Exhibit No.
Witness: Randy L. Clifford
Type of Exhibit: Direct Testimony
Sponsoring Party: Hickory Hills Water & Sewer Co., Inc.
Case No. WR-2006-0250 and SR-2006-0249
Date Testimony Prepared: March 23, 2006

DIRECT TESTIMONY

OF

RANDY CLIFFORD

HICKORY HILLS WATER AND SEWER CO., INC.

CASE NO. WR-2006-0250

Q. Please state your name and business address.

A. Randy Clifford, P. O. Box 297, Tipton, Missouri 65081.

Q. What is your interest in this case?

A. I am the owner and operator of Hickory Hills Water and Sewer Company.

Q. Please describe your educational background and other qualifications.

A. I am a graduate of California High School at California, Missouri. I have completed more than seventy college credit hours of course work towards a major in pre-engineering at Lincoln University at Jefferson City, Missouri. I have acquired continuing education credits for completing course work and attending seminars in the areas of hazardous spill response, personal computer repair, firefighting and various personal computer software programs. I have work experience as a water well driller, water well pump installer and repairman, chain trencher excavator, water and sewer system installer, and electrician. I currently hold a DS III, Drinking Water Distribution Certificate of Competency issued by the Missouri Department of Natural Resources (DNR) Public Drinking Water Program.

Q. Why are your qualifications important in this case?

A. DNR regulations require this public water system to have an operator. My

certification fulfills this requirement. My education and work experience were accepted as fulfilling prerequisites on my original application for operator certification. In high school, I completed courses in Industrial Arts, Welding, Small Engine Repair, and Electrical Wiring. I use skills and information obtained from these classes and from my work experience to make repairs to the water and sewer systems.

Q. Have you previously testified before the Public Service Commission?

A. Not at a formal hearing. However, I have made statements at the local public hearing and other preliminary matters held in conjunction with this case.

Q. What reasons do you have to support a request for a water rate increase?

A. The rate schedule the company is currently operating under was approved in rate case QW-2004-0008, which examined the test year of 2003. Mr. Richard Harris, an Environmental Specialist with the DNR, conducted a Compliance and Operational Inspection of the Company's water facilities on December 24, 2003, and made recommendations. Based on his recommendations, the Company purchased equipment and supplies. The finished water chlorine content was tested on a daily basis beginning January 5, 2004. The company received a letter and Compliance and Operations Report from the Missouri Department of Natural Resources, dated January 16, 2004, setting out his recommendations which has been marked "Exhibit ___." The chlorine testing, recertification, and other non-compliance issues described is this Exhibit increased the company's operating costs significantly. In addition to the costs associated with DNR compliance the Company incurred additional operating costs in 2005 in the form of liability insurance premiums and pump repair

costs. The Company has requested these costs be included in this case.

Q. What reasons do you have to support the sewer rate increase request?

A. The rate schedule the company is currently operating under was approved in Rate Case QS-2004-0009 which examined the test year of 2003. Under the Missouri State Operating Permit Number MO-0082121 which expired on March 15, 2004, the company was required to sample and report the sewer system effluent Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) levels on a quarterly basis. The renewed discharge permit, which became effective on March 19, 2004, requires the samples to be collected, analyzed and reported on a monthly basis. In addition to tests for BOD and TSS the Company is now required to test the level of "Ammonia Nitrogen" in the effluent. The increased frequency in testing and reporting has increased the scrutiny on the Company's operation of the facility by DNR. The Company has increased its efforts to keep the system in compliance. Additional testing requirements and increased compliance efforts have significantly increased operating costs. The Company incurred additional operating costs in the year 2005 in the form of liability insurance premiums. The Company has requested that the insurance costs be included in this case.

