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WITNESS: Direct Testimony of Harold A. Wilkening, III, St. Johns River Management District, Appearing On Behalf of the Florida Public Service Commission

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1 DIRECT TESTIMONY OF HAROLD A. WILKENING, III

2 Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

3 A. My name is Harold A. Wilkening, III. My business address is St. Johns
4 River Water Management District, Post Office Box 1429, Palatka, Florida 32175-
5 1429.

6 Q. WHO IS YOUR CURRENT EMPLOYER AND WHAT IS YOUR POSITION?

7 A. I am the Assistant Director, Department of Resource Management for the
8 St. Johns River Water Management District ("SJRWMD").

9 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

10 A. I received a Bachelor's Degree in Civil Engineering from the University
11 of Delaware in 1979 and a Master's Degree in Water Resources Engineering from
12 the University of Maryland in 1982. I then worked for four years as a water
13 resources engineer with SJRWMD, during which my responsibilities included
14 conducting floodplain and flood control studies, agricultural water use
15 investigations, project management of the Upper St. Johns Flood Control
16 project, and development of engineering criteria for the SJRWMD Management and
17 Storage of Surface Waters (MSSW) rule. I then worked for about two years as
18 a Civil Engineer with the U.S. Army Corps of Engineers, planning and managing
19 Federal flood control projects in Florida, Georgia, and Puerto Rico. I
20 returned to SJRWMD in 1987 as Chief Engineer of the Department of Resource
21 Management, where I supervised all engineering conducted as part of the
22 SJRWMD's Management and Storage of Surface Waters and Consumptive Use
23 Permitting programs. In 1993, I assumed the position of Assistant Department
24 Director. I have been a registered Professional Engineer in the State of
25 Florida since 1986.

1 Q. WOULD YOU PLEASE DESCRIBE YOUR PRESENT DUTIES AS ASSISTANT DIRECTOR IN
2 THE DEPARTMENT OF RESOURCE MANAGEMENT.

3 A. I am primarily responsible for directing the SJRWMD's water supply
4 planning and regulatory programs, including Consumptive Use Permitting, Water
5 Well Construction Permitting, Water Supply Needs and Sources, and Groundwater
6 Resource Investigations. Working under the general oversight of the
7 Department Director, I conduct those management duties necessary to implement
8 these programs, including the following: rule development, interpretation of
9 rules, review and approval of staff recommendations on permit applications,
10 review and approval of water supply investigations and studies, budget
11 preparation and administration, and presentations to the SJRWMD governing
12 board, regulated users, and the general public.

13 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

14 A. The purpose of my testimony is to provide assistance to the Public
15 Service Commission (PSC) in reviewing the Palm Coast Utility Corporation
16 (PCUC) rate case, as provided for in the memorandum of understanding between
17 SJRWMD and the PSC. Specifically, I will discuss SJRWMD Consumptive Use
18 Permitting, water conservation and reuse requirements, and water resource
19 concerns in the vicinity of PCUC.

20 Q. WHAT ARE SJRWMD'S OBJECTIVES REGARDING WATER CONSERVATION?

21 A. SJRWMD's goal for water supply is to ensure the availability of an
22 adequate and affordable supply of water for all reasonable-beneficial uses
23 while protecting the water and related resources of the District. To achieve
24 this goal, SJRWMD's objective for water conservation is for all water users
25 to implement all feasible water conservation practices. This is very

1 | strategic in maximizing the use of existing potable water supplies to the
2 | largest number of users and limiting future water supply problems that will
3 | typically result in significantly higher costs for water. For this reason,
4 | we seek to promote and establish water conservation through our water use
5 | regulatory program, our water supply planning (Needs and Sources), and public
6 | outreach program. Since a large percentage of the water use in SJRWMD is for
7 | public supply, we believe that it is necessary to encourage and assist all
8 | citizens to develop water conserving habits. We have extensive public
9 | education material which we share with utilities so that they can distribute
10 | these materials to their customers.

11 | Q. DOES SJRWMD HAVE ANY SPECIFIC RULES THAT REQUIRE UTILITIES TO IMPLEMENT
12 | CONSERVATION MEASURES?

