

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Investigation of quality of service as it pertains to water quality, water pressure and sewer system odor of MARCO ISLAND UTILITIES (Deltona) in Collier County)
) DOCKET NO. 870648-WS
) ORDER NO. 20567
) ISSUED: 1-9-89

The following Commissioners participated in the disposition of this matter:

KATIE NICHOLS, Chairman
 THOMAS M. BEARD
 GERALD L. GUNTER
 JOHN T. HERNDON
 MICHAEL McK. WILSON

ORDER ON INVESTIGATION OF QUALITY OF SERVICE

BY THE COMMISSION:

In Order No. 17600, issued in Docket No. 850151-WS on May 26, 1987, we found that the quality of service of Marco Island Utilities was sufficient in the context of that rate case. However, we also found that there were problems with the quality of service, and we therefore ordered that this docket be opened to investigate the problems of sewer odor and of water quality and pressure. In addition, Marco Island Utilities was ordered to file monthly customer complaint reports with us and with the Office of Public Counsel.

Pursuant to that order, this docket was opened on June 17, 1987. In Order No. 18155, issued September 17, 1987, we acknowledged the intervention of the Office of Public Counsel.

CUSTOMER COMPLAINTS

We find that Marco Island Utilities has been submitting customer complaints as ordered. Attachment No. 1 is our summary of those complaints. As indicated by that summary, the majority of those complaints relate to the water system, specifically to re-reading of meters. That problem is apparently being redressed by the utility hiring a full-time meter reader. Quality of water complaints are small in number. Customer complaints as to sewer odor are also small in number, averaging less than one per month.

Low water pressure complaints were more numerous but fluctuated, peaking in April of 1988. We attribute this peak of water pressure complaints to the burden of unrestricted, timer-regulated lawn irrigation by seasonal customers. Once Collier County restricted lawn irrigation due to drought conditions, the number of complaints of low water pressure decreased, from 94 in April, to 14 the succeeding month, 6 the month after, and only 2 in July of 1988. However, in October of 1988, after two months of low rainfall and high water use, the number of complaints increased to 28.

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 FPSC-RECORDS/REPORTING

ORDER NO. 20567
DOCKET NO. 870648-WS
PAGE 2

The customer complaint report requirement has served a worthwhile purpose by indicating to us the frequency and timing of various types of customer complaints. For reasons that are stated in the balance of this order, we will continue the monthly customer report requirement until May, 1989.

WATER QUALITY

The customer complaint reports do not indicate general customer dissatisfaction with the quality of Marco Island Utilities' finished water. There are no outstanding water quality citations against Marco Island Utilities by the Department of Environmental Regulation (DER). Our information is that the level of trihalomethanes in the finished water is within applicable limits.

The Marco Island Utilities water plant has an 8 Million-Gallon-Per-Day (MGD) capacity, of which 5 MGD is in the form of a General Filter plant, and 3 MGD is in the form of older Permutit units. The Permutit units in themselves do not produce water which meets prevailing Safe Drinking Water Act standards. However, that water is blended with the higher quality water from the General Filter plant to produce an acceptable quality of water for delivery to the customers.

Even at that, it appears that many seasonal customers use bottled water for drinking. It is perhaps surprising that there are not more customer complaints as to water quality. Customer criticism usually is as to the water pressure and to the quality of the water at the price charged. Nevertheless, water quality does meet the applicable standards.

SOURCE OF SUPPLY

Although the quality of the finished water is acceptable, the present water system, from source of supply through delivery of finished water to the customer, is not of sufficient capacity and configuration to insure safe, efficient, and sufficient water service for the the long term.

Marco Island Utilities' present source of raw water is a borrow pit of about 56 acres, supplemented by an adjoining 4,000 foot long by 15 foot wide infiltration gallery on leased land at the intersection of Highway 951 and Highway 40. The lease is due to terminate on December 31, 1994. Since the last rate case, the utility has constructed a chain link fence around its raw water site in order to deter public access.

Based on the 1987 annual report, Marco Island Utilities' cost for source of supply and pumping plant is \$5,193,090. Subtracting the \$829,139 cost reported for land and the \$2,385,121 cost reported for supply mains, the utility has \$1,928,830 cost in source of supply, including the pumping equipment at the booster station. After the 1987 annual report period, the utility added additional pumps at the raw water site and another booster station in the vicinity of the intersection of Highway 951 and Highway 952, just north of the Coast Guard Station. It has been represented to us that the cost of these additions will be in excess of \$600,000.

