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April 22, 1999

VIA HAND DELIVERY

Blanca S. Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Intercoastal Utilities, Inc.; Docket No. 981637-WS
Protest of United Florida Water, Inc.'s Application for Extension of Certificate
Our File No. 26003.07

Dear Ms. Bayo:

Attached are the original and 15 copies of the Pre-filed Direct Testimony and exhibits of Sumner Waitz, P.E. and M.L. Forrester submitted on behalf of Intercoastal Utilities, Inc. in the above-referenced docket.

Should you have any questions in this regard, please let me know.

Sincerely,

ROSE, SUNDSTROM & BENTLEY

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For The Firm

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ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 981637-WS

DIRECT TESTIMONY OF SUMNER WAITZ, P.E.

ON BEHALF OF INTERCOASTAL UTILITIES, INC.

Q: Mr. Waitz, please state your full name and employment address.

A: Sumner Waitz, 6900 Southpoint Drive, North, Suite 430, Jacksonville, Florida 32216. I'm employed by Waitz & Moye, Inc. That's M-O-Y-E.

Q: Are you a licensed professional engineer?

A: I'm a licensed professional engineer in six different states, including the State of Florida.

Q: How long have you been a licensed professional engineer?

A: For 35 years.

Q: I know you've got your resume as an attachment, but if you would briefly, for the record, give us an outline of your experience and training in engineering specifically related to water and wastewater distribution, collection and treatment systems?

A: I have a bachelors degree in microbiology from the University of Massachusetts. I have a master's degree in sanitary chemistry from Columbia University, and I have a bachelors in civil engineering from the University of Florida. I have, as previously stated, 38 years of experience as a consulting engineer.

While at the University of Florida, I was a research assistant and my research work has been published in the journal of the Florida Academy of Science and it's referenced in the Standard Methods for the Examination of Water and Sewage, which is the pharmacopeia of water and sewer analysis. I have designed many, many wastewater treatment plants, collection systems, et cetera, a few of which are reflected in my resume.

At the present time, we are one of the selected consultants for the Jacksonville Electric Authority and we are presently doing many, many miles of sewage collection lines and water

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mains for them.

Q: Have you been qualified as an expert in the area of utility regulatory engineering?

A: Yes. In the past I have appeared before the Florida Public Service Commission on behalf of Artesian Utilities, South Broward Utilities, Sun Ray Utilities and Intercoastal Utilities. These are a few that I can recall at this time.

Q: In those proceedings you have been qualified as an expert in the area of regulatory engineering or rate regulation engineering?

A: I don't know specifically what I was qualified for. I was qualified as an engineer dealing with utility regulation and design.

Q: How long have you been a consulting engineer to Intercoastal Utilities, Inc.?

A: I have represented Intercoastal Utilities, Inc. for many, many years as its Consulting Engineer.

Q: Have you participated in the design and permitting of the plant modifications currently underway with Intercoastal's wastewater treatment plants?

A: Yes. I have been involved throughout the process of design and permitting and construction and I should note that I believe that these plants as designed and constructed by Intercoastal will provide for extremely efficient treatment of wastewater compared to many older design methodologies and that this fact is indicative of Intercoastal and its management's great experience in the area of operating water and wastewater treatment facilities in this area and its ability to do so in an extremely efficient manner.

Q: What is the purpose of your testimony here today?

A: To respond to the direct testimony of the witnesses of United Water Florida, Inc., and to specifically point out that Intercoastal Utilities is in a better position to provide water and wastewater service to the areas proposed in its certificate application currently pending before the St. Johns County Utility Authority, and the area over which United has proposed

to serve which overlaps Intercoastal's proposed territory (a development known as "FFCDC").

Q: Are you an expert in the area of engineering related to wastewater utilities?

A: Yes, I am. I am also an expert in the area of regulatory engineering for those water and wastewater utilities.

Q: Is it in the public interest for Intercoastal to provide service to the area?

A: Yes. The interests of the public and St. Johns County would be best served by Intercoastal's plans to provide a regional water and wastewater system which is initially designed to recycle the water resources of the 15,000 acre Nocatee development and its adjacent lands; which includes the area east of U.S. 1 sought for certification by United Water.

Q: If I show you a document labeled Exhibit TDM-2, can you identify it?

A: Yes. The front sheet of this exhibit identifies it as the Master Plan for Water and Wastewater Systems in the St. Johns North Service Area; prepared for United Water Jacksonville, Florida by CH2M Hill, Inc. and dated June of 1997.