13 | A. Yes. Rule 40C-2.301(4)(e), Florida Administrative Code, provides, "All
14 | available water conservation measures must be implemented unless the applicant
15 | demonstrates that implementation is not economically, environmentally or
16 | technologically feasible." Section 12.4.5 of the SJRWMD *Applicant's Handbook:*
17 | *Consumptive Uses of Water* provides that a water conservation plan must be
18 | implemented with the following minimum elements: a water audit, and if
19 | necessary, a leak detection and repair program; a program for making
20 | improvements to the applicant's production facility, transmission lines and
21 | distribution system to decrease water consumption; a feasibility analysis
22 | regarding the use of lowest acceptable quality source, including reclaimed
23 | water and stormwater; an employee awareness and customer education program for
24 | water conservation; and an implementation schedule. Appendix I of the
25 | handbook provides a list of water saving measures applicants may incorporate

1 | in their water conservation plan to reduce consumption. Selection of specific
2 | measures is based on the characteristics of the utility and its customers.

3 | Q. IS PCUC REQUIRED TO IMPLEMENT A WATER CONSERVATION PLAN AS A REQUIREMENT
4 | OF THEIR CONSUMPTIVE USE PERMIT?

5 | A. Yes. As part of their permit application, they submitted a water
6 | conservation plan which must be implemented as a condition of their permit.

7 | Q. DOES SJRWMD HAVE ANY REQUIREMENTS FOR IMPLEMENTING REUSE OF RECLAIMED
8 | WATER?

9 | A. Yes. Rule 40C-2.301(4)(f), Florida Administrative Code, provides, "When
10 | reclaimed water is readily available it must be used in place of higher
11 | quality water sources unless the applicant demonstrates that its use is either
12 | not economically, environmentally or technologically feasible." This
13 | provision is part of the reasonable-beneficial use criterion. SJRWMD requires
14 | utilities to submit a reuse feasibility study with their consumptive use
15 | permit application. We review those feasibility studies in detail to
16 | ascertain whether we can match potential end users with the reclaimed water
17 | utility providers. SJRWMD recently adopted amendments to its Consumptive Use
18 | Permitting Rule governing the duration of consumptive use permits. This rule
19 | states that utilities may be eligible for significantly longer duration
20 | permits when the utility provides reclaimed water to other water users. This
21 | provision is a strong incentive for permittees that has justified recognizing
22 | the benefits of reuse.

23 | Q. HOW IS "REUSE" DEFINED UNDER SJRWMD RULES?

24 | A. Reuse is defined in SJRWMD's *Applicant's Handbook: Consumptive Uses of*
25 | *Water* as "the deliberate application of reclaimed water, in compliance with

1 Department of Environmental Protection (DEP) and SJRWMD rules, for a
2 beneficial purpose."

3 Q. WHAT BENEFITS RESULT FROM REUSE OF RECLAIMED WATER?

4 A. There are two primary benefits. First, when reuse of reclaimed water
5 supplies a demand that would otherwise be met from a higher quality source,
6 such as groundwater, then reclaimed water is serving to replace that
7 groundwater withdrawal and preserve that higher quality resource. The result
8 is that higher quality water sources can be maximized for beneficial uses.
9 Second, reuse of reclaimed water serves as a very effective means to dispose
10 of wastewater effluent, thereby reducing or eliminating water quality impacts
11 from effluent discharge to surface waters.

12 Q. WHO RECEIVES THE BENEFITS FROM REUSE OF RECLAIMED WATER?

13 A. Water and wastewater customers of the utility providing the reclaimed
14 water, along with the user of the reclaimed water all have the potential for
15 benefitting from reuse. Reuse postpones or eliminates costly investment by
16 utilities for development of new water sources and treatment plan expansion,
17 benefiting water customers. By offsetting groundwater withdrawals, the
18 likelihood of adverse environmental impacts requiring mitigation is reduced.
19 By preserving higher quality sources for future demands, reuse serves to
20 reduce the need for development of alternative water supply sources which are
21 more expensive to the utility and its water customers. By providing reclaimed
22 water for reuse, utilities can qualify for longer duration consumptive use
23 permits, further benefiting water customers. Wastewater customers benefit
24 when the utility can dispose of wastewater through reuse at a lower cost than
25 conventional treatment and disposal options. Reclaimed water users receive

