district and chief engineer of the Philadelphia Suburban Water Co.

"Unfortunately, the public memory is short, and the recent debate over Point Pleasant has tended to obscure the project's important role in managing a vital resource," Riegler said.

Point Pleasant is being developed by the Neshaminy Water Resources Authority in conjunction with the Philadelphia Electric Co. and the Montgomery County Commission. The project includes pipelines a

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'Steel City' Birmingham to Host DSS

Molten iron is being introduced to the spell end of a centrifugal casting machine in US Pipe's Bessemer facility. For description of the DSS facility tours, information, registration forms and the technical program begin on page 7

AWWA Study Finds Water Infrastructure Problems Overrated

Although the nation's public works infrastructure may be crumbling in some areas, water systems are in relatively good shape, according to a recent AWWA survey.

The newly released survey indicates that the infrastructure needs of US water utilities are not nearly as serious as previously thought. Results indicate that the average US homeowner's yearly water bill would only have to be increased from $113 to $145 to take care of all infrastructure rehabilitation needs during the next 10 years.

AWWA Supports Increasing Rates

AWWA feels government aid is unnecessary. In a statement filed with a Senate committee on May 20, AWWA said that increased water fees can eliminate, in most cases, any system restoration problems utilities are now having (see related story, page 13). However, the association also called for special consideration for smaller utilities that must rehabilitate or improve their systems in order to meet requirements of the Safe Drinking Water Act.

A water rate increase of approximately 27 percent would provide the financing necessary to meet the industry's infrastructure needs over the next 10 years—estimated to be only $27 billion by AWWA's survey. Those same costs have been estimated at $110 billion and up by government officials and others.

50 Largest Utilities Surveyed by AWWA

The nation's 50 largest water utilities were surveyed, and 33 responded. About 67 percent of those responding were municipally owned, 18 percent privately owned, and 15 percent were special districts.

Of the 33 utilities responding, 14, or 42 percent, indicated their systems were in good repair and needed no financial assistance for rehabilitation. Of the 19 utilities that had deferred some maintenance of their systems, eight indicated system restoration was being accomplished with existing rate structures.

Thirteen of the 19 agencies with deferred maintenance had plans for restoring their facilities. Of the six utilities without a rehabilitation plan, only one cited a lack of funds as the reason for not devising a plan.

Low Water Rates Suggested as Problem

Eleven of the 19 utilities with deferred maintenance have annual residential water bills below the national average of $113. The idea that low water rates might be part of the infrastructure problem was suggested by the fact that the agency with the highest deferred maintenance ($900 million) reported the lowest annual residential charge for water ($40.68).

The 27 percent rate increase necessary for eliminating rehabilitation problems would presumably have to be in addition to normal rate increases. From 1977 to 1983, the surveyed utilities reported an average rate increase of 17 percent.

It is likely, however, that in recent years larger portions of rate increases are being spent on rehabilitation. The survey reported that from 1973 to 1982, the average that utilities spent each year on repair and maintenance was $172 million. In 1983, that average expenditure was estimated at $302 million.

In This Issue

California Delta Water Receives Cautious Approval

A panel of seven scientists and engineers reported to the California Department of Water Resources that treatment plants supplied with water from the Sacramento-San Joaquin Delta are meeting current drinking water requirements.

However, the panel's report to DWR urges more careful monitoring and analysis of hazardous substances in delta waters. DWR asked the panel to assess the health aspects of delta water used for domestic purposes.

In the report released in late February by DWR, the panel said conventional treatment with appropriate plant operation can produce drinking water with no known undue health hazards. But the treated water contains certain substances for which health impacts are not known or fully understood.

Primary among the panel's concerns are trihalomethanes (THMs). Formed during the chlorination process, THMs can generally be maintained within US Environmental Protection Agency drinking water standards. But because THMs are suspected carcinogens, the panel recommends that water agencies try to reduce levels even below the maximum specified by the USEPA.

Another concern was asbestos in the raw water. The panel said conventional treatment can significantly reduce asbestos concentrations to the lower limits of detection. The report pointed out, however, that normal treatment cannot assure such reduced concentrations because of the wide fluctuations in asbestos concentrations.

In answer to a question asked by DWR concerning the current dredging program to remove asbestos-laden silt from the California Aqueduct below Coalinga, the panel said asbestos concentrations in aqueduct water deliveries are unusually high. The panel recommended looking for methods to reduce asbestos concentrations, increased monitoring for asbestos, assessment of the effectiveness of the current asbestos dredging program, and review of the effectiveness of alternative treatment procedures.

The panel agreed these are significant public health issues but was divided on solutions: some look to advanced water treatment technology; others

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World Comes to AWWA's Door

Members of the International Water Supply Association visited the Denver headquarters of AWWA in May during the annual meetings of the IWSA Executive Board and Scientific and Technical Council. Hosted by AWWA, the Rocky Mountain AWWA Section, the Denver Board of Water Commissioners, and the city of Colorado Springs, Colo., the international visitors toured local sights and water facilities as well as conducted organizational business.

The Executive Board authorized a full-time executive for the association and chose Leonard R. Bays, formerly with the Bristol (England) Waterworks Co., for the position of secretary-general. In addition, the board addressed proposed changes in the IWSA constitution, including the right of free access by all nationalities to IWSA congresses. The Scientific and Technical Council planned the technical program for the next congress, which will be held in Tunisia, Oct. 29–Nov. 2, 1984.

About 35 board and council members represented 17 countries, including Belgium, Bulgaria, India, Japan, and South Africa. The three top officials of IWSA, President Maarten Schalekamp of Switzerland, Vice President A. Frih of Tunisia, and Immediate Past President Guy Dejouany of France, attended. The most appreciated aspect of the visit, according to AWWA Executive Director David B. Preston, was American hospitality; host families asked the IWSA representatives into their homes several evenings during the four days of official events, and a western barbeque was another favorite.

Council Approves B603 Revision, B407

The AWWA Standards Council has approved a first-edition standard, B407-83, AWWA Standard for Liquid Ferric Chloride, and the revision of B603-83, AWWA Standard for Potassium Permanganate.

B407 covers ferric chloride in liquid form for use in the treatment of municipal and industrial water supplies. The chemical's applications include use with lime and soda ash for water softening and as a coagulant for improving clarification.

Potassium Permanganate

B603 covers potassium permanganate for the treatment of water supplies for potable and industrial use. The major change to the 1977 edition is modification of the packaging sizes listed in the standard to reflect changes in industry practice and government regulations. Some editorial changes were also made in the style and format of the standard.

The publication of this information in AWWA MAINSTREAM begins the 30-day appeal period for action on standards by the Standards Council. Copies of the standards are available from the Secretary of the Standards Council, AWWA, 6666 W. Quincy Ave., Denver, CO 80235, at a cost of $5 for each copy. (*Note*: These are prepublication copies; standards in final form will not be available until late 1983.)

Stacha Accepts Invitation Down Under

Frank Bishop (left), president of the Australia Water and Wastewater Association, welcomed AWWA President John H. Stacha to his organization's annual convention in Sydney. Stacha, AWWA's first official representative to its Australian counterpart, was invited to give one of four addresses at the opening session April 11. Presenting an overview of water supply in the United States, Stacha noted both similarities and differences between the two countries: although there is only a 3 percent difference in land mass between the United States and Australia, the United States has nearly 15 times the population of Australia. Stacha also explained US regulatory requirements, criticizing the language of the Safe Drinking Water Act as overly strict and sometimes expensive as well. The other three keynoters at the session were Maarten Schalekamp, president of the International Water Supply Association; Ron Packham, assistant director of Great Britain's Water Research Centre; and Robert Canham, executive secretary of the Water Pollution Control Federation.

Mainstream

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AWWA utility members and municipal service subscribers are invited to call upon the association's Washington staff for advice, information, and assistance in dealing with federal agencies and programs. Please direct inquiries to J.B. Groff, AWWA Deputy Executive Director—Government Affairs, 1010 Vermont Ave. N.W., Suite 810, Washington, DC 20005; telephone 202-628-8303.

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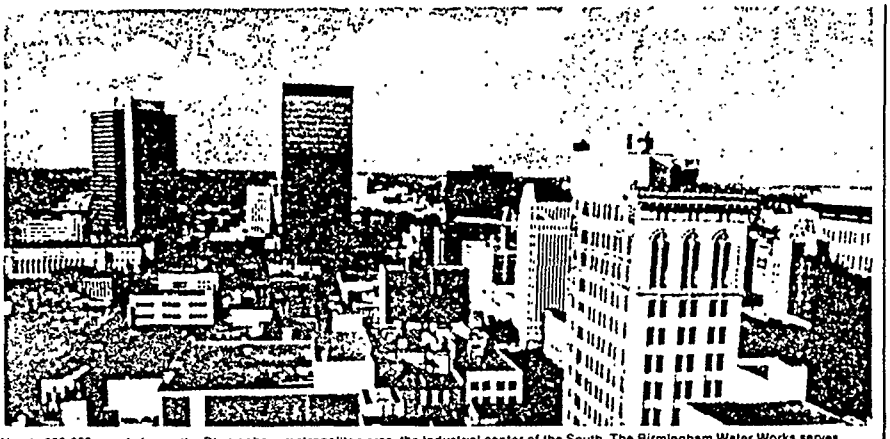

Nearly 850 000 people live in the Birmingham metropolitan area, the industrial center of the South. The Birmingham Water Works serves about 650 000 people. Some 70 percent of the utility's customers would be in the first zone with the lowest rates.

Alabama Rate Structure Case Appealed

The Water Works Board of Birmingham, Ala., is appealing a circuit court judgment voiding its water rate structure. Joining in the appeal are the Alabama-Mississippi AWWA Section and the city of Mobile, Ala.

In 1980, Birmingham established for the first time a rate schedule with three zones and different charges for each zone. The first zone, with the lowest rates, followed the city limits of Birmingham and five suburban cities. However, the zone boundaries do not always follow jurisdictional boundaries. Also fire hydrant rental charges by zone were established. In developing the rate schedule, the Water Works Board commissioned a study by Arthur Young & Co. on cost of service in the utility's service area.

Several suburban customers sued the utility, charging that the higher rates applied outside the city were illegal. The plaintiffs included homeowners, special fire districts, and a municipality.

The suburban customers argued that the board's instructions to the consulting firm controlled the results of the study and the subsequent rate schedule. The plaintiffs questioned the validity of political boundaries for dividing lines between zones, whether the allocation of facilities and demand for each zone was accurate, and how appropriate the rate increases were to customer classes.

The city argued that the rates were based on cost of service and therefore were appropriate.

The court ruled for the plaintiffs. Circuit Judge G.H. Wright Jr. said, "The Alabama law for many years has clearly stated that the rates for customers of a water system must be uniform." He cited a 1900 case, *City of Mobile* v. *Bienville Water Supply Co.*: "All persons are entitled to have the same service on equal terms and uniform rates."

