



IWA PIPELINE



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FALL 1988

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VOLUME 11, ISSUE 4

More protection for copper plumbing...

Some recent cases of copper pipe corrosion in homes served by IWA water have led us to make a major increase in the amount of corrosion inhibitor added to our water. (This state approved increase brings the level of inhibitor to less than one-half of the maximum concentration approved by the U.S. EPA for drinking water.)

This approach appears to have worked. The rate of copper corrosion, as measured by standard scientific tests, is now averaging about six and a half percent of its level of four years ago.

IWA's General Manager recently wrote to Sanibel City Manager Gary Price about copper corrosion. Following is the pertinent part of Bob Hollander's letter for *Pipeline* readers who may be interested in the details of the "copper pipe issue" as it has developed:

"...We at IWA received little information about the copper pipe issue before it became a public matter. The first I heard of it was from a local plumbing contractor on May 20, 1988. Our talk had nothing to do with my job at IWA — we were discussing the different grades of copper pipe I might use in a personal project. He mentioned having found some leaks in Grade M copper pipe in home plumbing and said he wouldn't use copper pipe lighter than Grade L.

"Shortly before the June 28 regular board meeting a resident brought a section of leaky copper pipe to our office. I showed this to the Board members at their meeting and I also recounted my conversations with the contractor. One of our Board members said he had recently heard of a

similar leak at the home of a City Council member. After the meeting we had several discussions about copper pipe with city officials.

"On July 7 we contacted the firm which supplies IWA with corrosion inhibitor. This company, Technical Products Corporation of Portsmouth, VA, had helped in selecting a zinc orthophosphate compound and an optimum feed rate. The Florida Department of Environmental Regulation had previously approved tests using inhibitors from two different manufacturers at varying dosages. These tests, involving copper coupons installed within system piping, ran from April 1984 until June 1986, and the DER approved a permanent program August 15, 1986.

"The Technical Products representatives suggested we reactivate the copper coupon testing program and that we get state permission to increase the dosage of the corrosion inhibitor.

"(Incidentally, the original testing program had its start at a meeting of the Condominium Association of Sanibel Island which Carol Davenport, then president of IWA, and I attended. During the meeting we received some complaints about water heater corrosion. Notwithstanding the fact that our corrosion index figures were acceptable, we felt we should look at protection levels above state requirements, considering the known aggressiveness of desalinated water.)

"On July 8 a special ad-hoc meeting was held between you and me and Messrs. Klein and Hahn of the City and Hermes, Sharp and Derowitch of IWA. At this meeting we outlined things to be done by the City and by IWA. The City would

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determine the scope and extent of the problem; IWA would search for cause and presumably a cure.

"We increased the dosage of corrosion inhibitor on July 13, 1988, after approval from DER. We sent copper coupon samples for testing in August and found the corrosion rate to be lower than when the program was first approved in 1986.

"As we agreed in our July 8 meeting we sent samples of corroded pipe and IWA water to two laboratories, one belonging to the company that manufactured one of the failed pipes and the other an independent testing firm selected after several telephone interviews with qualified laboratories. Neither lab could find any specific cause, even after state-of-the-art testing with a scanning electron microscope.

"We also sent letters to several water utilities in Southwest Florida that use water from reverse osmosis plants. We asked for reports of any experience like ours but none was forthcoming.

"So we have not found a 'cause'. As a matter of fact we have not totally defined the problem yet. Besides the pipe sample mentioned above, we at IWA have received only one letter directly from a member who had experienced a copper pipe leak. We will be interested to see whether the City's survey of plumbing contractors' experiences shows any patterns, but even with this evidence a cause may not be apparent.

"The chemistry of water corrosion is not simple. The literature about it is full of 'maybe' statements instead of good hard cause-and-effect formulas. In our operations we took the approach that it was most urgent to improve pipe protection immediately. If our main concern had been to choose among many possible explanations we would have left all conditions unaltered so that extended testing might reveal causation. This was not our course of action.

"We have improved the copper coupon test and adopted it as a permanent part of our regular testing program. We will immediately seek to counteract any unacceptable corrosion rate if it ever

becomes apparent. There is not much beyond this fact to report now..."

Welcome news

Ozzie is pleased to announce some items of interest regarding IWA employees:

Deborah Rodriguez is welcomed to our front office as Accounts Receivable Clerk.

Congratulations to Crew Leader Norm Heal of IWA's Distribution Department who retired on October 21 after 9¼ years of good service. Norm plans to do a lot of golfing and fishing in his new life.

Dan McLeod has been promoted to Crew Leader in the Distribution Department. Dan has been with IWA for 2 years.

Ozzie also plans to attend the annual IWA Employee Picnic to be held on November 5 at The Dunes. Employees and their families are invited each year to enjoy themselves for the afternoon with good food and recreation courtesy of IWA.