1 a very reliable water supply source that is sufficient to meet their needs.
2 Under the existing SJRWMD water shortage plan, reclaimed water is not subject
3 to water shortage restrictions that may be declared by the SJRWMD during
4 periods of drought. Reclaimed water is not subject to the daytime irrigation
5 restrictions between 10 AM and 4 PM under SJRWMD rules. Reclaimed water often
6 contains levels of nutrients that reduce fertilization costs to the user.
7 Finally, users may obtain permits of significantly longer duration than for
8 higher quality sources. Because water, wastewater, and reuse customers all
9 benefit from reuse projects, it is reasonable for each of these user groups
10 to bear part of the cost. In the long run, such an arrangement may be
11 critical to making reuse economically feasible and seeing these projects go
12 forward.

13 Q. WHAT IS A WATER RESOURCE CAUTION AREA?

14 A. Rule 62-40.416(1), Florida Administrative Code, requires all water
15 management districts to designate areas that have water supply problems which
16 have become critical or are anticipated to become critical within the next 20
17 years as Water Resource Caution Areas (WRCA). The reuse of reclaimed water
18 from domestic wastewater facilities is required by both DEP rules and WMD
19 rules within these areas unless reuse is not economically, environmentally,
20 or technically feasible. To comply with this requirement, the SJRWMD
21 Governing Board designated the entire area of the SJRWMD as a Water
22 Conservation Area in order to provide the greatest possible availability of
23 reclaimed water and maximize reuse throughout SJRWMD in order to conserve
24 available water resources. In addition to this designation, SJRWMD has also
25 identified in the SJRWMD Water Management Plan portions of SJRWMD as priority

1 | Water Resource Caution Areas. Within these areas, there is a strong
2 | likelihood that existing or future water supply demands cannot be met from
3 | identified sources without unacceptable impacts. Unacceptable impacts
4 | include: significant saltwater intrusion; adverse impacts to wetlands and
5 | other native vegetation; reduction of springs, streams, lakes below
6 | established minimum flows and levels; and interference with existing legal
7 | users. The legislature has directed the water management districts to assist
8 | users in identifying alternative water supply sources and strategies to meet
9 | future demands without causing unacceptable impacts. In SJRWMD, we are
10 | currently conducting feasibility studies of many alternatives including
11 | surface water, lower quality brackish groundwater, artificial recharge of the
12 | aquifer to increase supplies, aquifer storage and recovery, water
13 | conservation, reuse of reclaimed water and stormwater, mitigation or avoidance
14 | of wetland impacts, wellfield interconnection and optimization of pumping
15 | locations. We plan to provide this information to users in the priority WRCAs
16 | for their use in developing water supply plans.

17 | Q. HAS THE SJRWMD DESIGNATED ANY AREAS WITHIN THE SERVICE AREA OF PALM
18 | COAST UTILITY CORPORATION AS AN AREA OF SPECIAL CONCERN REGARDING EXISTING OR
19 | FUTURE WATER SUPPLIES?

20 | A. Yes, the entire service area of Palm Coast Utility Corporation has been
21 | designated as a priority Water Resource Caution Area by the SJRWMD.

22 | Q. IS THE DUNES COMMUNITY DEVELOPMENT DISTRICT ALSO INCLUDED WITHIN THIS
23 | SAME AREA DESIGNATED BY THE SJRWMD?

24 | A. Yes.

25 | Q. WHAT ARE THE SPECIFIC WATER SUPPLY CONCERNS THAT HAVE RESULTED IN THIS

1 | DESIGNATION FOR THE SERVICE AREA OF PALM COAST UTILITY CORPORATION?

2 | A. PCUC pumps significant quantities of water from the surficial aquifer
3 | system and proposes to increase these quantities to meet future water supply
4 | demands. We have predicted that this increase in pumping from the surficial
5 | aquifer system will cause significant reductions in the water table which in
6 | turn will adversely affect wetlands that are sensitive to these changes in
7 | water level.