The judge also considered the 1913 ruling in the *City of Montgomery* v. *Greene*, which, Wright wrote, "provides that political boundaries cannot be used to measure a difference in rates. In relating to physical differences, it specifically provides that people on the same main cannot be charged different rates."

In the appeal, Birmingham and the amicus curiae—Mobile and the AWWA section—dispute Wright's ruling, arguing that the law prohibits only "unreasonable" charges and that physical differences are a legitimate basis for differential rates. Further, the amicus curiae brief states that physical differences can and do occur along political boundaries and along a single main: "It is abundantly clear that the zones . . . are predicated upon reasonable classifications, and it is further clear that the rate differentials are . . . based upon proven physical differences supported by valid cost differentials."

The case was argued before the Alabama Supreme Court the end of April and awaits the judges' decision.

Watt Initiates Water Information Report

Interior Secretary James Watt has announced steps to implement an annual national water summary to make water resources information more readily available and useful to policy makers at local, state, and national levels.

"In keeping with administration policy that the responsibility for water resources management rests with the states, the Interior Department has an important role in providing state and local agencies with current, accurate evaluations of water conditions and critical water problems," Watt said.

To accomplish this goal, the secretary has directed the US Geological Survey and the Office of Water Policy to take several steps. The USGS will prepare annual national water summary reports targeted for initial publication in October 1983. The initial report will summarize national water conditions, and subsequent annual reports will also focus on selected water problems. The OWP will coordinate with state and local decisionmakers to ensure that the information presented in the reports is responsive to the users' needs.

As the nation's largest water resources data collection agency, the USGS currently monitors the quantity and quality of the nation's water resources at about 44 000 sites in cooperation with more than 800 federal, state, and local agencies and conducts hundreds of water resources studies annually. The USGS also maintains an index to existing water resources information gathered by 400 other agencies.

Washington Report

Washington Report is prepared by the AWWA Government Affairs Office to inform AWWA members about federal programs and legislative and regulatory actions related to the water industry. Inquiries should be directed to the AWWA Government Affairs Office, 1010 Vermont Ave. N.W., Suite 810, Washington, DC 20005; telephone 202-628-8303.

TTHM Rule Takes Effect

On March 30, the final total trihalomethane (TTHM) rule became effective. The final rule was published in the February 28 *Federal Register*. Those opposed to the rule had 45 days, under the Safe Drinking Water Act, to appeal the rule. No one did so, nor has any formal opposition to the final rule appeared.

Under the settlement between AWWA and the US Environmental Protection Agency, the association agreed to drop its lawsuit against the agency if the final TTHM rule was promulgated in substantially the same form as the March 5, 1982, draft rule. No substantive changes were made, and AWWA is preparing to drop the lawsuit.

Ruckelshaus Gets Nod From Senate, Environmental Committee to Head EPA

The Senate voted 97-0 to confirm William Ruckelshaus as administrator of USEPA. He was expected to be at work at the agency by June 1. He is already participating in the agency's decisions.

This will be a repeat performance for Ruckelshaus, who headed USEPA from its creation in 1970 through 1973 when he left the agency to join the US Attorney General's office. Most recently, he has been a senior vice president at the Weyerhauser Co., a forest products firm in Washington state.

After three days of hearings earlier in May, the Senate Environment and Public Works Committee voted unanimously to confirm.

The first day of hearings was allocated to environmental

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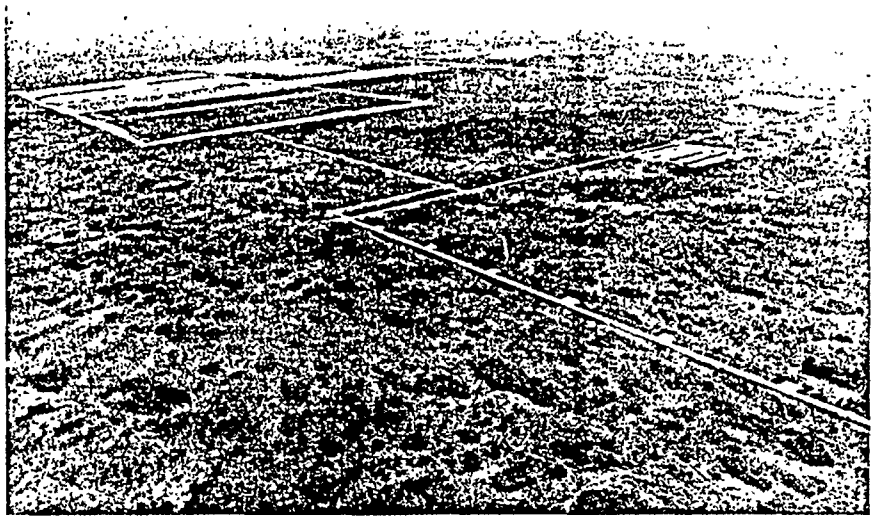
Innovative, Traditional Methods Assure Future Water Supply

Water utilities across the United States are striving to meet growing demands for water supply.

Shifting populations, business and industrial growth, and contamination of existing supplies are keeping the pressure on water utilities to develop new supplies. Although the slowdown of federal dollars has been viewed as a major constraint, public water supply has not usually depended on federal money for development. Many utilities—from Florida to Hawaii—are going ahead with plans to meet their customers' needs. Traditional and innovative projects alike make up these new supplies.



A new well field for Miami replaces another field threatened by contamination from population and industrial development. A 14-kilometre (9-mile) pipeline links the wells to the treatment facilities of the Miami-Dade Water and Sewer Authority.

Miami's New Wells

Just last month, the Miami-Dade Water and Sewer Authority began using its new Northwest Well Field. The utility, which supplies about 1.3 million of Dade County's 1.7 million people, has spent the past five years preparing for the new supply, two years in the permitting process with state agencies and three years in construction. However, the planning for the well field goes back much further. The utility has owned the land since 1945 and even 20 years ago decided to use it for a well field.

The new field has 15 wells, each capable of drawing 38 megalitres per day (10 million gallons per day). In addition to replacing an existing well field, the new one increases the authority's supply by 95 ML/day (25 mgd) to 1200 ML/day (310 mgd). In another 10 years, Miami-Dade plans to drill additional wells in the Northwest Field to meet the expected demands through the year 2000. The 2400-millimetre (96-inch) pipeline already constructed can deliver 760 ML/day (200 mgd).

The authority decided to replace the Medley Well Field because low levels of synthetic organic contaminants from industrial waste have been found there and because increased urbanization in the area, with a concurrent growing number of septic tanks, threatens more serious contamination.

The construction of the 15 wells and the 14-kilometre (9-mile) pipeline cost $38 million and was funded by the sale of general obligation bonds, which are being retired with revenues generated from water rates.

Garrett Sloan, director of the Miami-Dade utility, noted that utilities are not very responsive to changing economic conditions because they cannot afford to be. The long years of planning, project development, and construction, as well as the rather inelasticity of demand, preclude major changes in a utility's planning and operations.

Southern California Promotes Recycling

In its search for additional water supplies, the Metropolitan Water District of Southern California is cosponsoring local water supply projects with its customers. Recycled wastewater will be used to irrigate lawns and landscaping—greenbelts, parks, golf courses, school yards, cemeteries—in parts of Los Angeles and Orange counties. In Riverside County, a desalting plant will turn brackish groundwater into acceptable source water.

The district is facing water supply shortages in the mid- to long-term. When the Central Arizona Project goes on line in 1985, the MWDSC will have to give up a large portion of its supply from the Colorado River. Although the district has a contract with the state for almost twice as much water as it now receives from Northern California, the defeat of the Peripheral Canal project in a statewide referendum in 1981 has delayed, if not effectively cancelled, the delivery of additional water from that area to the Southland. This supply from the north was supposed to offset the loss of Colorado River water.

Although the local projects are small when compared to the overall needs of the MWDSC, they represent a feasible way for the districts and its customers to supplement existing supplies.

"These projects will meet existing demands for water. They will benefit all of Southern California because they will put to use untapped local resources, freeing freshwater from aqueducts for other uses," said Evan L. Griffith, MWDSC general manager.

The wastewater recycling project in northwestern Los Angeles County is an expansion of an existing recycling program. The $8.5 million project will include 40 km (25 mi) of pipeline, a reservoir, and a pump station to use effluent from the Tapia Water Reclamation Facility for irrigation. None of the recycled water will be used for drinking water supply. MWDSC will spend up to $6.2 million, and local agencies will finance costs.

The $7 million project in Orange County includes a 9.5-ML/day (2.5-mgd) tertiary treatment plant, 10 km (6 mi) of distribution mains, two pumping stations, and a 6.4-ML (1.7-mil gal) reservoir. The tertiary filtration plant will be constructed next to an existing secondary treatment plant. Funding for the project includes $2 million from the state Office of Water Recycling and $2.6 million from MWDSC.

Another innovative project is a $3.6 million desalting plant to be built by the Santa Ana Watershed Project Authority. MWDSC has agreed to buy the water at an estimated cost of $1.6 million per year. The district will resell the water to one of its customers, another water district, for municipal and industrial supply.

The project is expected to demonstrate the most cost-effective way to desalt brackish groundwater and could lead to the development of similar projects elsewhere. The groundwater is only about one thirtieth as salty as seawater. The plant will remove 14 000 to 18 000 kilograms (15 to 20 tons) of salt a day.

Other utilities are also developing projects. In Hawaii, another recycling project to substitute treated wastewater for freshwater for irrigation is under way. In Texas, four cities joined together to develop a surface water reservoir that would provide a more reliable supply than their traditional groundwater sources. (See AWWA MAINSTREAM, May 1983.) And in New Jersey, the Hackensack Water Co. and the North Jersey Water District have combined to construct additional transport facilities to make additional use of existing stored supplies.

NJ, Colorado Utilities Undertake Cooperative Financing

Financing water development is a creative and often cooperative effort these days.

In New Jersey, the Hackensack Water Co. and the North Jersey Water District decided in favor of a cooperative venture over competition for water from the Wanaque Reservoir. Their South Wanaque project includes three pumping stations and two aqueducts. Because more of the facilities are required by Hackensack, it is financing a proportionally greater share of the $113 million project.

Funding Package of Bonds, Stocks, Profits

To finance its $73 million share, Hackensack Water is using a combination of tax-exempt bonds, issues of common stock, and profits from the sale of water. And it put together its funding package at a time when its revenues were down significantly—during the 1980-81 drought in the New York-New Jersey area.

First Hackensack was approved by the New Jersey Economic Development Authority for $100 million in tax-exempt bonds. The authority is a state agency that issues bonds to finance capital projects in the private sector. For the first time in the investor-owned utility field, the bonds were insured; the American Municipal Bond Assurance Corp. insured both the principal and interest.

As a result of the tax-exemption and the insurance, the bonds were issued in February 1982 at a favorable interest rate of 13⅞ percent and with a AAA rating from Standard and Poor's Corp. The combination means a savings of $38 million in interest over the four-year construction period from 1982 to 1986. Additional savings in interest payments will be realized over the three-year life of the bonds.