ORDER NO. 20567
DOCKET NO. 870648-WS
PAGE 3

From the leased raw water site, Marco Island Utilities has 12-inch and 14-inch supply mains which run south, parallel to and on the west side of Highway 951. Near the Coast Guard Station, the supply mains pass through a concrete pit which facilitates the disconnecting of those lines for the annual cleaning of their interior surfaces. The two supply mains then cross under Highway 951 and join a 30-inch underwater crossing of Big Marco Pass to Marco Island itself. Erosion has left the two supply mains exposed to the elements at Big Marco Pass. The utility is aware of this problem and should remedy it.

Highway 951, which the raw water supply mains closely parallel for some distance, is expected to be widened from two to four lanes within the next few years. The full plans for and the exact dimensions of that widening have not yet been established, but it is certain to displace the two supply mains. The utility has tentative plans to construct a single 24-inch supply main in place of the two present lines, which would represent 1.7 times the combined capacity of the two existing supply mains.

Notably, Collier County has a similar situation in that it has a 6-inch finished water main serving the Isles of Capri. It also runs parallel to Highway 951 and is likewise expected to be displaced by its widening. Unless Marco Island Utilities and Collier County pool their efforts, they may each build a large water main carrying different products and competing for the best placement along the route of widened Highway 951. Marco Island Utilities and Collier County have initiated a study of the feasibility of the utility purchasing treated water from the County. If that should come to pass, the impending competition and duplication of two separate lines would be avoided.

WATER TREATMENT PLANT

Marco Island Utilities' 1987 annual report shows \$3,659,612 as the cost of its water treatment plant. No land cost was accounted under that entry. The land cost was instead incorrectly reported under source of supply.

The water treatment plant shares its site on Windward Drive on Marco Island with the sewer treatment plant. The entire site comprises about 7.6 acres. The water treatment plant consists of two lime softening plants of different manufacture. The oldest plant was built by Permutit with a design capacity of 4 MGD when it was installed in the early 1970s. However, one bank of sand filters was eliminated after the original installation, which downgraded the capacity of that part of the utility's plant to 3 MGD.

The newest part of the water treatment plant was built by General Filters with a design capacity of 5 MGD. As already explained, the output of the Permutit units does not meet applicable standards and requires blending with the higher quality water produced by the General Filters unit. Marco Island Utilities recently changed its disinfectant compound to chloramine in order to lower the trihalomethane level in the finished water. The finished water meets primary and secondary standards.

ORDER NO. 20567
DOCKET NO. 870648-WS
PAGE 4

Our analysis of the monthly water treatment plant reports for the period November, 1987 to October, 1988 shows April, 1988 as the month of peak demand, which is the last month of the tourist season. That was also the month when the majority of the low water pressure customer complaints were received. The utility has not provided us with firm plans for expanding the water treatment plant to accommodate additional customers. Nor has the utility provided us with any firm plans to upgrade its water plant with more effective treatment equipment.

TRANSMISSION AND DISTRIBUTION PLANT

According to the 1987 annual report, Marco Island Utilities has \$6,158,941 in transmission and distribution plant, not including land costs. That total represents \$1,162,827 for reservoirs, \$3,097,658 for transmission and distribution mains, and \$162,412 for hydrants.

Water mains are already in place to serve almost all of the developed portion of Marco Island. Our analysis of the low water pressure complaints shows them to be concentrated in the southern area of the island. That low water pressure problem is inherent in the present configuration of the Marco Island Utilities distribution system.

Because of the island's extensive waterways, the southern part of the system was not laid out in a grid pattern. Many of the utility's customers in the southern portion of the island are therefore on dead ends, which are disfavored in water distribution system engineering since they are prone to low water pressure.

Worse, the high rise motels and condominiums concentrated on the western side of Marco Island have their own high pressure booster pumps. Those pumps ensure sufficient water pressure for the residents of those buildings, but those booster pumps also divert water from the transmission mains. That works to the disadvantage of customers without booster pumps since they must rely on the diminished residual water pressure in the mains. As a result, water pressure is drawn toward the western side of the island, to the detriment of customers in the southern area.

The best, but perhaps costly solution, would be to connect the main on Caxambas Court to the main on Collier Court by means of an underwater crossing of the intervening waterway. The southern portion of the distribution system would thus be looped and the present dead ends reduced if not eliminated.

As it is, Marco Island Utilities is building an additional 2 million gallon storage tank at the same site on the south end of the island where the existing 3 million gallon storage tank is located. To further alleviate the low water pressure which prevails south of Winterberry Road between Roberts Bay and Barfield Bay, the utility also has plans for a booster pump in the vicinity of Winterberry Road and Barfield Road.

That booster pump should provide some additional water pressure to the benefit of customers in the problem area. The new storage tank should also help but may be less than fully

ORDER NO. 20567
DOCKET NO. 870648-WS
PAGE 5

effective since neither it nor the existing storage tank will be served by a separate main connecting them to the water treatment plant. Instead, the storage tanks will be served by a main line which also serves the customers along its route. Moreover, the utility does not have measuring devices to properly record the inflow and outflow from the southern storage facility.

