

ORIGINAL

DOCKET NO. 990696-WS - APPLICATION FOR ORIGINAL CERTIFICATES TO OPERATE WATER AND WASTEWATER UTILITY IN DUVAL AND ST. JOHNS COUNTIES BY NOCATEE UTILITY CORPORATION.

DOCKET NO. 992040-WS - APPLICATION FOR CERTIFICATES TO OPERATE A WATER AND WASTEWATER UTILITY IN DUVAL AND ST. JOHNS COUNTIES BY INTERCOASTAL UTILITIES, INC.

WITNESS: DIRECT TESTIMONY OF DR. T. JAMES TOFFLEMIRE, P.E., APPEARING ON BEHALF OF STAFF

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1 DIRECT TESTIMONY OF DR. T. JAMES TOFFLEMIRE, P.E.

2 Q. Please state your name and business address.

3 A. My name is Dr. T. James Tofflemire, P.E. I am a P.E. II coordinator for  
4 the drinking water program in the Duval County Health Department (DCHD) at 900  
5 University Boulevard North, Jacksonville, Florida 32211.

6 Q. Please state a brief description of your educational background and  
7 experience.

8 A. I have a B.S. and M.S. in Civil Engineering (Sanitary Option) from South  
9 Dakota State University and a Dr. of Engineering (Environmental Engineering)  
10 from Renesslaer Polytechnic Institute, in Troy, New York. I have 32 years of  
11 experience as a P.E. in environmental engineering. The last six and a half  
12 years was with DCHD in the drinking water program. I have been P.E. II  
13 Coordinator there since February, 1998.

14 Q. What are your general responsibilities at DCHD?

15 A. I coordinate six to seven staff in the drinking water plan review and  
16 clearance program. I initiated a computer program to track water treatment  
17 plant capacities and see that it is updated.

18 Q. What is the purpose of your testimony in this docket?

19 A. My testimony concerns JEA's capability in providing water to the  
20 proposed Nocatee territory. The DCHD is officially delegated by the Florida  
21 Department of Environmental Protection (DEP) to handle the drinking water  
22 program for Duval County through an interagency agreement. My supervisor, Mr.  
23 Thomas R. Hamilton, also asked me to prepare this testimony in place of him.

24 Q. Would you discuss the ability of JEA to provide water to the area at  
25 issue?

1 A. The JEA South Grid system could potentially provide this water. The  
2 current limiting Grid capacity is 123.2 mgd, with the recorded maximum day  
3 flow of 67.3 mgd and the average day flow of 43.54 mgd. From permitting  
4 records, the term limiting capacity is defined as the minimum of several  
5 different capacities (well pump capacity, high service pump capacity, H2S  
6 removal-storage capacity, and auxiliary power capacity at half maximum day).  
7 The noted South Grid high service pumping capacity is 196.8 mgd. New water  
8 pipe lines along U.S. 1 have been permitted to aid in providing flows to this  
9 area (the Nocatee development). It appears that the South Grid has the plant  
10 capacity to provide the projected needed demand increase (6.3 mgd) during an  
11 average year. During periods of drought when there is heavy irrigation use,  
12 as occurred in the summer of 1998, the South Grid system had difficulty  
13 supplying water at adequate pressure to all areas. The grid flow peaked at  
14 103 mgd, at a time when the limiting capacity was 86.5 mgd. JEA's Mandarin  
15 plant was a low-pressure area during those conditions. Some piping changes and  
16 new plant construction have since occurred to provide more pressure and flow  
17 to the Mandarin areas and Southside. For example, the new Brierwood water  
18 treatment plant and connecting mains have been added. I have not seen any  
19 distribution system modeling data concerning supply to the Nocatee development  
20 and Mandarin during drought conditions or high fire demand conditions.

21 Q. Is there any water quality concerns with JEA supplying this water?

22 A. I am not aware of any such concerns. Often some corrosion control may  
23 need to be provided to address any lead and copper problems that develop.  
24 Lead and copper come primarily from the plumbing in people's homes.

25 Q. Is the water provided by JEA corrosive?

1 | A. Not unusually so. The water is typical of the Florida aquifer that  
2 | supplies most of N.E. Florida.

3 | Q. Does JEA add chemicals to control corrosion in the South Grid system?  
4 | A. Yes, JEA adds sodium hydroxide or sodium hypochlorite to raise the pH  
5 | to a 7.8 - 8.0 range. This reduces copper solubility.

6 | Q. If the water is corrosive, should the Nocatee development only use PVC  
7 | pipes in the homes and businesses to prevent the formation of black water  
8 | caused by the reaction of hydrogen sulfide and copper?

9 | A. Some black water problems are caused by the metals in the water heater  
10 | reacting with the hydrogen sulfide in the water. JEA's plants remove most of  
11 | the hydrogen sulfide. There are pros and cons to the use of PVC pipe. The  
12 | use of PVC pipe lessens any potential copper problems.

13 | Q. Does the water in the JEA system meet the DEP's primary and secondary  
14 | standards, as well as the radio nuclides, organics, and inorganic standards?  
15 | A. Yes.

16 | Q. Does the water from JEA meet all of the DEP's requirements?  
17 | A. Yes.

18 | Q. Does this conclude your testimony?  
19 | A. Yes.

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