Another first, according to public information director, Martha Green, was a decision by the New Jersey Board of Public Utilities in February 1981 to allow the company to adjust its rate base to include construction costs as investment while construction is still in progress and to earn an earlier return on its investment, another money savings.

Alliance Replaces Acrimony

In one metropolitan area where the core city and its suburban neighbors have been at odds for more than a decade, cooperation is replacing acrimony. The Denver Board of Water Commissioners supplies about half of the metropolitan population of 1.7 million. By contract, the board serves some 366 000 outside the city limits.

With the rise of the environmental movement in the early 1970s, the board encountered increasing difficulty in getting voter approval for its capital projects. At the same time the metropolitan area was experiencing a high rate of growth. Suburbs in this semi-arid region often found the already established Denver water system the most feasible source of water for their growing needs. By 1977, the board had placed a limit on the number of taps it would allocate to the suburbs. That limit will probably be reached by 1986.

Suburbans Underwrite Initial Phase

To develop additional supplies, the Denver utility decided that its suburban customers would need to provide their share of the construction capital. In 1982, the board entered into an agreement with 47 suburban water suppliers to help fund an environmental impact statement covering the board's entire water system. The signators received the right to participate and benefit to a proportionate extent in the board's development of additional water supply. The suburbs were so willing to underwrite the impact statement that their pledges totaled 180 percent of their share of the estimated $6.75 million needed. Their assessments were reduced accordingly.

Regional Organization to Facilitate Funding

Because the suburban customers, faced with continued growth and decreasing taps, want to see a major supply project under way as soon as possible, they also undertook to establish a Metropolitan Denver Water Authority to act as a coordinating agency for the suburb's financial participation. The most likely long-term project, a new reservoir, will require about $300 million; interim projects, such as expanding existing raw water facilities, carry a total price tag between $100 and $150 million.

To finance the 80 percent share allocated to the suburbs, each participant in the authority will elect whether to subscribe to the particular project. If the authority cannot raise the 80 percent, the Denver utility or the subscribers may choose to make up the difference. If more funds are still needed, participation may be opened to those not members of the authority, and if the total cannot be raised, the project would likely be cancelled or postponed.

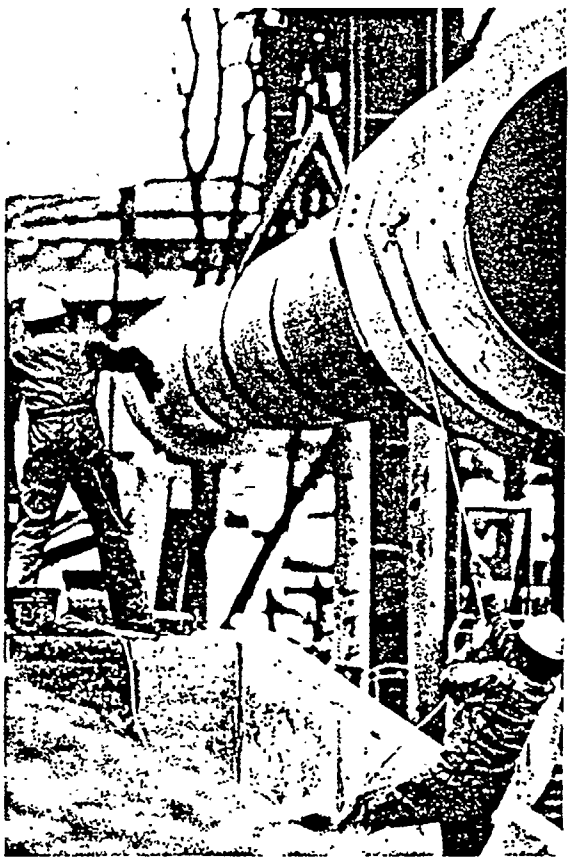
One Bond Issue Means Lower Interest

The authority's main purpose is to combine the suburban resources. Instead of 47 small bond issues hitting the bond market, the authority will offer one issue for the same purpose. Virgil Hill, manager of Consolidated Mutual Water Co. in Lakewood, Colo., and chairman of the suburban committee establishing the authority, said, "It is presumed that, if everyone went together, the bond issue might have better ratings and lower interest rates [than separate issues]."

Revenue Raising Methods Determined by Agencies

Each participating agency would contract with the authority to handle the bond issue, and each would determine how to raise the money to pay its contractual obligation. Because the 47 suburban participants range from municipalities to special districts, to private utilities, this system would allow each to select the method of raising revenue most appropriate, whether through water rates, surcharges, property taxes, or other means.

The agreement for the first project was distributed in mid-May, and the 47 agencies have until late October to sign on.



The new Oradell Aqueduct will be 27 kilometres (17 miles) long when the South Wanaque project is completed in 1986

WASHINGTON REPORT *(continued from page 3)*

groups. Representatives of the Sierra Club, the National Audubon Society, Environmental Action, and the Natural Resources Defense Council praised Ruckelshaus's personal integrity but expressed concern for what they saw as USEPA's needed independence from the White House. They refused to support Ruckelshaus's nomination, although none of the groups opposed it. All stated their concern that the nominee might be too close to the industries he would have to regulate as USEPA administrator.

Two days of testimony from Ruckelshaus followed the testimony from the environmental groups. In a rare appearance in his role as a member of the Senate Environment Committee, Majority Leader Howard Baker (R-Tenn.) welcomed Ruckelshaus and expressed support for his nomination and tenure at USEPA.

Support for Ruckelshaus came from all members of the committee. Sen. Pete Domenici (R-N.M.) stated that he trusts Ruckelshaus—his wisdom, his knowledge, and his ability. On the other side of the political aisle, Democratic Sen. Daniel Patrick Moynihan noted that Ruckelshaus gave one of the most cogent and concise statements that Moynihan had ever heard from a nominee.

The sense of approval that greeted Ruckelshaus in his appearance before the committee remained during a day and a half of questions. Although most committee members expressed concern that Ruckelshaus be given some autonomy in running USEPA and carrying out the mandates of Congress, they accepted his assurances that he would implement the laws as written. Ruckelshaus assured committee members that he would not delegate authority given to USEPA by law to either the Cabinet Council on Natural Resources and Environment or to any other administration department or office. He added that it was his understanding that he would be a member of that Cabinet council, although not a member of the Cabinet, and that he would be on an equal footing with other members of the council.

During the sometimes intense examinations, Ruckelshaus exhibited a knowledge of the environmental laws and regulations that clearly impressed not only the committee members but also the audience.

Questioning from Democrats focused more on Ruckelshaus's independence and access to the president. Questions from Republicans centered on implementation of the environmental laws.

In answer to a query about making USEPA an independent agency, Ruckelshaus noted that commissions were often less effective because more people participated in the decision-making process. When Moynihan suggested elevating the agency to cabinet level with Ruckelshaus as "Mr. Secretary," the administrator-designate responded that he was "still trying to become Mr. Administrator."

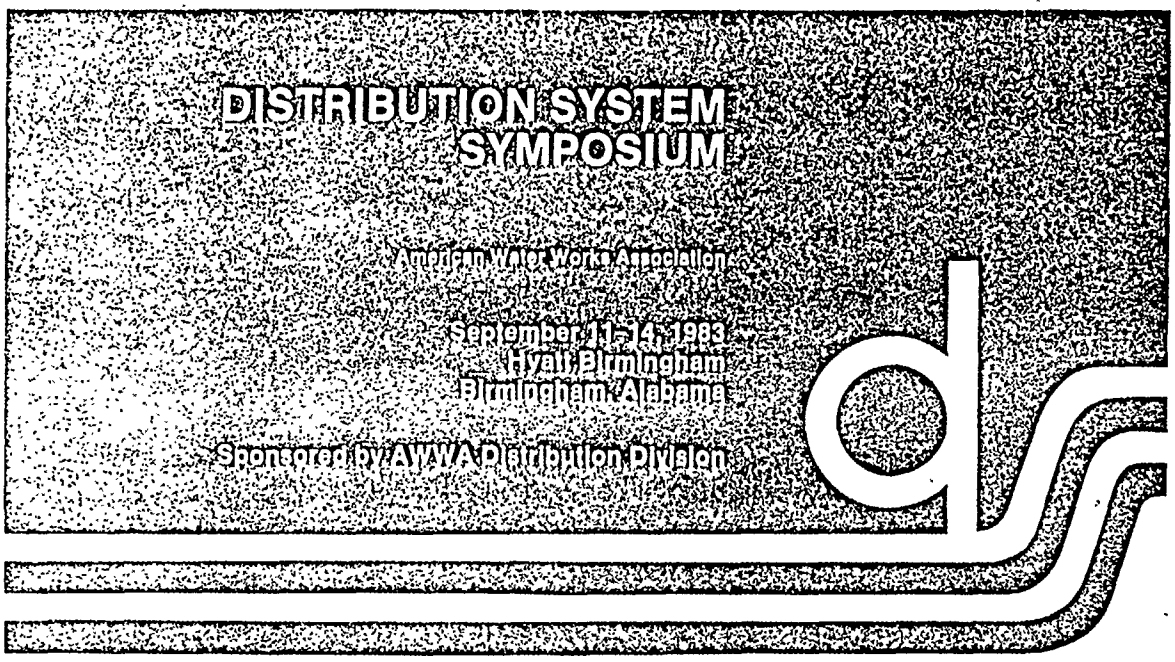
In a related development, Frederic A. Eidsness Jr., USEPA assistant administrator for water, resigned his position with the agency in late May. Saying his resignation would take effect immediately, he cited personal considerations and a desire to return to the private sector as reasons for stepping down.

Reclamation, BLM Sign Agreement on Land, Water Use Planning

Under an interagency agreement between the US Bureau of Reclamation and the US Bureau of Land Management, principles for coordinating land use planning, land resource management, land conveyance and exchange, and cooperative services will be streamlined. The agreement became effective Mar. 25, 1983.

Under the agreement BLM will seek advice on water resources conservation, development, and management from Reclamation. Information obtained by BLM will be used to prepare resource management plans. Reclamation will use similar information on other resources from BLM to prepare BuRec land management plans.

Copies of the interagency agreement are available from either Commissioner Robert Broadbent, Code 420, Bureau of Reclamation, or from Director Robert Burford, Code 430, BLM, both at 18th & C St. N.W., Washington, DC 20040.



Birmingham Hosts 1983 Distribution System Symposium

For those keeping up with the latest in distribution system technology and research, Birmingham, Ala., is the place to be this fall. September 11-14, AWWA's 1983 Distribution System Symposium will bring together utility distribution personnel, manufacturers, and distribution design consultants for an intensive three-day exchange of technology and ideas that should help improve the field operations of distribution systems.

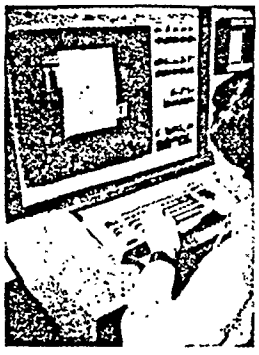
Formal presentations over two days range from descriptions of rapid advances in pump technology to the reasons why a leak detection program is essential to every distribution system.