Q. Did the Company reach an agreement with the State in these rate cases?

A. Although the Company's full requests were not granted, the Company and Staff did reach an agreement.

Q. What request did the Company make that was not granted in the agreement?

A. The Company requested a $15.00 per month, for fourteen months, debt reduction surcharge.

Q. Can you identify Exhibit _____ dated June 23, 2005, from the Missouri Department of Natural Resources?

A. Yes.

Q. What is Exhibit _____?

A. It is the Compliance and Operation Inspection Report for the Hickory Hills Water System dated June 23, 2005.

Q. What does it show?

A. The company has addressed the issues contained in the letter and previous report from DNR.

Q. Does this conclude your testimony?

A. Yes, it does.

STATE OF MISSOURI)
)ss.
COUNTY OF MORGAN)

RANDY CLIFFORD, being duly sworn on his oath, states that the facts stated in the foregoing document are true according to his best knowledge and belief.

Randy Clifford

Subscribed and sworn to before me this 23 day of March, 2006.

NOTARY PUBLIC, Belva J. Gerke
State of Missouri
My term expires: 12-08-07
Commissioned in Morgan County

CERTIFICATE OF MAILING

The undersigned hereby certifies that the Direct Testimony of Randy L. Clifford was mailed, first-class postage prepaid, this 24th day of March, 2006, to:

Bob Berlin
Missouri Public Service Commission
200 Madison Street, Suite 800
P. O. Box 360
Jefferson City, Missouri 65102

Lewis R. Mills, Jr.
Office of the Public Counsel
P. O. Box 2230
Jefferson City, Missouri 65102

Richard W. Moore
Missouri Department of Natural Resources
205 Jefferson Street
Jefferson City, Missouri 65102

Original Signed By
KENNETH O. McCUTCHEON, JR.

Kenneth O. McCutcheon, Jr. #24395
110 N. Monroe, P. O. Box 5
Versailles, Missouri 65084
Telephone: 573-378-4606
ATTORNEY FOR

Exhibit No.
Issue:
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STATE OF MISSOURI

Bob Holden, Governor • Stephen M. Mahfood, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.state.mo.us

3.200 Hickory Hills Water & Sewer
Moniteau County
PWS# 3036043

January 16, 2004

Mr. Randy Clifford
Hickory Hills Water & Sewer
300 Independence Avenue
P.O. Box 297
Tipton, MO 65081

Dear Mr. Clifford:

Enclosed is a copy of a Compliance and Operation Inspection Report on the public water system serving Hickory Hills Water & Sewer. Please direct your attention to the recommendations contained in the report and then send a response to this inspection within 60 days. Your response should be specific in detailing how you intend to correct the problems identified.

If you have any questions or comments concerning this matter, please contact Mr. Everett Baker at 660-385-2129 in the Northeast Regional Office, 1709 Prospect Drive, Macon, MO 63552.

Sincerely,

NORTHEAST REGIONAL OFFICE

G. Irene Crawford
Regional Director

GIC/rhs

Enclosures: Compliance and Operation Inspection Report

c: Public Drinking Water Program
Mid-Missouri Regional Planning Commission
Mr. Dale Johansen, Public Service Commission
Moniteau County Health Department

Integrity and excellence in all we do

COMPLIANCE AND OPERATION INSPECTION REPORT
PUBLIC WATER SYSTEM
HICKORY HILLS WATER & SEWER
PWS# 3036043
January 16, 2004

INTRODUCTION

On December 24, 2004, a representative of our Northeast Regional Office conducted a compliance and operation inspection on the Hickory Hills Water & Sewer public drinking water system. The purpose of the inspection was to determine the system's compliance with the Missouri Safe Drinking Water Act and the Missouri Public Drinking Water Program Regulations. Recommendations to correct deficiencies found during this inspection are outlined as follows.

FINDINGS

The system consists of a single well with nine pressure tanks that holds approximately 990 gallons. The wellhead was vented and screened.