8 | Q. DOES PCUC AGREE WITH THIS ASSESSMENT?

9 | A. No. On several occasions representatives of PCUC have told us that they
10 | do not agree with this assessment. Based on groundwater modeling work
11 | performed by their consultants, they believe that existing and planned future
12 | withdrawals will have less of an impact on the surficial aquifer than that
13 | predicted by the SJRWMD. We have provided our data and analysis to PCUC for
14 | their review and we have scheduled a meeting with PCUC and their consultants
15 | to discuss their concerns.

16 | Q. WHAT ARE THE PRACTICAL IMPLICATIONS OF THIS AREA BEING DESIGNATED BY
17 | SJRWMD AS A PRIORITY WRCA?

18 | A. The fact that this area has been designated as a priority WRCA does not
19 | invoke any additional rule criteria. For example, the rule requirements
20 | regarding water conservation and reuse are the same whether or not you are
21 | located in a priority WRCA. However, the need for and immediate benefits of
22 | water conservation and reuse can be seen most clearly in these areas. The
23 | practical implication of the priority WRCA designation is that users will need
24 | to develop alternative sources or strategies to modify existing water supply
25 | plans to meet future anticipated demands. This action will be necessary to

1 | avoid unacceptable impacts and obtain consumptive user permits in the future.

2 | Q. IF THE DUNES DECIDED TO PURSUE ANOTHER WATER SUPPLY SOURCE TO MEET

3 | IRRIGATION DEMANDS, WHAT WOULD BE REQUIRED FROM SJRWMD?

4 | A. They would have to apply to SJRWMD to modify their current Consumptive

5 | Use Permit, which authorizes the use of reclaimed water from PCUC to irrigate

6 | their golf course. If they proposed to use a higher quality source, such as

7 | groundwater, they would need to perform a reuse feasibility study and document

8 | that the use of reclaimed water is not technically, environmentally, or

9 | economically feasible. Since reclaimed water is already being used by the

10 | Dunes, we would assume that reuse is clearly technically and environmentally

11 | feasible. In a case such as this, where there are obvious benefits to both

12 | the wastewater utility and the reclaimed water user, we encourage both parties

13 | to seek an arrangement that is economically feasible to both, either through

14 | direct negotiations or, in the case of investor owned utilities, a rate case

15 | proceeding before the PSC. If such an arrangement is not achieved and the

16 | Dunes wishes to make the case that reuse is not economically feasible, we

17 | would ask the applicant to prepare a present value analysis of their portion

18 | of the cost of using reclaimed water compared to the present value cost of the

19 | other source being proposed. Those portions of the capital and operation and

20 | maintenance costs incurred by the applicant would need to be documented and

21 | considered in the analysis. Economic feasibility is determined on a case by

22 | case basis and we would seek the assistance of the PSC staff in reviewing any

23 | analysis provided by the applicant. In considering economic feasibility, it

24 | would be appropriate to consider factors such as the anticipated cost to the

25 | customer compared to the cost of other sources, typical reclaimed water rates

1 | for other reuse projects, and the significant benefits that reuse provides to
2 | the customer as I discussed earlier.

3 | Q. WOULD PCUC BE REQUIRED TO OBTAIN A MODIFICATION OF THEIR CONSUMPTIVE USE
4 | PERMIT IN THE CASE THAT PCUC NO LONGER PROVIDES RECLAIMED WATER TO THE DUNES?

5 | A. Yes. Under the existing Consumptive Use Permit, PCUC is required to
6 | provide a certain quantity of reclaimed water for irrigation at the Dunes as
7 | well as other locations. They would need to obtain a modification to their
8 | Consumptive Use Permit to reduce the amount of reclaimed water being provided
9 | for irrigation. SJRWMD would review any such application in the same manner
10 | as I explained in the previous question.

11 | Q. DOES THAT CONCLUDE YOUR PRE-FILED TESTIMONY?

12 | A. Yes it does.

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