The first DSS conferences were put together with engineers, field supervisors, and small system operators in mind. The success of those first conferences led to the symposium becoming an annual event of interest to anyone working in the water industry.

The practical focus of the symposium is intended to help distribution personnel improve operations, solve problems, and save money.

Monday afternoon and all day Tuesday, concurrent technical sessions will deal separately with the general areas of distribution system modeling, cleaning and lining of water mains, techniques for accounting for water, pipe installation and repair, tank repair and maintenance, and technological advances in the area of pumps, valves, and thrust restraints.

In the DSS exhibit area, attendees have a chance to ask a manufacturer questions, witness demonstrations, and compare the various features of competing products.



Computer modeling of distribution systems is addressed by a DSS session on Monday afternoon. Planning, practical applications, and record keeping are discussed.

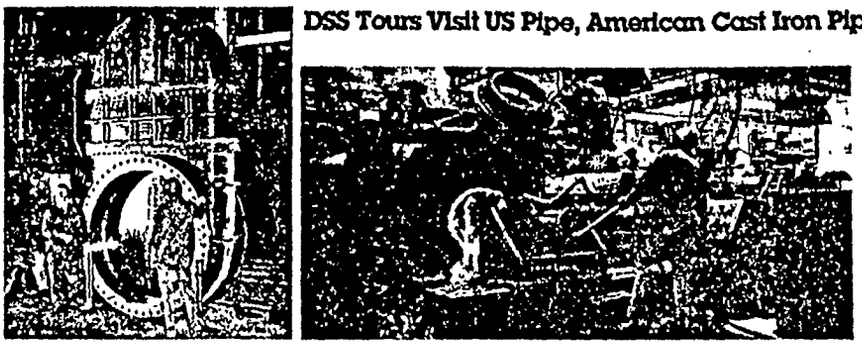
Some of the more specific topics listed in the technical program include a discussion on how the Hazen-Williams constant might vary more than previously thought—depending on roughness and flow velocity—and a description of hydromechanical pipe restoration projects in several US cities. Other presentations include an update on recent developments in equipment and certification that could affect cross-connection control programs and a discussion of the causes and solutions for water hammer.

An exhibit program is scheduled for Sunday, 4:00-7:00 p.m., and Monday and Tuesday from 8:00 a.m. to 6:00 p.m. The Sunday hours are set aside for the traditional "meet and greet" gathering that gives attendees an opportunity to see equipment and visit with the representatives of companies supplying distribution systems.

Three facility tours of Birmingham-area plants will wrap up the symposium on Wednesday, September 14. Two of the tours will visit separately the pipe manufacturing plants of US Pipe and Foundry and the American Cast Iron Pipe Co. A third tour will visit the facilities of the Birmingham Water Works Board.

DSS registration packets are available for Sunday through Tuesday, for Monday or Tuesday only, or with additional facility tours. A new registration feature this year allows groups to take advantage of a scale that reduces rates for additional registrants. A registration form on page 8 lists symposium and hotel rates.

DSS Tours Visit US Pipe, American Cast Iron Pipe, Birmingham Utility



Workers assemble a 1700-millimetre (66-inch) bonnet valve at ACIPCO's plant (left). At US Pipe's Birmingham plant (right), 610-millimetre (24-inch) ductile-iron pipe is in the initial stage of removal from a centrifugal casting machine.

The American Cast Iron Pipe Co., the US Pipe and Foundry Co., and the Birmingham Water Works Board will be the destinations of three facilities tours held on the final day of the Distribution System Symposium. Each of the half-day tours on Wednesday, September 14, will begin early morning and conclude before noon.

Larger Sizes Featured at US Pipe

The tour to the US Pipe and Foundry Co. will visit the company's Birmingham facility, which principally manufactures pipe. The tour will focus on the plant's larger sizes of ductile iron pipe—350 to 1400 millimetres (14 to 54 inches) in diameter.

The tour through US Pipe's plant will cover the entire manufacturing process, from

(continued on page 10)

1. NAME FOR BADGE _____
TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ STATE OR PROVINCE _____
ZIP _____ PHONE _____ - _____ - _____

AWWA DISTRIBUTION SYSTEM SYMPOSIUM
September 11-14, 1983
Birmingham, AL

2. Technical Sessions and Exhibits — circle choices

Subject to restrictions below*	Second person	125b
	Third person	125c
	Fourth or more	75d
One day—Monday only		90e
—Tuesday only		90f
Exhibitor comp**		g

Tours-Wednesday (Circle one)

U S Pipe and Foundry	15h
American Cast Iron Pipe Co	15i
Birmingham Water Works Board	15j

TOTAL $ ____

3. Occupation (circle one)
a Water Utility
b Consultant
c Government-Federal
d Government-State
e Government-Local/County
f Manufacturer or Distributor
g Educational Institution
h Other _____

AWWA Member No. _____

Responsibilities (circle all that apply)
i Operations
j Management
k Engineering
l Sales/Purchasing
m Other _____

Level (circle one)
n Supervisory
o Non supervisory

4. Make check payable to AWWA in U S funds
Personal check _____ Company check _____ Date _____
Credit Card No _____
☐ Visa ☐ Mastercard ☐ American Express Expiration Date

*Companies may register a second person for $125, a third person for $125 and a fourth or more for $75 each subject to the following restrictions
a Registrations and payment must be received by September 2 Full fee will apply after September 2
b Each registrant must be an AWWA member or their company must be a member
c All forms must be submitted together or separate forms must specifically reference previously submitted forms
d Excludes any complimentary registrations
**Complimentary entitlement based on number of booths purchased Does not permit access to technical sessions

To Register for the Conference
Complete all four sections above and mail by September 2 with payment to
AWWA—DSS
6666 West Quincy Avenue
Denver, CO 80235
AWWA will acknowledge your registration

For Hotel Reservation
• Complete this form
• Mail by August 22 with payment to

Hyatt Birmingham
901 North 21st Street
Birmingham, AL 35203

Hyatt Birmingham will confirm your room reservation

Reservation Form to:
Hyatt Birmingham
AWWA Distribution System Symposium
September 11-14, 1983

901 North 21st Street
Birmingham, AL 35203
205-251-2221

PLEASE PRINT OR TYPE

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
SHARING ROOM WITH _____
ARRIVAL DATE _____ TIME _____ DEPARTURE DATE _____ TIME _____

Rates:
☐ Single $42
☐ Double or twin $50
Plus 7% Ala sales tax

All reservations must be accompanied by a deposit for the first night
Make check payable to Hyatt Birmingham
Personal check _____ Company check _____ Date _____
Credit Card No _____
☐ Visa ☐ Mastercard ☐ American Express Expiration Date

Deposit refundable up to 24 hours prior to arrival
Check-in time 3:00 p m Check out time 12 noon

Reservations received after August 22 will be confirmed on a space available basis.

DSS Registration Offers New Options

Registration for the Distribution System Symposium includes a new money-saving feature this year. Companies may take advantage of a graduated scale that reduces rates for additional registrants.

The standard fee for the first person registered from a particular company is $175. That company can then register a second person for $125, a third person also for $125, and any additional persons for $75. However, several restrictions apply to these reduced rates.

To be eligible for the rates, all registrations and payments must be received by September 2. After that date the full fee of $175 will apply. Each registrant or the company must also be an AWWA member. All reduced-rate forms must be submitted together, or separate forms must specifically reference prior registrations. None of the reduced rates apply to complimentary registrations.

Separate DSS registration packets are also available for Monday or Tuesday only for $90. An additional facility tour on Wednesday can be added to a registration package for a fee of $15.

Hotel reservations must be mailed with payment by August 22. All hotel reservations after that date will be confirmed on a space available basis.

Technical Program

Monday, September 12—Morning

1 • OPENING GENERAL SESSION: THE DISTRIBUTION SYSTEM—PROBLEMS AND SOLUTIONS

Chairman: *George O. Muller*
Vice Chairman: *P.E. Pilgreen*

9.00 1. Welcome—*George O. Muller*
President's Address—*William O. Lynch*
9.30 2. Factors Affecting the Quality of Water in Distribution Systems—*J. Edward Singley*
10.00 3. Emergency! Intrusion of Propane into Water Mains—*Raymond C. Smedberg*
10.30 Break
11:00 4. Water Main Extension Policy—*George M. Cherry, Henry Hannah*
11:30 5. Sanitary Considerations in Constructing and Maintaining Water Mains—*Joe Power*

Monday, September 12—Afternoon

2A • MODELING DISTRIBUTION SYSTEMS

Chairman: *P.E. Pilgreen*
Vice Chairman: *Thomas D. Mogren*

1:30 1. Distribution System Modeling as a Planning Tool—*Gary B. Trachtman, Kenneth W Henderson*
2:00 2. How Constant Is the Hazen-Williams Constant?—*Thomas Walski*
2:30 3. Computerized Records Aid Distribution Operations in Birmingham—*William H. Wingate*
3:00 Break
3:30 4. Practical Application for Computer Modeling of Distribution System Networks—*Kenneth R. McGraw*
4:00 5. Computerized Distribution System Records—Computer-Aided Drafting Paves the Way—*John F. Curtiss, Paul A. Lohmuller*

2B • CLEANING AND LINING

Chairman: *Donald E. Jackson*
Vice Chairman: *Gene A. Seibel*

1:30 1. Cleaning Water Mains Using Polyurethane Pigs—*Kay Kerr, Joe Dulaney*
2:00 2. Large-Scale Solutions: Hydromechanical Cleaning of Water Mains—*Richard T. Williams, Charles H. Pickel*
2:30 3. Maintaining Mains by Cleaning and Cement-Mortar Lining—*W. Robert Dahl*
3:00 Break
3:30 4. Water Hammer: Causes, Effects, and Solutions—*Joseph R. Kroon, William A. Hunt, Michael A. Stoltz*

Monday, September 12—Evening

3A • WORKSHOP

Chairman: *Stanley R. Saylor*

7:00 1. Cross-Connection Control Update—*E. Kent Springer*

3B • WORKSHOP

Chairman: *George O. Muller*

7:00 1. Tapping Machine—*William R. Knorr*

Tuesday, September 13—Morning

4A • ACCOUNTING FOR YOUR WATER

Chairman: *Gene A. Seibel*
Vice Chairman: *Jack H. Wilson*

9.00 1. Choosing the Right Distribution Valve—*Joseph L. Daghe*
9.30 2. New Technology for Leak Detection: Methods and Benefits—*Paul Gamel*
10:00 [illegible]
10.30 Break
11:00 4. Large Meters: Their Selection, Installation, and Maintenance for Maximum Service—*George D. Anderson*
11:30 5. Selecting a Master Meter—*Edward A. Seruga*