Q: Have you read this document, and particularly the sections which deal with the wastewater reuse plans of United?

A: Yes, I have read this document, and the only section which deals with wastewater reuse is located on page 5-6, and is titled "Water Reclamation."

Q: Would you outline the provisions for reuse contained in that section?

A: Yes. That section states that no significant demand for reclaimed water reuse exists in the St. Johns North service area. It indicates an expectation that such a demand may increase as development proceeds, and lists the potential uses for reclaimed water as irrigation of golf courses, public parks; and finally, residential developments. It also suggests that "UWFL" (United) should look for opportunities to reuse reclaimed water and pursue implementation if feasible.

Q: Would you compare those provisions of the United Master Plan with the plans of Intercoastal for recycling of the water resources in its proposed territory?

A: Yes. Those very limited provisions appear to trust in providence to someday produce a demand for reclaimed wastewater reuse, and indicates that United's plan lacks the vision necessary to design for and exploit the potential benefits of water reclamation.

In sharp contrast, Intercoastal has prudently and aggressively planned to create such a demand at the outset of development. And, in a highly innovative approach, has escalated the reuse concept to include the return of stormwater generated within the region to all system users; producing a number of environmental and economic benefits for all concerned.

Q: Would you discuss some of those benefits?

A: Yes. The first and possibly most important is protection of the potable water aquifer supplies.

Conventional approaches to that protection generally propose dispersing water treatment facility locations, and properly spacing well installations to spread, and therefore mitigate, the effect of aquifer level draw-downs as withdrawal demands increase. While those have been and continue to be good engineering design techniques, they don't get to the root of the problem which should be to diminish those withdrawals; not simply mitigate their effects. Intercoastal's plan to recycle both the reclaimed wastewater and stormwater generated within the region, directly addresses that situation.

Those non-aquifer-impacting water resources can supply most, if not all, of the non-potable water demands of future customers. Utilizing those lower quality water resources to satisfy such consumer demands would significantly diminish potable aquifer withdrawals.

Q: How would Intercoastal's customers receive those lower quality waters?

A: Intercoastal intends to design its water distribution facilities as separate potable and non-potable delivery systems; and require the exclusive use of the non-potable delivery system

for irrigation purposes within the service area.

Q: Is that really a new solution?

A: Yes. Using a separate water delivery system isn't new in itself; a number of utilities use them to deliver reclaimed wastewater for irrigation. However, capturing, impounding and combining stormwater with reclaimed wastewater to create a larger and more dependable irrigation water supply, appears to be a new approach.

Q: What do you mean by a more "dependable" irrigation water supply?

A: There's an old saying in the water industry that the good news is that we can reuse our wastewater, but the bad news is, there isn't enough of it. That's particularly true in the early stages of area development when wastewater is in relatively short supply. Combining stormwater with reclaimed wastewater increases that supply and therefore its reliability. This also means customers can water lawns more frequently without impacting the potable water supply.

Q: Isn't this likely to increase overall service costs to the customer for collection, and impounding of the stormwater; as well as the cost of the separate non-potable distribution system?

A: Not significantly, if at all. First, all developing areas incur costs for stormwater collection and, in one form or another, the land or homeowner also contributes capital and operating costs for stormwater pumping and disposal. In addition, every landowner gives up a portion of property, or pays a cost, for stormwater retention. In effect, on-site retention would not be necessary in this service area because we want to collect all of the stormwater generated from normal rainfalls. Construction of central stormwater impoundment is also likely to be more cost efficient than providing multiple "retention ponds" in each individual development; and on each commercial property. We are planning to use stormwater as a valuable resource, versus that of a dead cost. As such, there is no point in holding back the

first few inches of rainfall on each property. Also, the capital cost of providing separate non-potable water transmission systems will be at least partially offset by reductions in water treatment operation costs; because a significant portion of the customer's total water use doesn't have to be treated to drinking water standards.

If there is a residual, overall increase in the customers' cost for water, wastewater and stormwater services that would be the price for preservation of our natural water resources.

Q: What are some of the other benefits you mentioned?

A: There is now an adverse impact on our environment from the normal discharge of stormwater, which is typically rich in nutrients from fertilizers washed off service area properties during storms. Returning those nutrients to the same lands in the form of irrigation water, will not only reduce the customer's need for lawn growth supplements, it will also significantly reduce seasonal nutrient loadings on area streams which receive those discharges.