Given the complexity of the water pressure problem and the expense of any large-scale solution, a complete, computer-assisted evaluation of Marco Island Utilities' transmission and distribution system is probably needed. The best course would likely be to engage an independent consulting firm for that purpose. Although an in-house evaluation might be less costly, it may not be as reliable. In any event, the worth of such an evaluation depends on the accuracy of the data provided for computer analysis. The proof of any computer simulation of the utility's water system is that it correspond to customer experience.

SUMMARY OF WATER SYSTEM

We find that the water produced by Marco Island Utilities presently meets applicable standards. The system has numerous problems which the utility appears to be striving to correct with recent and planned remedial measures. The utility has installed a new booster station, and has also installed additional pumps at its raw water source. That should enable the utility to increase raw water delivery to the treatment plant. A joint feasibility study with Collier County is underway and may lead to resolution of the problems which the impending widening of Highway 951 will cause. The new 2 million gallon storage reservoir and booster pump on the south end of Marco Island should help alleviate the primarily seasonal water pressure problem in that area.

However, as already indicated, those measures may not be enough to meet even the problems which they are intended to address. The low water pressure problem, for example, is complex and may ultimately require additional lines, booster pumps, perhaps even the underwater crossing we have described. Moreover, other difficulties are looming which the utility has not yet provided for.

The existing 8 MGD water treatment plant is taxed to its capacity, and a substantial portion of its output requires blending in order to deliver finished water which is up to standard. With the continuing development of Marco Island, the utility will have to expand its water treatment plant and expand and relocate its raw water lines unless it purchases finished water from Collier County. Since that is only at the stage of a feasibility study, it is not a credible answer to the looming need for expansion of the water treatment plant and relocation and expansion of the raw water transmission mains along Highway 951. These uncertainties are compounded by the insecurity of the utility's raw water source, which rests on leased land, with the lease due to expire in 1994. In short, the utility's pending remedial measures and plans are insufficient for the long term.

Unfortunately, specific corrective measures cannot be mandated on the information which we now have. Not all the

ORDER NO. 20567
 DOCKET NO. 870648-WS
 PAGE 6

utility's problems may have yet been identified or fully defined, and the information which we do have may not include the best solutions available. Since the present quality of service is generally satisfactory and remedial measures are pending for the immediate problems, we do not believe it appropriate at this time to mandate specific corrective action by the utility.

Nevertheless, were this utility to remain under present ownership, we would be inclined to require that Marco Island Utilities hire an independent engineering firm to study this utility system, identify its problems, and suggest possible remedies. Given that we have a transfer application before us in Docket No. 881501-WS, we will not take that action now. We are informed that the sale of this utility is expected to close no later than November of 1989 and that the new owner intends to take the initiative by fully evaluating the system and taking whatever remedial action is necessary.

SEWER SYSTEM

The Marco Island Utilities sewer system serves only a portion of Marco Island. Most single family residential areas do not have sewer service. As it is, in addition to its own direct customers, Marco Island Utilities also serves the North Marco Utility Company, Hideaway Beach, and the Marco Sanitary District as wholesale customers. The Marco Sanitary District and North Marco Utility Company are considered part of the Collier County utilities system and their individual customers are billed on the basis of the wholesale service billing by Marco Island Utilities.

Collier County reportedly wishes to further expand its sewage collection system on Marco Island, which is a worthy objective in light of Marco Island's present heavy reliance on septic tanks. Moreover, the development of Marco Island continues to progress rapidly. Considering the sewage flow data, the sewage plant is operating at virtually its designed capacity of 2.5 MGD. Apparently, Marco Island Utilities has no intention to expand its sewage treatment plant in the near future.

We are informed that the DER and Marco Island Utilities are near agreement on a Consent Order which requires the utility to make certain improvements to the sewer system. Reportedly, this Consent Order will require the utility to make expenditures of over \$998,000. The following list of items and costs has been provided to us:

<u>ITEM</u>	<u>COST</u>
Over-staffing of Operators	\$ 50,000
Air Scrubber	765,000
By-passing Holding Pond for effluent line	15,000
Continuous Turbidity Monitoring of Effluent	3,000

ORDER NO. 20567
DOCKET NO. 870648-WS
PAGE 7

Effluent Booster Pump at Marco Shores to Percolation ponds located in Unit 30A	40,000
New Effluent Line suspended from Marco Pass Bridge	<u>125,000</u>
TOTAL	\$998,000

Some comments about these items are in order.