4B • PIPE INSTALLATION AND REPAIR

Chairman: *Thomas D. Mogren*
Vice Chairman: *John A. Roller*

9.00 1. Design and Installation of Ductile-Iron Pipe—*Michael R. Redmon*
9:30 2. Installation of [illegible]—*Donald F. Newnham*
10 00 3. Is PE Service Pipe the Answer?—*Edward M. Brown*
10:30 Break
11.00 4. East Lansing's Approach to Main Line Valve Maintenance—*John [illegible]*
11:30 5. Causes of Water Main Breaks: [illegible]—*Clifford J. Crandall*

Tuesday, September 13—Afternoon

5A • TANK REPAIR AND MAINTENANCE

Chairman: *John A. Roller*
Vice Chairman: *Stanley R. Saylor*

1:30 1. What You Should Know About Tank Maintenance—*E. Crone Knoy*
2:30 Break
3:00 2. Coating Selection for Steel Water Storage Tanks—*Joseph S. Barry*
3:30 3. Tank Coating Specifications for Long-Term Results—*Joseph S. Barry*

5B • TAMING YOUR WATER

Chairman: *Jack H. Wilson*
Vice Chairman: *P.E. Pilgreen*

1:30 1. New Concepts in Design and Maintenance of Water Wells—*Carl E. Nuzman*
2:00 2. Design of Pumping Controls—*Chester A. Green*
2:30 Break
3:00 3. Characteristics of Automatic Control Valves—*Dennis Jurs*
3:30 4. Design of Thrust Restraints for Water Mains—*Richard Mueller*
4:00 5. Fire Flow System Analysis Through Proper Fire Hydrant Testing—*P.E. Pilgreen*

POINT PLEASANT SPARKS CONTROVERSY *(continued from page 1)*

holding reservoir, treatment plant, and pumping station in addition to the diversion structure. It could eventually divert as much as 360 ML/d (95 mgd) from the Delaware River, half of which is alloted as backup supply for the proposed Limerick nuclear power plant.

Full withdrawal of the community water allocation is not anticipated before the year 2000. At this time the electric utility has received federal approval for a plant using only half of its water allocation. Until a second phase was approved and built, Philadelphia Electric could not withdraw its full allocation.

Del-Aware, a group formed specifically to oppose the project, maintains that Point Pleasant will further diminish the already low flows of the Delaware River. The group argues that lowering the river flow will adversely affect the fish population in the Delaware. In addition, the Del-Aware group says that groundwater resources can adequately serve the needs of Bucks and Montgomery counties.

The Delaware River Basin Commission, a federally established interstate commission to oversee development and management of ground and surface water resources in the four-state Delaware basin, has approved the project. The commission's approval came after a determination that the project would not have a significant environmental impact. As a general rule, the commission requires a minimum low flow at Trenton, N.J., of 85 cubic metres per second (3000 cubic feet per second), or 7300 ML/d, to protect against saltwater intrusion. The Point Pleasant project is subject to this requirement.

Riegler also noted that the endorsement by his group was influenced by the findings of the DRBC's recently released groundwater study. The study indicates that overpumping of groundwater occurs in portions of Bucks and Montgomery counties.

"This overpumping—using groundwater faster than it can be renewed by rainfall—could be eased by water that would be supplied by the Point Pleasant project. "Without Point Pleasant, these areas will face grave problems in future droughts," Riegler added.

DELTA WATER QUALITY *(continued from page 2)*

suggest pursuit of the best quality water source available. A major recommendation of the panel is that public health should be given a much higher priority in decisions about the delta, both by state authorities and by water purveyors whose drinking water comes from the delta.

The panel also said:

- As a precaution to people whose dietary intake of sodium must be limited, water purveyors whose drinking water comes from Rock Slough or Clifton Court should inform the public of the amount of sodium in tap water when concentrations are abnormally high. This is especially important where a home water softener is in use.
- Water purveyors should monitor for asbestos fibers in both raw and treated waters.
- Domestic water purveyors should prepare a plan that would accommodate more stringent quality requirements, worsening of raw water quality, and increased demands for additional water.

Perry McCarty, environmental engineer and chairman of the department of civil engineering at Stanford University, chaired the panel. Other panel members included Paul De Falco Jr., consultant on water quality and environmental management; John Doull, toxicologist and professor at the University of Kansas Medical Center; Alvin Greenberg, toxicologist and representative from the Sierra Club; William Miller, consultant on water quality and water resources; Donald O'Connor, civil engineer and professor at Manhattan College in New York; and Emanuel Pearl, public health engineer and instructor at San Jose State University.

DWR Acting Director Howard Eastin has told DWR staff to carefully review the report and prepare the necessary work plans to carry out the panel's recommendations.

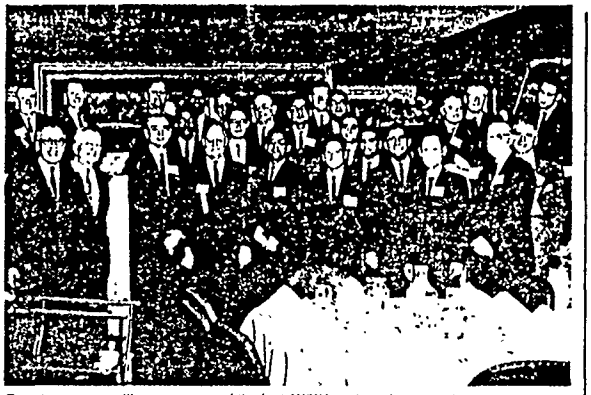
Full Student Program Grows From Foreign Student Activities

A history of student activities within AWWA goes back only 20 years.

Organized activities for students at the section level did not begin until the 1960s; they were expanded to the international level in the 1970s.

Recognition of students as a separate group in the association came in 1961 when the grade of student member was established. That same year the chairman of the International Affairs Committee, S. Logan Kerr, initiated the development of foreign membership by requesting that sections establish a committee for cultivating the interest and good will of foreign water supply students attending college in the United States.

In 1962, six sections—Illinois, Indiana, New Jersey, Ohio, Pennsylvania, and Wisconsin—responded to the chairman's request by starting up foreign student programs.



Twenty years ago, Illinois was one of the first AWWA sections to respond to a new international AWWA program to organize college students at the section level.

Foreign Students Joined by Americans

In 1965, the Illinois foreign students committee, under the direction of cochairmen Richard Englebrecht and John T. O'Connor, formally began including US students and undergraduate students as well as foreign graduate students. Also in 1965, the Illinois Section, using guidelines from the Pennsylvania and Wisconsin sections, set up a student activities committee and selected a student paper for presentation at the section's annual meeting.

O'Connor says that Illinois may not have been the first section to adopt these measures, as the Pennsylvania and Wisconsin Sections were also "very progressive." He indicated there was a good deal of communication between the sections, ideas were borrowed freely, and other sections "almost simultaneously made the same moves that Illinois did."

First Paper Leads to Forum

A very positive reaction to the first student paper presented at an Illinois Section meeting in 1966 led to the establishment of the first Illinois universities forum the next year. Under the direction of O'Connor, more than 100 people attended the first forum of four student presentations.

At a 1967 Illinois meeting, the special day for students also included a student luncheon, a social hour, an informal employment clearinghouse, and an open forum. At the open forum, which was repeated for several years, students and AWWA members informally exchanged ideas on universities, university research, the educational process, and recruitment.

After 1967, the universities forum became an annual affair at the Illinois Section's meeting, and similar student competitions were established in other sections.

Student Activities at International Level

AWWA's Academic Achievement Award program originated at the annual conference in Toronto, Ont., in 1964, and rules regarding the competition were approved by the Board of Directors in 1965.

The first academic awards were given in 1966. Initially the first-place winner received $500 and second place $250.

In 1979, the board approved the expansion of the Academic Achievement Awards to include first and second places in both doctoral and master's categories. Prizes for first place were raised to $1000 and those for the second place to $500.

A total of 48 awards have been given to date. In 1980, Sai Hyum Lee was the first woman to win an Academic Achievement Award—first place in the dissertation category.

The idea of starting a universities forum on AWWA's international level was discussed by members in the late 1960s. According to O'Connor, they wanted to set up a program so that "student members could come to an AWWA meeting and not just sit around like a bunch of bumps on a log... [but] where they would have an opportunity to have an active role."

The first Universities Forum was held at AWWA's 1972 annual conference in Chicago, Ill. The event has since become one of the more well-attended sessions at the annual conference.

"It provides new people with an opportunity to stand in the limelight for a little bit... to get up and talk and exhibit their talents," said O'Connor, speaking of the Universities Forum.

Statistics from the first 11 Universities Forums show that 135 students from 53 colleges and universities have made presentations, with a total of 36 states represented in that group.

Slightly more than 50 percent of those student presenters are now AWWA members. At least 65 percent of the group is currently teaching, consulting, or practicing engineering. The leadership potential of the group is evidenced by the fact that 35 percent are now either executives, managers, or educators.

The Universities Forum and other student activities have involved students in the water industry at a crucial point—when career choices are being made. A popular current suggestion to increase student involvement in the association is boosting research opportunities in the water supply field.

Water Quality Division Seeking Papers for 1984 Annual Conference

The AWWA Water Quality Division has issued a call for papers to be presented at the 1984 AWWA annual conference. The conference will be held June 10–15 in Dallas, Texas.

Technical sessions sponsored by the Water Quality Division will be developed from both submitted and solicited papers. Papers should be on a specific subject related to the area of water quality and treatment. Papers related to the topics of innovative surface water treatment techniques, innovative groundwater treatment techniques, control of source water quality, and control of water quality in the distribution system are of particular interest to the division, although papers on other topics will also be considered. Papers that are analytically oriented and of interest primarily to laboratory personnel will not be considered and should be submitted for the Water Quality Technology Conference.

Presentations are to be 20 minutes in length and will be followed by a 10-min discussion period. Full papers submitted prior to the conference in appropriate format will be published in the conference proceedings. Written papers can be more extensive and comprehensive than the 20-min presentation.

Travel funds are not available for speakers. All speakers must be willing to provide their own travel and expenses for this conference.

Papers will be chosen from abstracts submitted by Oct. 1, 1983. Abstracts must be no longer than 500 words and must include an overview of the project's purpose, methods, results, and significant conclusions and the speaker's name, address, and telephone number. Full papers will not be accepted for consideration.

Nine copies of the abstract should be submitted to Frederick W. Pontius, AWWA, 6666 W. Quincy Ave., Denver, CO 80235. Abstract evaluation and paper selection will be completed in December 1983. Authors will be notified in January 1984.

AWWA to Senate: Utilities Can Finance Rehab

AWWA has testified that urban water utilities in the United States can finance their own maintenance and replacement needs through water rates.

In written testimony presented to the US Senate Committee on Environmental and Public Works, May 20, the association presented preliminary results from its survey of more than 30 large urban water systems. AWWA wrote that the cost of water is small in comparison to gas and electricity and that most systems with deferred maintenance could keep up with appropriate maintenance by increasing their water rates from 6 to 36 percent to pay for bond financing for capital construction over a 10-year period.

