

Exhibit No.:	_____
Issue:	Systems Operations and Management
Witness:	Michael T. McDuffey
Sponsoring Party:	Big Island Water & Sewer Company, Inc.
Case No.:	Case No. WA-2006-0480

BIG ISLAND WATER & SEWER COMPANY, INC.

Case No. WA-2006-0480

DIRECT TESTIMONY

OF

MICHAEL T. MCDUFFEY

Camdenton, Missouri
October, 2006

1 **DIRECT TESTIMONY**
2 **MICHAEL T. MCDUFFEY**

3 **BACKGROUND**

4 Q. **Please state your name and your business address.**

5 A. My name is Michael T. McDuffey. My business address is 840 Thunder
6 Mountain Road, Camdenton, Missouri 65020.
7

8 Q. **By whom are you currently employed and please explain your duties.**

9 A. I am principally employed by Lake Ozark Water and Sewer L.L.C. (LOWS) I am
10 the founder of this business but have since transferred my controlling interest. I
11 now hold the position of Chief Operator and Senior Advisor. My duties include
12 assisting with the administration and general management of the business,
13 monitoring field operations, and supervising those operations where necessary.
14 The Company is under contract to provide water system and wastewater system
15 operation and maintenance services to several condominium projects,
16 municipalities and commercial enterprises in the Lake area and I am involved in
17 those accounts and with contract compliance.
18

19 Q. **Please describe your education and previous work experience.**

20 A. I was educated in the St. Louis public schools. I opened my first business in 1976
21 in Camden County. I owned and operated the Shorecrest Resort on the Lake of
22 the Ozarks from 1976 to 1989, then established Lake of the Ozarks Water &
23 Sewer, Inc. (formerly known as Senior Maintenance, Inc.) in 1990. In 1991 to

1 1995 I was also employed by The Water Lab and Jackson Engineering. In 2006,
2 Lake of the Ozarks Water & Sewer, Inc. was converted to a limited liability
3 company and renamed. I am licensed and certified by the Missouri Department of
4 Natural Resources in drinking water system operations and am certified as a Class
5 C wastewater operator. LOWS has been certified as a drinking water laboratory
6 and a testing laboratory for wastewater sampling reporting.

7

8 Q. **Are you or the firm with which you are employed involved in the operation**
9 **and maintenance of the water distribution and sewer collection and**
10 **treatment facilities on Big Island in the Lake of the Ozarks.**

11 A. Yes, LOWS is presently under contract with Big Island Homeowners Water and
12 Sewer Association to provide operation and maintenance services with respect to
13 both the water and wastewater systems on Big Island.

14

15 Q. **At this time do you also hold a position with Big Island Water and Sewer**
16 **Company, Inc., the applicant in this case.**

17 A. I have been conditionally employed as General Manager of Big Island Water and
18 Sewer Company, Inc., and by conditionally I mean that my employment and
19 duties officially will not commence until and unless the Commission approves the
20 certificate requested in this case.

21

22 Q. **What are your duties as General Manager.**

1 A. Although the final terms of my employment have not been determined because
2 they are still contingent, as general manager I will be responsible for the overall
3 management, administration, operation and maintenance of the two systems on
4 Big Island. I will answer to the President and Board of Directors. At a minimum,
5 my responsibilities will include regular inspection and sampling of each system;
6 analyzing samples for compliance with environmental regulatory authorities and
7 reporting results of such sampling in accordance with state law and applicable
8 regulations; managing and approving applications for service; inspecting and
9 approving new connections or extensions of the systems; billing of authorized
10 charges and fees and collection of the same; supervision of administrative
11 employees; supervision of operators and other employees needed to operate and
12 maintain the systems; arrange for dispatch of locating crews in response to notices
13 of excavation received from the Missouri Once Call System; disposition of
14 customer inquiries or complaints; and compliance with the rules and regulations
15 of the Missouri Public Service Commission.

