

Exhibit No.: _____
Issue: Systems Operations and
Management
Witness: Michael T. McDuffey
Sponsoring Party: Big Island Water & Sewer
Company, Inc.
Case No.: Case No. WO-2007-0277
**Joined for hearing with
Case No. WC-2006-0082**

BIG ISLAND WATER & SEWER COMPANY, INC.

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DIRECT TESTIMONY

OF

MICHAEL T. MCDUFFEY

Camdenton, Missouri
February, 2007

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

3 **I. 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 (the Association) to provide operation and maintenance
13 services with respect to both the water and wastewater systems on Big Island.

14
15 Q. **How long have you been operating the water and sewer distribution systems**
16 **on Big Island.**

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

19
20 **II. DESCRIPTION OF THE BIG ISLAND SYSTEMS AND DNR**
21 **COMPLIANCE**

22

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

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

10

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

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

20

21 In June, 2005, DNR inspected the water distribution system and in its report of
22 inspection noted four unsatisfactory features. Two of the features noted in the
23 report involved a failure to collect routine samples from the water system and

1 development of a written coliform bacterial sample siting plan. Those items were
2 unfounded. My laboratory regularly collected the samples required and had
3 submitted the sample siting plan to DNR on a timely basis. DNR had misplaced
4 the records of the sampling and the sampling siting plan.

5
6 Another unsatisfactory feature noted was that the system had not obtained a
7 written permit to dispense water. It is true that none had yet been applied for at
8 that time. The permit was applied for on July 22, 2005. We are still waiting on
9 the permit to be issued. This permit is not a priority for DNR. No notices of
10 violation were issued by DNR concerning these features. These features have
11 been rectified to DNR's satisfaction.

12
13 Another unsatisfactory feature noted in the report was a duplicate of a notice of
14 violation received when construction crews started work under the mistaken belief
15 that plans, which were on file at DNR, had already been approved. Ms. Brunk
16 describes this incident in her separate direct testimony.

17
18 DNR has not issued any notices of violation respecting the system operations or
19 maintenance. The system has operated within DNR's water quality standards.

20

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

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

6
7 The treatment plant was initially sized to treat the effluent from 80 residences,
8 approximately 22,000 gallons per day but at this time, a plant expansion is
9 underway by which to treat effluent from 230 homes. The construction of the
10 plant expansion is expected to be completed and approved by mid November,
11 2006.

12
13 The residential property owner's septic tank is integral to the treatment of the
14 wastewater on Big Island. The settling that first occurs in the septic tank
15 eliminates much of the solid matter from the wastewater. For the Big Island
16 system, the effluent from a residence must be pumped to the collection lines. In
17 the septic tanks approved for this system, a filter is installed where the effluent
18 discharges into a pump vault. From the pump vault the effluent is directed to the
19 collection line which is generally at a higher elevation. The collection lines then
20 carry the effluent to the treatment plant.

21
22 This is what has been described as a small diameter system.

23

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

3 A. On August 20, 2003, DNR issued a notice of violation respecting the amount of
4 total residual chlorine in the effluent from the plant. This involved disinfected
5 wastewater and the amount of chemical that remained in the water discharged.
6 Our discharge permit limits total residual chlorine to 1 milligram per liter. The
7 Discharge Monitoring Reports submitted by my office to DNR for the month of
8 July 2003 indicated that it was at 1.86 milligrams per liter. The matter was solved
9 but we respect the request of the Department to watch carefully the total residual
10 chlorine that is found in the permitted discharge from the plant. This has been
11 easy to manage with variance of disinfectants used in the treatment process.

12

13 **Q. Has DNR issued any other notices of violation concerning the wastewater**
14 **system?**

15 A. No, it has not. The wastewater treatment system has consistently met
16 Biochemical Oxygen Demand (BOD) specifications and other restrictions
17 imposed by DNR regulations.

18

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

20 A. Except for the total residual chlorine citation in August of 2003, the system has
21 operated without DNR citation since it was activated.

22

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.

23

1 **III. SYSTEMS COMPARISON**

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

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

6

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

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

16

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

18 A. Some are much larger. For instance, Public Water Supply District No. 2 has
19 approximately 750 to 800 customers, the City of Linn Creek has 230 customers.

20 Many are about the same size as the systems on Big Island.

21

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

4 A. There is nothing about the systems themselves that makes them more difficult, but
5 the difficulty has been with the objections of a few residents in the Big Island
6 area, most of whom do not have service from the system. With regard to the
7 facilities it operates and maintains, LOWS does not experience with any other
8 system the activities and complaints that these few individuals I just referred to
9 have engaged in or made.

10

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

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

17

18 **IV. BIG ISLAND WATER COMPANY AND BIG ISLAND SEWER**
19 **COMPANY (the 393 Companies)**

20

21

22 **Q. Have Big Island Water Company and Big Island Sewer Company contacted**
23 **you about operation of the Big Island water distribution system and**
24 **wastewater treatment system after the systems are transferred?**

1 A. Yes. LOWS and the 393 Companies have reached an agreement on contract
2 operation and maintenance of the system upon transfer of the systems.
3

4 Q. **What services will LOWS provide to the 393 Companies?**

5 A. Although the terms of the contract have not been finalized, LOWS and I will be
6 responsible for the overall management, administration, operation and
7 maintenance of the two systems on Big Island. I will answer to the President and
8 Board of Directors of the 393 Companies. At a minimum, my responsibilities
9 will include regular inspection and sampling of each system; analyzing samples
10 for compliance with environmental regulatory authorities and reporting results of
11 such sampling in accordance with state law and applicable regulations; managing
12 and approving applications for service; inspecting and approving new connections
13 or extensions of the systems; billing of authorized charges and fees and collection
14 of the same; supervision of administrative employees; supervision of operators
15 and other employees needed to operate and maintain the systems; arrange for
16 dispatch of locating crews in response to notices of excavation received from the
17 Missouri Once Call System; and disposition of customer inquiries or complaints.
18

19 Q. **Have representatives of the 393 Companies inspected the systems?**

20 A. Yes, an inspection of the facilities in connection with the transfer was conducted
21 on January 10, 2007. Ms. Pam Holstead, Mr. Gail Snyder, representing the 393
22 Companies, Jim Crowder, who works with Folsom Ridge, Mr. Chad Stout, who is
23 managing superintendent of LOWS, and Jim Heppler, operator for the Big Island

1 Systems, Kenny Carroll, the installation contractor for these systems and Mr.
2 David Krehbiel were present for the walk through and inspection.

3

4 **Q. What was the purpose of the inspection?**

5 A. This was an opportunity for the 393 Company representatives to ask questions
6 about the current condition of the systems and address concerns that have been
7 raised by some of the interveners in this case. This was a full inspection of the
8 components of each system and their operation.

9

10 **Q. As a result of that walk through and inspection were any actions taken with**
11 **respect to preparing the systems for transfer.**

12 A. A few very minor things were requested. LOWS marked some valve boxes and
13 location of sewer drains out of the wastewater treatment plant, but otherwise, the
14 condition of the systems was satisfactory to Ms. Holstead and Mr. Snyder to the
15 best of my knowledge.

16

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

18 A. Yes, it does.