The association opposed a national grant program to finance water system rehabilitation. However, recognizing the special needs of small utilities, AWWA did endorse the expansion of the federal water system programs of the Farmer's Home Administration. For larger systems, AWWA supported a loan insurance program through the states, perhaps developed with seed money from the federal government; at the same time, the association pointed out its belief that such a program was not essential.

The testimony was developed by an ad hoc committee of AWWA's Water Utility Council. The committee, which also prepared the survey, was chaired by Jerome B. Gilbert of the East Bay Municipal Utility District in Oakland, Calif. Other members of the committee included Donald R. Boyd, Kansas City (Mo.) Water Department; J.J. Corbalis, Fairfax County (Va.) Water Authority; William J. Marrazzo, Philadelphia Water Department; and Thomas E. Taylor, Dallas Water Utilities. The testimony was reviewed by the council and approved by AWWA President John H. Stacha.

• • •

Some of the nation's major water supply systems are said to be in a serious state of disrepair—resulting in an impending national crisis. What is needed is a realistic look at the current conditions, both physical and financial, that exist in the drinking water industry.

Water service throughout the nation is provided under a wide range of hydrologic and urban conditions, and it is extremely difficult to generalize. Some water systems, such as those in the Southwest, are new and in an excellent state of repair. Others, principally in the Northeast, are older. Due to materials and age, these facilities require continual maintenance and replacement. Nevertheless, these systems generally have the following common aspects:

Water charges are small by comparison with gas and electricity.

• Almost all major systems are financed by water utility charges, and those charges—with few exceptions—are small by comparison to gas and electric utility charges.

• All of the systems deliver water that generally meets state and federal health requirements.

• The rate of facility replacement varies widely depending upon each community's priorities. It is generally true that water utilities that are independently managed and are not required to share revenues with other municipal functions have a higher state of repair.

To find out more about the real conditions of the drinking water industry, AWWA recently undertook a survey of 33 of the major utilities. Although the analysis of this data is incomplete, the following conclusions can be drawn:

• Of the 33 utilities, 14 believe that their current state of repair is adequate and that deferred maintenance does not exist.

• Of those with deferred maintenance, the utilities—with one exception—could eliminate the backlog through construction programs over a 10-year period, financed by revenue bonds. The bonds would be paid from water rates, with the financing programs resulting in water rate increases ranging from 6 percent to 36 percent.

• Almost 60 percent of the utilities with deferred maintenance have residential water bills that are below the average of the utilities responding to the survey.

• One large utility in the Northeast, with the highest deferred maintenance of the responses received, has the lowest monthly residential water bill—$3.40. This is approximately one third of the average monthly residential water bill of all respondents. By increasing the residential charge to approximately the average of those surveyed, this deferred maintenance could be funded from water revenues.

• The current average monthly residential water bill in these communities with deferred maintenance ranges from $3.40 to $13.75

The survey contains many interesting statistics and will be published by the association after it has been analyzed and reviewed by appropriate AWWA committees. The preliminary results, however, clearly support the association's contention that the appropriate local and federal roles with regard to water system rehabilitation and deferred maintenance (water system improvement and expansion is a separate issue) are as follows:

Increased water charges can eliminate deferred maintenance.

• Water service charges by public and investor-owned utilities can, in all but a very few instances, be increased within the users' ability to pay to eliminate deferred maintenance.

• It is in the national interest to assure that unique local conditions resulting in high borrowing rates do not result in excessive costs to bring systems into an adequate state of repair. This can be achieved through some form of federal long-term loans.

• Loans should be provided through the states—either by federal seed money to provide revolving funds for direct loans or, preferably, by establishment of an insurance program to guarantee repayment of local debt.

• Special consideration should be given to the small-utility hardship case where rehabilitation or improvements is necessary to meet Safe Drinking Water Act standards. Some states have established grant programs, but the association believes that there is a national need among small utilities with special water quality problems and very limited financial resources. In this regard, the existing loan program administered by the Farmer's Home Administration of the US Department of Agriculture should receive greater funding and perhaps be broadened to include larger populations.

A new grant program is not needed.

The experience of the '70s with the clean water grant program, the revenue-supported nature of all urban water systems, and the current relatively low rates that exist for water service all indicate that a new national grant program is neither needed nor desirable. The association believes that most utilities presently have adequate ability to upgrade their systems, including the construction of water supply improvements and expansions. However, if the Congress believes that assistance is appropriate, state-administered loan programs or, preferably, an insurance program to guarantee low-interest rates to both investor-owned and public utilities would be in order.

Investor-owned utilities have a special problem. Regulated by public utilities commissions and borrowing at sometimes high interest rates that are not subsidized by federal tax exemption, they must be given some consideration in a national program. The Congress has allowed the states and local governments to sell tax-exempt bonds for construction of pollution control facilities by private industry. If there is a national water utility infrastructure financing need, the loan, or debt repayment, insurance program should be extended to investor-owned utilities meeting special-need criteria.

In summary, the association believes that a program of loans made by the states to local utilities or, preferably, borrowing engaged in by local utilities with repayment guaranteed by states and with seed money provided by the federal government would be appropriate. These would be effective ways of aiding local utilities to keep down the costs of water service, while at the same time restoring those utilities with deferred maintenance to an adequate state of repair.

Education & Training

A Schedule of Courses for the Water Industry

Information to be included in Education & Training must be received at least two months in advance of the start of the school or the closing date for course registration. Complete details should be sent to the Director of Education, AWWA, or the Editor, AWWA MAINSTREAM, 6666 W. Quincy Ave., Denver, CO 80235. The earlier that the material is received, the more often it may be included in Education & Training. Further information about any AWWA course can be obtained from the Training Programs Coordinator at the above address or by telephone, 303-794-7711. Those courses sponsored by AWWA or its sections are marked with the AWWA logo. AWWA's endorsement is given only to courses sponsored by the association and its sections.

ARIZONA

40-Hour Value Engineering Training Workshops, Phoenix, Oct. 17-21. Contact Olga Murcia, Arthur Beard Engrs., Inc., 144 Church St. N.W., Vienna, VA 22180; telephone 703-255-2470.

CALIFORNIA

Varian Training Courses, Walnut Creek: Purgeable Halocarbons, July 11-12; fee $300. Pesticide Residues, July 11-13; fee $450. PCBs, July 14-15; fee $300. Basic Atomic Absorption Training, Sunnyvale, July 18-20; fee $600. Furnace Training, Sunnyvale, July 21-22; fee $300. Basic Gas Chromatography, Aug. 29-31; fee $450. Specific GC Detectors, Sept. 1-2; fee $150. Capillary Gas Chromatography, Sept. 15-16; fee $300. Basic Liquid Chromatography, Sept. 27-29; fee $450. Contact Training Dept., Varian Instrument Group, 2700 Mitchell Dr., Walnut Creek, CA 94598; telephone 415-939-2400, ext. 365.

University of California at Davis Courses, Davis: Water Surface Profile Computations Using Computer Program HEC-2, July 11-15; fee $550. Flood Plain Hydrology Using Computer Program HEC-1, July 18-22; fee $550. Urban Hydrology Using HEC-1 & Storm, July 25-29; fee $550. Practical Methods for Solving Sediment Problems, Aug. 1-5; fee $550. Contact University Extension, Univ. of California, Davis, CA 95616; telephone 916-752-6021.

COLORADO

Groundwater Hydrology Short Course, Boulder, July 11-15; fee $300. Contact J.E. Flack, Campus Box 428, Univ. of Colorado, Boulder, CO 80309; telephone 303-492-7111.

Microcomputers for Professional & Personal Application, Golden, Aug. 8-12; fee $495. Contact SPACE Office, Colorado School of Mines, Golden, CO 80401; telephone 303-273-3321.

Rocky Mountain Fleet Managers Seminar, Copper Mountain, Aug. 17-19. Contact Tom Richards, Denver Water Dept., 1600 W. 12th Ave., Denver, CO 80254; telephone 303-623-2500, ext. 322.

Fundamentals of Groundwater Quality Protection, Denver, Oct. 18-19. Contact R.M. Miller, American Ecology Services, Inc., 127 59th St., New York, NY 10022; telephone 212-371-1620.

DISTRICT OF COLUMBIA

Fundamentals of Groundwater Quality Protection, Oct. 5-6. Contact R.M. Miller, American Ecology Services, Inc., 127 E. 59th St., New York, NY 10022; telephone 212-371-1620.

FLORIDA

8th Water Treatment Technology Seminar, Plant City, July 20-21. Contact TREEO Center, Univ. of Florida, 3900 S.W. 63rd Blvd., Gainesville, FL 32608.

GEORGIA

Varian Training Courses, Atlanta: Basic Atomic Absorption Training, July 11-13; fee $600. Furnace Training, July 14-15; fee $300. Contact Training Dept., Varian Instrument Group, 2700 Mitchell Dr., Walnut Creek, CA 94598; telephone 415-939-2400, ext. 365.

Mixing & Transport in Surface Waters, Atlanta, July 25-29; fee $625. Contact Dept. of Continuing Education, Georgia Inst. of Technology, Atlanta, GA 30332; telephone 404 894-2547.

NACE Training Courses, Atlanta: Basic Corrosion, Corrosion Prevention by Cathodic Protection, & Corrosion Prevention by Coatings; Sept. 18-23; fee $550 for each course. Contact Education & Training Dept., Natl. Assn. of Corrosion Engrs., Headquarters, Box 218340, Houston, TX 77218; telephone 713-492-0535.

ILLINOIS

Varian Training Courses, Park Ridge: Gel Permeation Chromatography, July 29; fee $150. Basic Atomic Absorption Training, Sept. 12-14; fee $600. Furnace Training, Sept. 15-16; fee $300. Contact Training Manager, Varian Instrument Group, 205 W. Touhy Ave., Park Ridge, IL 60068, telephone 312-825-7772.

INDIANA

International Groundwater Modeling Center Short Courses, Indianapolis: Pollution of Groundwater, July 11-12. Hydraulics of Water & Pollution in Aquifers, July 13-15. Advanced Groundwater Modeling, July 18-22. Contact IGWMC, Holcomb Research Inst., Butler Univ., Indianapolis, IN 46208; telephone 317-283-9555.

KANSAS

Kansas Department of Health & Environment Courses: Annual Water & Wastewater School, Lawrence, Aug. 3-5; fee $15. Wastewater & Water Supply Correspondence Courses; fee $20. Contact N.J. Burris, Bu. of Water Supply, Dept. of Health & Envir., Forbes Field, Topeka, KS 66620; telephone 913-862-9360.

Kansas Section Water Distribution Workshops: Dodge City, Sept. 15-16; Independence, Oct. 6-7; Leavenworth, Oct. 27-28; fee $5. Contact Richard Porter, Box 792, El Dorado, KS 67042; telephone 316-321-9100.