Although stated as operator over-staffing, actually Marco Island Utilities has never had the level of operator staffing which DER directives require for a wastewater treatment plant of its design capacity. The air scrubbers will not increase plant capacity but will help minimize odor at the plant. The by-passing of the holding pond will allow the filtered effluent to be pumped off-site without contamination from the holding pond. That will be worthwhile if the utility provides an effluent within the limits for total suspended solids (TSS). Continuous turbidity monitoring is also of merit as it will alert plant operators when effluent from the filters exceeds TSS limits. When that happens, the flow of treated effluent should be diverted from the golf courses to the percolation ponds located on the mainland.

The booster pump is needed since it appears that the present pumping facilities are insufficient to get the treated effluent to the percolation ponds. The new effluent line is to replace the present 8-inch line which crosses Big Marco Pass. That existing line is too small to properly accommodate the treated effluent generated by the Marco Island Utilities sewer plant.

We find that although those improvements will help alleviate some of the problems of the sewer utility, they will not solve the long-term problem of lack of capacity. The existing Marco Island Utilities sewer treatment plant is simply too small to accommodate Marco Island's expanding demand for sewer service or to allow extension of the collection system. As with the water system, Marco Island Utilities' plans and remedial measures for its sewer system are insufficient for the long term. However, for the same reasons as we stated in our discussion of the water system, we will not mandate any specific remedial action at this time. We will continue the customer report requirement for a time in order to evaluate the effect of the pending remedial measures on quality of service.

In consideration of the above, it is

ORDERED by the Florida Public Service Commission that the customer complaint report requirement which we imposed in Order No. 17600 is extended up to and including May, 1989. It is further

ORDERED that this docket shall remain open.

By ORDER of the Florida Public Service Commission,
this 9th day of JANUARY, 1989.


STEVE TRIBBLE, Director
Division of Records and Reporting

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ORDER NO. 20567
DOCKET NO. 870648-WS
PAGE 8

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.59(4), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of Records and Reporting within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water or sewer utility by filing a notice of appeal with the Director, Division of Records and Reporting and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900(a), Florida Rules of Appellate Procedure.

ATTACHMENT 1

DOCKET NO. 870648-WS, MARCO ISLAND UTILITIES, (DELTONA)

SUMMARY OF COMPLAINTS RECEIVED FROM NOVEMBER 1987 THROUGH OCTOBER 1988

	<u>1987</u>		<u>1988</u>										<u>TOTAL</u>	<u>PERCENT</u>	<u>OVERALL</u>	
	<u>NOV</u>	<u>DEC</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>				
<u>WATER COMPLAINT</u>																
QUALITY OF WATER	-0-	1	1	-0-	3	-0-	1	-0-	2	2	-0-	-0-	10	1.2%	1.2%	
LOW PRESSURE	2	6	1	7	12	94	12	6	2	1	1	29	175	21.2%	20.7%	
SERVICE LINE LEAK	15	15	20	21	15	18	1	4	7	25	24	8	173	20.9%	20.4%	
RE-READ METER	23(4)**	17(4)	47(10)	25(7)	39(8)	15(0)	15(3)	30(8)	41(8)	39(2)	44(8)	32(10)	367(72)	44.3%(20)	43.3%	
MISCELLANEOUS: Pavement Repairs Pipe Banging No Water Apartment Flooding Meter Lid Missing Closed Valve Meter Test	8	11	5	20*	9	12	4	6	8	10	7	3	103	12.4%	12.2%	
<u>TOTAL</u>	<u>48</u>	<u>50</u>	<u>74</u>	<u>73</u>	<u>78</u>	<u>139</u>	<u>35</u>	<u>46</u>	<u>60</u>	<u>77</u>	<u>76</u>	<u>72</u>	<u>828</u>	<u>100.0%</u>	<u>97.8%</u>	
<u>SEWER COMPLAINT</u>																
ODOR	1	-0-	2	1	-0-	2	1	-0-	-0-	-0-	1	-0-	8	42.1%	2.2%	
BACK UP	-0-	-0-	1	3	1	1	3	-0-	-0-	-0-	-0-	-0-	9	47.4%		
LIFT STATION	-0-	-0-	-0-	1	-0-	-0-	1	-0-	-0-	-0-	-0-	-0-	2	10.5%		
<u>TOTAL</u>	<u>1</u>	<u>-0-</u>	<u>2</u>	<u>5</u>	<u>1</u>	<u>3</u>	<u>5</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>1</u>	<u>-0-</u>	<u>19</u>	<u>100.0%</u>		
<u>GRAND TOTAL</u>	<u>49</u>	<u>50</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>142</u>	<u>40</u>	<u>46</u>	<u>60</u>	<u>77</u>	<u>77</u>	<u>72</u>	<u>847</u>		<u>100.0%</u>	

*FIFTEEN OF THESE COMPLAINTS RELATED TO REPLACING METER LIDS.
 ** () INCORRECT METER READINGS.