Q: But in periods of extended or heavy rainfall, won't there be an over-supply of non-potable water; and, a need to discharge the excess portion?

A: Of course there will; but due to the excessive rainfall, the discharged solutions will be proportionally more diluted, and the greater flushing action from the larger discharge volumes will help to disperse the residual loadings.

Q: Are there any other benefit's Intercoastal's plan addresses?

A: Yes, the future costs of drinking water treatment. Most of us recognize that drinking water standards are likely to become even more stringent in the future. By separately delivering non-potable demands we therefore reduce the amount of water that must be treated to drinking water standards. Consequently, we are also building in a degree of capital investment economy for the more sophisticated treatment processes that may be required in the future. If we re forced to invest in higher quality processes, we are economically better

off if those processes can be smaller and treat less water.

In addition, we plan to make fire protection a part of the non-potable water delivery system. In terms of volume, fire protection use is a relatively small part of overall water consumption; but any use we can satisfy with lower quality water increases our protection of the potable aquifer supply. However, another advantage of supplying fire protection with the non-potable delivery system, is the removal of those high rate of delivery demands from the potable water system. Therefore, the potable water delivery mains would be incrementally smaller, providing better cleansing velocities. This reduces residence time of potable water in the main lines, and decreases the opportunity for bacterial regrowth, and delivers fresher drinking water to the customer.

Q: All of that sounds like a good approach to overall planning, but what would happen in an extended drought, when stormwater is in short supply and irrigation demands are high. Won't the non-potable water system, but more importantly the fire protection system, be starved for water?

A: The impact of, and solutions to, such conditions will be in proportion to the extent of the drought.

Under the most extreme conditions, the separate non-potable delivery system will give us the capacity to restrict, or if necessary discontinue, irrigation service to properties without affecting potable water service. This would preserve the available reclaimed wastewater supply for essential fire protection use. Under more moderate drought conditions, wells drawing from lower water quality aquifer levels could supplement the reclaimed wastewater supply without affecting potable aquifer withdrawals. Our initial inquiries of St. Johns Water Management District personnel indicate that to be a viable option.

Another possible response would be to both restrict (or discontinue) irrigation service, and supplement reclaimed wastewater with freshwater from the drinking water wells. But that

would subvert our intent to preserve and protect the potable water aquifer, and would be a last resort.

Given the general availability of the Intercoastal Waterway, to the area this utility purposes for certification, we considered supplementing the reclaimed wastewater from that source. However, that water is high in chlorides and even with the dilution that reclaimed wastewater would provide, the chloride concentration would likely be too high for lawn irrigation use.

Q: How would you sum-up your opinion of this discussion of planning comparisons?

A: United's plans indicate that they are very interested in serving new customers, but shows little regard for aquifer protection and conservation; or for improving basic services.

Conversely, Intercoastal's plans show a high regard for our natural resources, the environment, improving service to the public, and controlling future costs. Intercoastal's plans also reflect a high degree of very innovative synchronization of all those initiatives.

Q: Are you familiar with United Water Florida's service territory in this part of St. Johns County?

A: Yes I am. I was the original design engineer for the existing sewage treatment plant for the then Sunray Utilities.

Q: Do you have any thought generally about United Water Florida's proposal to build a new sewage treatment plant and provide service to an additional territory beyond that which is currently served by it.

A: United Water Florida, as I understand, is currently in the process of constructing additional wastewater treatment plant capacity and water treatment plant capacity within its existing service territory. Given the small number of connections currently existing within its existing large, underdeveloped territory, current operating wastewater treatment plant and water facilities appear to be more than adequate to provide service not only to those existing connections, but also to any potential growth based upon historic growth information for

several years to come. Also, given those historic growth statistics within their huge existing service territory, it will be many, many years before the facilities currently under construction could ever be fully utilized. In fact, historic growth statistics would indicate that the additional capacity now being constructed will quite possibly have reached the end of its useful life before it is anywhere close to fully utilized. Therefore, it does not appear prudent to me for this new plant to be constructed in this manner. Certainly, United Water Florida did not construct these additional treatment facilities for the purpose of serving areas outside its existing approved service territory (i.e. the proposed extension area). That certainly would be imprudent before obtaining that approval, and even if they had planned and constructed this additional capacity for proposed service territories before approval was received, it is unclear what the growth patterns will be in those areas. Given the historic growth experience within the existing service territory which is adjacent to that proposed for service, the rate of growth does not seem very substantial, and certainly not substantial enough to fully utilize the new expansions which have been undertaken, or are being undertaken by United.