16
17 Q. **How long have you been operating the water and sewer distribution systems**
18 **on Big Island.**

19 A. LOWS and I have been operating the central water and sewer systems on Big
20 Island since 1999.

21
22 **II. DESCRIPTION OF THE BIG ISLAND SYSTEMS AND DNR**
23 **COMPLIANCE**

1

2 **Q. Mr. McDuffey, please describe the components of the water distribution**
3 **system.**

4 A. The centralized water distribution system on Big Island consists of a single deep
5 well and pumping equipment which pumps water at about 100 gallons per minute.
6 There are three twelve foot non pressure storage tanks which store approximately
7 12,000 to 15,000 gallons combined. The distribution system consists of
8 approximately 2 miles of 4 inch Schedule 40 PVC pipe that form a loop in the
9 service area. Mr. David Krehbiel, the consulting engineer for this system, should
10 provide more detail about this system in his testimony.

11

12 **Q. Has the Missouri Department of Natural Resources (DNR) issued any notices**
13 **of violation or taken any enforcement actions concerning the condition,**
14 **operation and maintenance of the water system.**

15 A. I am aware that during construction of the systems, DNR cited Folsom Ridge
16 LLC, the developer on the Island for installing a water line too closely to a
17 wastewater line and a settlement agreement was reached between DNR and
18 Folsom Ridge. I understand that Ms. Barb Brunk will discuss the settlement
19 agreement in her testimony. This matter did not involve the operation or
20 maintenance of the system which is my principal responsibility.

21

1 In June, 2005, DNR issued a notice of violation regarding lack of a site sampling
2 plan for the system. A site sampling plan was submitted to DNR in response and
3 that plan was approved.

4

5 DNR has not issued any notices of violation respecting the system operations or
6 maintenance. The system has operated within DNR's water quality standards.

7

8 Q. **Mr. McDuffey, please describe the components of the wastewater collection**
9 **and treatment system.**

10 A. The wastewater system consists of a recirculating sand filter treatment facility,
11 approximately 2 miles of PVC pressurized collection lines which vary between
12 two and four inches, and special septic tanks that are installed for each residence.
13 Although the septic tank I just mentioned is an important part of the wastewater
14 treatment process, it is owned by the property owner and not the service provider.

15

16 The treatment plant was initially sized to treat the effluent from 80 residences,
17 approximately 22,000 gallons per day but at this time, a plant expansion is
18 underway by which to treat effluent from 230 homes. The construction of the
19 plant expansion is expected to be completed and approved by mid November,
20 2006.

21

22 The residential property owner's septic tank is integral to the treatment of the
23 wastewater on Big Island. The settling that first occurs in the septic tank

1 eliminates much of the solid matter from the wastewater. For the Big Island
2 system, the effluent from a residence must be pumped to the collection lines. In
3 the septic tanks approved for this system, a filter is installed where the effluent
4 discharges into a pump vault. From the pump vault the effluent is directed to the
5 collection line which is generally at a higher elevation. The collection lines then
6 carry the effluent to the treatment plant.

7

8 This is what has been described as a small diameter system.

9

10 Q. **Has DNR issued any notices of violation concerning the condition, operation**
11 **and maintenance of the wastewater system.**

12 A. No, it has not. The wastewater treatment system has consistently met
13 Biochemical Oxygen Demand (BOD) specifications and other restrictions
14 imposed by DNR regulations. Although from time to time the Department has
15 asked us to watch carefully the total residual chlorine that is found in the
16 permitted discharge from the plant, this has been easy to manage with variance of
17 disinfectants used in the treatment process.

18

19 Q. **How long has the wastewater system operated without DNR citations.**

20 A. It has operated without DNR citation since it was activated.

21

1 **Q. Have you received any complaints about the quality of service or the**
2 **operations of the systems from existing customers and how those complaints**
3 **have been disposed.**

4 A. There have been no complaints about the quality of service provided by the
5 treatment system. I think it is fair to say that it has operated well to everyone's
6 satisfaction.