MAINE

Water Loss Control & Hydraulics Seminar, Lewiston, July 28; fee $45. Contact T.K. Bean, Pitometer Assoc., 2 N. Riverside Plaza, Suite 1430, Chicago, IL 60606; telephone 312-236-5655.

MASSACHUSETTS

Lenox Institute for Research Courses, Lenox: Research & Pilot Plant Operation, July 14-15, July 21-22, July 28-29, Aug. 4-5, Aug. 11-12, Aug. 18-19; fee $150 for each two-day period. Design & Operation of Flotation Process Systems; July 18-22, Aug. 8-12; fee $850. Application of Flotation Process; July 25-29, Aug. 15-19; fee $850. Contact L.K. Wang, Lenox Inst. for Research, Inc., 101 Yokun Ave., Lenox, MA 01240; telephone 413-637-1681.

Water Leakage Control & Pipe Locating Seminar, Springfield, Aug. 16-17; fee $125 per day. Contact D.K. Smith, Education Div., Heath Consultants Inc., 100 Tosca Dr., Box CS-200, Stoughton, MA 02072-9986; telephone 617-344-1400.

MICHIGAN

Fluid Transients in Piping Systems, Ann Arbor, July 11-15; fee $650. Contact E.B. Wylie, Dept. of Civil Engrg., Univ. of Michigan, Ann Arbor, MI 48109.

AWWA Cost of Service Seminar; Lansing, Ann Arbor; October. Contact Training Programs Coordinator, telephone 303-794-7711, ext. 78.

MONTANA

Water Leakage Control & Pipe Locating Seminar, Bozeman, July 13-14; fee $125 per day. Contact D.K. Smith, Education Div., Heath Consultants Inc., 100 Tosca Dr., Box CS-200, Stoughton, MA 02072-9986; telephone 617-344-1400.

NEW HAMPSHIRE

Water Leakage Control & Pipe Locating Seminar, Manchester, Sept. 13-14; fee $125 per day. Contact D.K. Smith, Education Div., Heath Consultants Inc., 100 Tosca Dr., Box CS-200, Stoughton, MA 02072-9986; telephone 617-344-1400.

NEW JERSEY

Varian Training Courses, Florham Park: Basic Atomic Absorption Training, July 18-20; fee $600. Furnace Training, July 21-22; fee $300. Capillary Gas Chromatography, Sept. 8-9; fee $300. Basic Gas Chromatography, Sept. 13-15; fee $450. Specific GC Detectors, Sept. 16; fee $150. Basic Liquid Chromatography, Sept. 27-29; fee $450. Contact Training Manager, Varian Instrument Group, 25 Hanover Rd., Florham Park, NJ 07932; telephone 201-822-3700.

Wallace & Tiernan Training Courses, Newark: Digital Feeder Maintenance, Sept. 12-14; fee $210. Chlorination Equipment Maintenance, Sept. 19-23; fee $350. Contact Training Dept., Wallace & Tiernan Div., Pennwalt Corp., Box 178, Newark, NJ 07101; telephone 201-759-8000, ext. 676.

NEW YORK

Backflow Prevention Device Testers Course, Rochester; Aug. 1-4, Oct. 10-13; fee $375, $350 for AWWA members. Contact Cross Connection Control Fdn., Fred Eggert, Monroe County Water Authority, 475 Norris Dr., Rochester, NY 14610; telephone 716-442-2000, ext. 41.

OHIO

Finnigan Training Courses, Cincinnati: Sample Preparation for Trace Inorganic Analysis; July 11-12, Oct. 10-11; fee $300. Basic Concepts & Instrumentation; July 13-14, Oct. 12-13; fee $300. Trace Inorganic Analysis by Atomic Spectroscopy for Managers; July 15, Oct. 14; fee $150. Basic Atomic Absorption; July 18-22, Aug. 22-26, Sept. 26-30; fee $850. Graphite Furnace Concepts & Techniques; July 25-27, Aug. 29-Sept. 2, Oct. 3-7; fee $850. Basic Mass Spectrometry; Aug. 1-5, Oct. 24-28, fee $950. Programming Laboratory Computers, Sept. 6-9, fee $800. Stabilized Temperature Furnace Utilizing the L'vov Platform, Sept. 12-16; fee $390. Environmental Analysis by Atomic Spectroscopy, Sept. 12-16; fee $850. Analysis of Priority Pollutants by Capillary Column GC-MS, Sept. 12-16; fee $1080. Trace Organic Analysis by GC-MS, Oct. 10-12; fee $600. FORTRAN Programming, Oct. 24-28; fee $1125. Contact Nancy Kranpitz, Finnigan MAT Inst., 11 Triangle Park Dr., Cincinnati, OH 45246; telephone 513-772-5500.

Water Leakage Control & Pipe Locating Seminar, Columbus, Sept. 6-7; fee $125 per day. Contact D.K. Smith, Education Div., Heath Consultants Inc., 100 Tosca Dr., Box CS-200, Stoughton, MA 02072-9986; telephone 617-344-1400.

OKLAHOMA

24th Annual Interstate Conference on Water Problems, Oklahoma City, Sept. 19-20. Contact J.R. Barnett, Oklahoma Water Resources Board, Box 52585, Oklahoma City, OK 73152; telephone 405-271-2551.

ONTARIO

Process Design in Water Quality Engineering, Sarnia, Aug. 16-19; fee $625. Contact Director, Continuing Engrg. Education, Vanderbilt Univ., Box 1525, Station B, Nashville, TN 37235; telephone 615-322-2924.

Ontario Ministry of the Environment Courses, Toronto: Preventive Maintenance, Sept. 12-16; fee $40. Basic Gas Chlorination, Sept. 19-23; fee $40. Basic Water Treatment Operations, Sept. 26-30; fee $40. Operation & Maintenance of Water Distribution Systems, Sept. 26-30; fee $40. Laboratory Skills for Plant Operators, Oct. 3-7; fee $40. Sewer & Water Main Design, Oct. 3-6; fee $180 for commuters, $365 for others. Pump Operations, Oct. 17-21; fee $40. Contact Registration Secretary, Training & Certification Sect., Personnel Services Br., Ontario Ministry of the Environment, 135 St. Clair Ave. W., Toronto, ON M4V 1P5; telephone 416-456-0266.

Finnigan Training Courses, Toronto: Introduction to Mass Spectrometry, Sept. 19-23; fee $825. Mass Spectral Interpretation, Sept. 26-27; fee $600. Contact Nancy Kranpitz, Finnigan MAT Inst., 11 Triangle Park Dr., Cincinnati, OH 45246; telephone 513-772-5500.

(continued on page 15)

Employment Information

The listings carried in this column are published free of charge and once only. Please include all relevant information when requesting a listing. Within reason, there is no word limit. AWWA reserves the right to refuse any request for a listing judged not to be sufficiently pertinent to the water supply field and reserves the right to edit all submissions. Listings are not accepted by telephone and are not written by the association. Although every attempt is made to place ads as soon as possible, there can be no guarantee that a listing will appear in a specific issue. A blind box number will be used for any position-advertiser who requests one; blind box numbers will be used automatically for all positions wanted unless otherwise requested. In such cases, AWWA acts only as a clearinghouse, forwarding all replies unopened to the advertiser. In reply to any blind listing, write to AWWA in care of the code number appearing at the end of the listing. Make sure this code appears on the envelope. Address all correspondence to AWWA MAINSTREAM Employment Service, 6666 W. Quincy Ave., Denver, CO 80235.

POSITIONS AVAILABLE

PUBLIC HEALTH ENGINEER for state water supply regulatory agency. Requires BS degree in engineering; MS in sanitary-environmental engineering preferred. Position requires minimum of 2 years of engineering experience in a field related to public health, preferably in water supply systems operations. Responsible for inspections of water treatment facilities, providing technical assistance to operators, and enforcement of regulatory requirements. Salary range $22 883-$30 056. Send resume as soon as possible to Div. of Water Supply, Dept. of Health & Mental Hygiene, Office of Environmental Programs, 201 W. Preston St., Baltimore, MD 21201.

UTILITIES OPERATIONS SUPERVISOR for city with present population of 12 000, 28 000 at completion. Salary $19 632-26 310. Requires college-level course work related to water or wastewater plant operation and water purity. Florida level A treatment plant operator's license and supervisory experience in operation of water and wastewater treatment plant desirable. EOE. Send resume to City of Cooper City, 9090 S.W. 50th Place, Cooper City, FL 33328.

WATER SYSTEMS ENGINEER for the Milwaukee office of CH2M Hill. Position requires BSCE and MS in environmental-sanitary engineering with 10-12 years of experience in water systems design, including transmission lines, pump stations, distribution, storage, and treatment facilities. Strong project engineer with management and consulting engineering experience desirable. Oral and written skills essential for business promotion, administrative and client responsibilities. Registration and working knowledge of the Midwest required. Salary commensurate with experience. Excellent benefit package. EOE. Send detailed resume in confidence to Staff Manager, CW/GLO-4, CH2M Hill, Box 428, Corvallis, OR 97339-0428.

GENERAL MANAGER for large California water district. Experienced general manager to handle all water and power operations. Position requires extensive interfacing with state & federal regulatory-political bodies. 10 years of utility management experience essential. Engineering degree preferred. Salary $80 000 plus. Reply to AWWA MAINSTREAM Employment Service, Box 6/PA/4

GENERAL MANAGER for water systems owned by 2 cities and controlled by an appointed board. Serves a total population of 40 000, with approximately 10 000 customers, 36 employees, $2 million annual budget. Qualifications require a minimum of 5 years of progressively responsible water systems management experiences, including some progressively responsible engineering experience with a publicly owned water system. Requires graduation from a college or university with specialization in engineering or any satisfactory combination of experience and training. Salary range $30 000 to $40 000 per year, commensurate with abilities. Send resume and salary requirements to C.W. Heckard, Coos Bay-North Bend Water Board, Box 539, Coos Bay, OR 97420.

POSITIONS WANTED

WATER OR WASTEWATER TREATMENT OPERATOR seeking position in western Montana or Idaho. 10 years of experience in water and wastewater field includes management, maintenance, laboratory analyses, and operations. Current Montana class 1 license in water treatment, water distribution, and wastewater treatment. Reply to David Brown, Box 73, Fort Benton, MT 59442.

WATER PLANT OPERATOR. Experience includes 7½ years in class C water plant. Holds class C Illinois water certification. Willing to train for class B classification. Available to relocate. Resume provided on request. Reply to Kenneth Newkirk, 404 Cherry St., Marshall, IL 62441.

WATER OR WASTEWATER SYSTEMS OPERATOR, maintenance or management position desired. US Air Force member seeking employment in Sun Belt regions. 22 years continuous, combined, progressively responsible experience with 6 years as foreman and 4 years as superintendent. Completed New Mexico C level water-wastewater certification course, presently enrolled in Missouri C level water certification course. Highly motivated, 41, ready to make change to civilian status. Available Aug. 1, 1983. References available. Reply through July to S.E. McClelland, 841 Earhart Circle, Whiteman AFB, MO 65305; telephone 816-563-5655. Reply after July 22 to 1908 St. George Dr. E., Bradenton, FL 33508; telephone 813-747-8761.