Q: How does Intercoastal's proposed expansion and service to the FFCDC project and the new Nocatee project compare to United's proposal for service to its proposed territory, including the overlap on the FFCDC project.

A: Intercoastal is proposing, at least initially, to either obtain bulk service from JEA or to construct an interconnection with its existing wastewater treatment and water treatment facilities across the Intercoastal Waterway over into the territory proposed by it for service. In this way, we can fully utilize existing facilities recently constructed by Intercoastal until such time as demands within the new service territory would warrant construction of new wastewater treatment and water treatment facilities within the new area. This is much more efficient than the methodology being undertaken by United in that it will allow us to utilize

through bulk service or through use of existing facilities to their full capacity and not depend on some speculative growth patterns that would be wholly unsupported based upon historical evidence, to fully utilize the facilities. In addition, since Intercoastal's proposal is to serve the FFCDC project and the new Nocatee project, there is definitely a much more coherent and immediate plan for development in the territory proposed by Intercoastal overall then there is in the area currently within the certificate of United, much less in the newer areas, proposed for service by them, as far as I am aware.

Q: One of United's witnesses raised a question concerning the cost and permitability of crossing of the Intercoastal Waterway by Intercoastal Utilities. How would you respond to this criticism?

A: A crossing of the Intercoastal Waterway is certainly permittable in my experience based either upon suspending the water and wastewater lines from a bridge or a subaqueous crossing of the Intercoastal Waterway. Intercoastal would merely extend those lines immediately adjacent to the Intercoastal Waterway in the southwest corner of its current territory into the new territory, including the FFCDC project and the Nocatee project. I estimate that this extension would cost somewhere in the neighborhood of $1.4 million, though it depends on how it was done and ultimately permitted. In contrast, United is proposing to construct a one million gallon a day AWT sewage treatment plant. Just as an example, in my experience the construction of that type of facility would cost anywhere from $3 to $5 per gallon to construct and as I noted before, there is no apparent growth pattern to support full utilization of that for many, many years to come. In fact, based on the growth that the Sunray System, now owned by United, has experienced over the last 10 years, I would venture to say that the new plant would not be even close to being fully utilized when it reached the end of its useful life.

In addition to the foregoing, in the testimony offered by United, it was stated that there

would be an estimated cost of $900,000 for extending service mains thereby incurring a total cost in the neighborhood of $5 million of which close to $4 million would be "non-used and useful." On the other hand, Intercoastal proposes to initially extend utility lines to the project at an estimated cost of $1.4 million of which 100% of the plant and lines will be "used and useful." This apparent disparity will result in further exacerbating United's AFPI charges to the detriment of the consumer. Intercoastal will construct additional plant facilities only as the demand for plant capacity develops thereby maximizing the "used and useful" portions of plant facilities.

Q: Do you have any further testimony to provide at this time?

A: No, I do not. However, I will want to provide some demonstrative exhibits for the Commission to review at the time of the hearing in order to show them the location of facilities in the areas proposed for service by Intercoastal and by United, as well as the location of existing facilities and the proposed location of future facilities.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and accurate copy of the foregoing has been furnished by telecopy, regular U.S. Mail and *hand delivery to the following on this 22nd day of April, 1999.

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Sumner Waitz, P.E. has been responsible for numerous civil engineering projects involving water distribution, sewage collection, water and wastewater treatment facilities, paving, drainage, earthwork and roadway designs, including project administration. His 35 years of experience in varied aspects of civil engineering, planning and design is invaluable in providing the necessary leadership required to coordinate and administer the diverse projects and clients served by WMI.

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Columbia University, M.S. - Sanitary Science
University of Florida, B.S.C.E.

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Years of Service with **Waitz & Frye/Waitz & Moye** - 34 years
Years of Discipline Experience - 38 years

Registration And Professional Memberships

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Professional Engineer Georgia - Number 5157
Professional Engineer Ohio - Number 31283
Professional Engineer Maryland - Number 4659
Professional Engineer Kentucky - Number 6195
Professional Engineer Pennsylvania - Number 11839-E

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Water Pollution Control Federation
Florida Engineering Society
National Society of Professional Engineers
Florida Builders Association
National Association of Home Builders
American Society of Civil Engineer
National Association of Water Companies

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