7
8 Regarding the water system, the complaint I receive on occasion is about the odor
9 of the water. The odor is natural and is caused by benign minerals in the water.
10 This is not a problem unique to Big Island but is common to many wells drilled in
11 the Lake of the Ozarks area. The odor is most noticeable when the water is heated
12 and with the addition of sacrificial anodes to a customer's water heater, the odor
13 is significantly reduced or eliminated.

14
15 There are occasional reductions in water pressure in the delivery of water to
16 residences at the high points in the system, but those are rare and easily corrected.

17
18 **Q. Is there any component of the water or sewer system that as best you know is**
19 **not in compliance with applicable DNR regulations.**

20 A. I know of no component of either system which is in violation of any DNR
21 regulation or the regulation of any other agency that has jurisdiction over these
22 systems. or regulation.

23

1 **Q. During proceedings earlier in this matter, interveners raised the question**
2 **whether the treatment plant for the wastewater system and the well for the**
3 **water system were located too closely together in violation of DNR**
4 **regulations. Has DNR approved the location of these two facilities?**

5 A. Yes, it has. The construction of the treatment plant and the drilling of the well for
6 the water system and its enclosure were all part of a construction permitting
7 process that was approved in 1998. The location of the facilities was presented to
8 DNR and it approved the plan to locate these facilities such that they were
9 separated by approximately 200 feet. They were constructed according to the
10 permit specifications. I understand that DNR changed its regulations so that they
11 require wastewater treatment facilities to be located at least 300 feet away from
12 well structures but this regulation can be waived by DNR. The regulations in
13 1998 may not have had this requirement in the first place; if it did, DNR waived it
14 because of the topography in the area, and also because the discharge from the
15 treatment plant is totally diverted from the well structure in this instance.
16 Furthermore, the well has been thoroughly encased such that contamination from
17 the treatment plant, or other sources, is eliminated.

18
19 **IV. SYSTEMS COMPARISON**

20 **Q. Mr. McDuffey, does your firm operate any other wastewater or water**
21 **systems in the Lake of the Ozarks area?**

22 A. LOWS is under contract with approximately eighty (80) other water or sewer
23 systems or water and sewer system combinations.

1

2 Q. **Would you identify them for the Commission please.**

3 A. I will identify a cross section of the entities that employ our services. LOWS is
4 under contract with the receiver involved with the Missouri PSC order
5 receivership of Osage Water Company, which is pending in the Circuit Court of
6 Camden County. LOWS operates and maintains all of the properties formerly
7 owned or controlled by Osage Water Company in Camden County. LOWS is
8 under contract with the City of Linn Creek, Public Water Supply District No. 2;
9 Cedar Green Condominiums, Big Surf and Big Shot Amusements; the Pointe
10 Subdivision, Sycamore Point Subdivision and Lake of the Ozarks Marina.

11

12 Q. **Are these systems comparable in size to the systems on Big Island.**

13 A. Some are much larger. For instance, Public Water Supply District No. 2 has
14 approximately 750 to 800 customers, the City of Linn Creek has 230 customers.
15 Many are about the same size as the systems on Big Island.

16

17 Q. **With respect to the systems on Big Island, is there any feature or**
18 **characteristic about them that makes them more difficult to administer,**
19 **operate and maintain than the other systems you operate and maintain.**

20 A. There is nothing about the systems themselves that makes them more difficult, but
21 the difficulty has been with the objections of a few residents in the Big Island
22 area, most of whom do not have service from the system. With regard to the
23 facilities it operates and maintains, LOWS does not experience with any other

1 system the activities and complaints that these few individuals I just referred to
2 have engaged in or made.

3

4 **Q. In terms of compliance with DNR regulations and any enforcement actions**
5 **taken by DNR, are the systems on Big Island out of the ordinary, or in some**
6 **way materially different from the other systems you operate and maintain.**

7 A. The compliance record of these systems, which is very good, is not worse, and is
8 perhaps better, than many of the other systems I have been engaged to operate and
9 maintain.

10

11 **Q. Does this conclude your testimony?**

12 A. Yes, it does.