"SCADA"

For the past year IWA has been carrying on a program to improve our methods of automatically controlling our water system. The buzz word for this in the waterworks biz is "SCADA" (System Control and Data Acquisition).

What "SCADA" consists of in simplest terms is a network of monitoring devices and control devices connected with a central computer. The monitoring and control devices will be installed at various points in our collection and distribution systems: in our 17 wells, in our 5 main production and storage pumping meters and at our two production facilities. Pressure sensing devices will be installed at the ends of our distribution system.

When the program is completed our computer will be able to give us up to the minute data on the state of our entire system or of any part of the system at any time we choose. Using this information we'll be able to use the computer to make any adjustments to improve the efficiency of the system.

An example of this direct efficiency would be reducing pumping during the night. Usually during the night pressure in our distribution system builds up needlessly. The new system would maintain constant pressure and reduce the amount of pumping we have to do.

The other major benefit of "SCADA" is as an alarm system that tells us immediately when the system is not working efficiently. A leak, or a malfunctioning piece of equipment will be spotted much more quickly so that water loss can be kept to a minimum.

Our water recovery average at present is 90.7%. That means we lose only 9.3% of our water through main flushings, fire hydrant use or tests and undetectable leaks. Some of this 9.3% difference results from the fact that home water meters normally run a little "slow". Loss levels below 10% are considered minimal in the industry with 15% being more or less "normal".

With "SCADA" we hope to do even better and prevent any large water losses in the future.

Ozzie's odds and ends

- Ozzie is inviting all his otter friends to take a ride on the "E" Train. IWA is now soliciting quotations for installation of Train E, the fifth reverse osmosis unit at the Sanibel plant. This unit is expected to be on-line in 1989.
- Work is progressing on several new well sites on Sanibel. These wells will provide the brackish water needed to put our Reverse Osmosis Plant into action making potable water. Even though the current water supply is adequate, IWA is always looking toward the future when there will be an increased demand for water. We are also trying to stay one step ahead of Mother Nature — these new wells will provide a back-up in case any problems would develop with our current producing wells.
- There's a new plaque on the wall in IWA's front office from the Florida



Department of Environmental Regulation. The "Honorable Mention" award was presented to IWA for professionalism in the operation of a private water treatment plant. IWA has won "Best Operated Plant" awards for the last four years, but this year only "Honorable Mention" awards were presented.

- IWA's Distribution Department has now entered the computer age with the use of an Electronic Meter Reading System. Instead of recording meter readings with a pen on paper, the meter reader will simply enter readings directly into a hand-held, computerized unit. These units are later plugged into our main computer which "reads" the entries and, after review, automatically computes water bills. Who would've ever thought...
- The IWA Board of Directors has approved an extension of the contract with the City of Sanibel and the South Florida Water Management District to continue to plug old deep wells on the islands. These wells can be dangerous in that they can pollute the sensitive aquifers from which IWA draws its water for Sanibel and Captiva residents.
- Construction is underway on the new, one million gallon storage tank at the northern end of Captiva. When the tank is completed it will provide much needed fire protection for the island and serve as a back up supply during emergencies.

THE ISLAND WATER ASSOCIATION, INC.
COMPARISON OF 1988 BUDGET TO ACTUAL RECEIPTS AND DISBURSEMENTS

		NINE MONTHS OF
RECEIPTS	1988 Budget	Actual Receipts
Water Sales	\$2,437,497	\$2,770,533
Interest	37,503	64,334
Other Receipts	7,497	9,054
Connection Fees	300,000	141,526
TOTAL RECEIPTS	\$2,782,497	\$2,985,447
Carryover (3/4)	580,996	581,070
TOTAL FUNDS	\$3,363,492	\$3,566,517
		NINE MONTHS OF
DISBURSEMENTS	1988 Budget	Actual Disbursements
Wages and Benefits	\$811,937	\$780,814
Professional Fees	58,509	40,018
Electricity	417,543	446,199
Telephone	12,375	9,872
O & M Service & Supply	334,800	353,433
Motor Fuels	10,278	8,912
Insurance	78,894	68,496
Postal Charges	8,253	8,366
Travel, Training, Conferences	15,993	14,869
Debt Repayments (Farmers Home Admin.)	228,351	228,351
Capital Expenditures	1,136,630	574,296
Contingency Fund	75,000	0
TOTAL DISBURSEMENTS	\$3,186,663	\$2,530,616
EXCESS OF FUNDS OVER DISBURSEMENTS FOR SECOND QUARTER		\$1,035,901
FOR CASH POSITION ADD 1/4 CARRYOVER (\$96,845)		\$1,132,746
LESS RESERVE REQUIREMENTS & CONTRACTUAL OBLIGATIONS		\$836,332
NET AVAILABLE FUNDS		\$294,414

These figures represent the unaudited accounts as of September 30, 1988.

William D. Angst

William D. Angst
 President