MECHANICAL-CIVIL ENGINEER with PE, MSCE, and 15 years of successful government and consulting experience that includes US and foreign projects. Experience includes planning and design of major water & wastewater projects. Seeking career position with water utility, industry, or consultant. West Coast preferred, will consider foreign on family status. Available July 15. Reply to AWWA MAINSTREAM Employment Service, Box 6/PW/4

ENVIRONMENTAL CHEMIST looking for a position in western United States. Desires utilities, municipalities, treatment plants, or government. BS degree with 5 years of strong work experience in water, soil, and air analysis. Experienced in wet chemistry techniques, gas chromatography, atomic absorption spectroscopy, visible and IR spectroscopy, EPA, *Standard Methods*, ASTM, and AWWA protocol. Salary requirements include $20 000 with secure pension benefits. Resides in Colorado, 28 years old. Reply to Corrado S. Vasquez, 10673 Newcombe Way, Broomfield, CO 80020; telephone 303-469-6750.

WATER OPERATOR-MANAGER with South Dakota class 2 water treatment and distribution licenses seeking employment in Southern state. 8 years of experience with construction, maintenance, inspection, leak repair, public relations, and management. Resume provided upon request. Reply to AWWA MAINSTREAM Employment Service, Box 6/PW/6

EDUCATION & TRAINING *(continued from page 14)*

OREGON

Water Plant Operators, Albany, Aug. 2-4. Contact Water-Wastewater Technology Dept., Linn-Benton Community College, 6500 S.W. Pacific Blvd., Albany, OR 97321; telephone 503-928-3620.

PENNSYLVANIA

21st Annual Liberty Bell Corrosion Course, Philadelphia, Sept. 21-23; fee $150. Contact P. Ferlaino, The Engineers' Club, 1317 Spruce St., Philadelphia, PA 19107; telephone 215-735-5234.

QUEBEC

40-Hour Value Engineering Training Workshop, Montreal, Sept. 12-16. Contact Olga Murcia, Arthur Beard Engrs , Inc., 144 Church St. N.W., Vienna, VA 22180; telephone 703-255-2470.

SOUTH CAROLINA

Clemson University Correspondence Courses: Package Treatment Plants; South Carolina residents $10, others $15. Operator Training Courses; levels A, B, C, & D. Contact Patsy A. Phillips, Operator Training, Clemson Univ., 401 Rhodes Center, Clemson, SC 29631; telephone 803-656-3276.

TEXAS

Coating Inspector Training & Certification Course, Houston: Session 1, July 10-16; fee $1500. Session 2, July 10-15; fee $750. Contact Education & Training Dept., Natl. Assn. of Corrosion Engrs., Box 218340, Houston, TX 77218; telephone 713-492-0535.

Varian Training Courses, Houston: Basic Atomic Absorption Training; July 25-27, Sept. 19-21; fee $600. Furnace Training; July 28-29, Sept. 22-23; fee $300. Gel Permeation Chromatography, Sept. 7; fee $150. Basic Gas Chromatography, Sept. 13-15; fee $450. Specific GC Detectors, Sept. 16; fee $150. Contact Training Manager, Varian Instrument Group, 505 Julie Rivers Rd., Suite 150, Sugar Land, TX 77478; telephone 713-491-7330.

Hazardous Materials & Toxic Substances Control, Houston, July 25-29; fee $595. Contact Univ. of Arkansas for Medical Sciences, Div. of Interdisciplinary Toxicology, 4301 W. Markham St., Slot 638, Little Rock, AR 72205; telephone 501-661-5766.

Process Design in Water Quality Engineering, Houston, Oct. 18-21; fee $625. Contact Director, Continuing Engrg. Education, Vanderbilt Univ., Box 1525, Station B, Nashville, TN 37235; telephone 615-322-2924.

NACE Training Courses, Houston: Basic Corrosion, Corrosion Prevention by Cathodic Protection; Oct. 30-Nov. 4; fee $550 for each course. Contact Education & Training Dept., Natl. Assn. of Corrosion Engrs., Box 218340, Houston, TX 77218; telephone 713-492-0535.

UTAH

Water Leakage Control & Pipe Locating Seminar, Salt Lake City, Sept. 13-14; fee $125 per day. Contact D.K. Smith, Education Div., Heath Consultants Inc., 100 Tosca Dr., Box CS-200, Stoughton, MA 02072-9986; telephone 617-344-1400.

○ **AWWA Trihalomethanes in Drinking Water Seminar,** Salt Lake City, Sept. 21. Contact Training Programs Coordinator, telephone 303-794-7711, ext. 78.

Microcomputers in Environmental Engineering, Provo, Sept. 27-29. Contact Larry Scanlan, Bu. of Public Water Supplies, Utah Dept. of Health, Box 2500, Salt Lake City, UT 84110-2500; telephone 801-533-4207.

VERMONT

Water Treatment Courses, Burlington, July 11-13; fee $140, $125 for VWWA members. Contact Donald Burford at 617-329-9650 or Jim Fay at 802 864-7454.

Water Leakage Control & Pipe Locating Seminar, Burlington, July 19-20; fee $125 per day. Contact D.K. Smith, Education Div., Heath Consultants Inc., 100 Tosca Dr., Box CS-200, Stoughton, MA 02072-9986; telephone 617-344-1400.

Water Loss Control & Hydraulics Seminar, White River Junction, July 26; fee $45. Contact T.K. Bean, Pitometer Assoc., 2 N. Riverside Plaza, Suite 1430, Chicago, IL 60606; telephone 312-236-5655.

WEST VIRGINIA

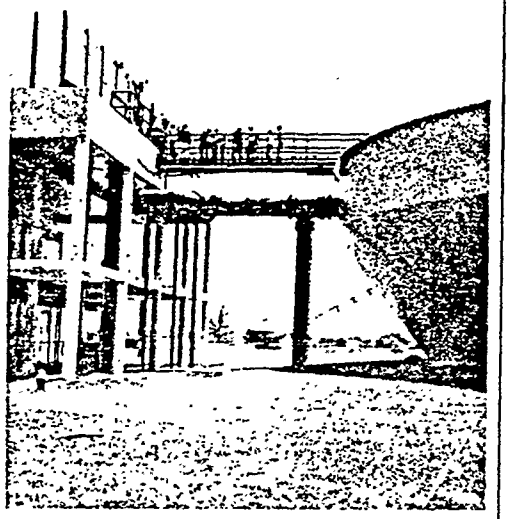
Water Leakage Control & Pipe Locating Seminar, Charleston, Sept. 20-21; fee $125 per day. Contact D.K. Smith, Education Div., Heath Consultants Inc., 100 Tosca Dr., Box CS-200, Stoughton, MA 02072-9986; telephone 617-344-1400.

WISCONSIN

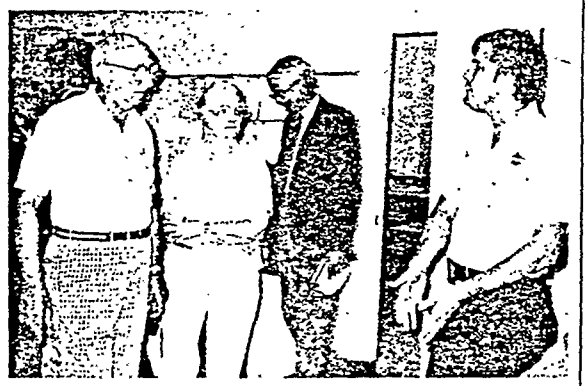
University of Wisconsin—Extension Courses, Madison: Groundwater Computer Models, July 11-15. 7th Annual Cathodic Protection Design Short Course, July 11-15; fee $790. Contact Univ. of Wisconsin—Extension, Dept. of Engrg., 432 N. Lake St., Madison, WI 53706.

Florida Better Water Week Events Focus on Educating Consumers

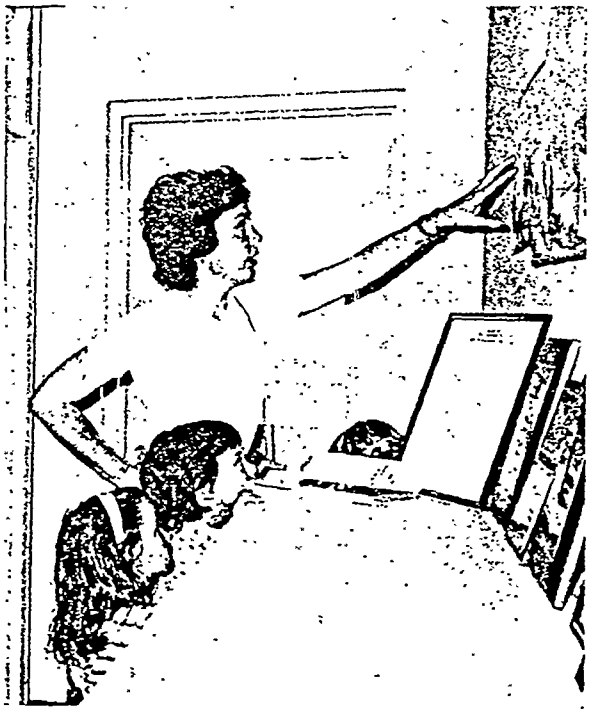
More than 700 students in Seacoast's service area took part in the utility's 1983 Drop Savers program. Participating youngsters received literature, comic books, and the popular *Water Fun* workbook.



Students from area schools peer down from a bridge connecting the plant's aerator and clarifier.



Paul Lackemacher (right), chief operator at the Hood Road Plant, answers the questions of some senior citizens. Below, some smaller Seacoast customers get a look at a display on the hydrological cycle. Seacoast has also created a water treatment display for the local science museum that serves as a model for other museums in the country.



"It makes me feel safer to know how carefully the whole process is carried out," said a customer of Florida's Seacoast Utilities after touring the private utility's main water treatment plant. As a part of its Better Water for People Week activities, Seacoast held an open house at the Hood Road Water Treatment Plant in Palm Beach Gardens and conducted a Drop Savers educational effort in area elementary schools.

During the May 4 open house, school groups, scout troops, senior citizens' organizations, and condominium associations visited the plant and witnessed the processes of water treatment up close. As part of the event, Seacoast also set up displays and presentations on meters, backflow preventors, the hydrological cycle, water treatment chemistry, and conservation tips for consumers.

More that 700 children in grades three through six participated in the utility's Drop Savers program. Volunteers from Seacoast's staff wrote and presented the conservation-oriented program, which made use of diagrams, models, a short film, and discussion.

Seacoast also created a Drop Savers project book to leave with students and teachers for continuing the educational process throughout the year. The Drop Savers program culminated with the BWPW visit to the treatment plant.

BWPW is traditionally held during the first week in May and offers participating utilities the chance to improve their relations with customers while demonstrating all the steps necessary in providing a safe, clean water supply.