1. A chlorine residual test was done and the free available chlorine measured 0.23 milligrams per liter (mg/l). The Missouri Public Drinking Water Program Regulation 10 CSR 60-4.055(3)(D)(E) requires any system disinfecting with free available chlorine to maintain no less than 0.5 milligrams per liter (mg/l) free available chlorine in the water entering the distribution system. This is the minimum disinfectant residual necessary to assure that safe water is produced. For proper operation, a higher residual should be maintained. Failure to maintain the minimum residual disinfectant concentration for more than four (4) hours is a violation of the regulations and requires public notification as specified in 10 CSR 60-8.010(1) and (7)(B). If at any time the disinfectant residual entering the distribution system falls below the minimum level, the system must notify the department as soon as possible, but no later than by the end of the next business day. The system must notify the department by the end of the next business day whether or not the disinfectant residual was restored to standards within four (4) hours. Failure to maintain the minimum required disinfectant residual brings the safety of the drinking water into question and is a violation of the Missouri Public Drinking Water Program Regulation 10 CSR 60-4.055(3)(D)(E).

2. The ability of a chemical disinfectant to kill harmful organisms depends on the time in contact with the water. Therefore, a holding tank that will provide a minimum of 30 minutes detention time is necessary. The present **pressure tanks** provide no contact time and were installed without the written approval of the department.

3. The system violated the Missouri Public Drinking Water Program Regulation 10 CSR 60-4.080(3) by failing to test daily for chlorine residuals and by failing to record the results. Furthermore, the chlorine test equipment now being used by the system operators does not

give reliable readings and does not meet the requirements of the Missouri Public Drinking Water Program Regulation 10 CSR 60-5.010. Chlorine is successful as a water disinfectant only if the necessary residual concentrations are maintained in the water. Disinfection will be inadequate if chlorine addition is not controlled to assure that continuous adequate residuals are maintained. The regulations require that sufficient analyses must be done to assure control of water quality and set the minimum testing frequencies necessary to do so. Failure to do these analyses could result in inadequately or improperly treated drinking water. In addition, a new chlorine test kit and a logbook must be obtained immediately to assure adequate disinfection and daily chlorine residual records of the water. No water should be dispensed to the public until the necessary equipment to control the disinfection process is obtained.

4. Unless records are kept of routine disinfectant test results, the system has no proof that the tests necessary to control the safety of the water were done. These records are also evidence that the water dispensed to the public was safe to drink. Moreover, Missouri Public Drinking Water Program Regulation 10 CSR 60-9.010(1)(A) requires records of operational analyses be retained for a minimum of five (5) years and be made available to department representatives upon request.

5. To assure reliable service, public water systems must have enough wells or storage (24 hrs.) so that normal water service can continue with the well out of service for maintenance. The system has nine pressure tanks but **no available storage**. Thus, if the system's one well should malfunction the entire system would be out of water in minutes. Hickory Hills Water & Sewer must either have an alternative source of water available for emergencies or have sufficient elevated water storage to supply the system during well maintenance.

6. During the inspection, few of the required records were found. Please be advised that you must keep the following records for the specified time: Coliform Results (5 yrs.), Chemical Results (10 yrs.), Violation Actions (3 yrs.), Inspection Reports (10 yrs.), Operational Records and Consumer Confidence Reports.

7. The community public water supply does not have a rule banning the use of lead pipes, fittings, solder and flux in the customer water systems. To comply with Missouri Public Drinking Water Program Regulation 10 CSR 60-10.040, the public water supply needs to adopt a lead ban rule. Also, a copy of the duly adopted policy must be sent to the department within 90 days. A copy of a model ordinance was given at the inspection.

8. A copy of a written Emergency Operations Plan for assuring continued water service under emergency conditions was not available for review during the inspection. The Missouri Public Drinking Water Program Regulation 10 CSR 60-12.010 requires all community public water

systems to develop a written Emergency Operations Plan and to have it available for review by authorized department representatives. Please, send us a copy of the plan within 30 days. A model plan was provided during the inspection, for your reference.

9. The system does not have enough routine sampling sites. Therefore, the coliform sampling plan must be changed to add new routine sampling sites and their corresponding upstream and downstream sites. A minimum of five (5) routine sampling sites are required. Each routine sampling site must have two additional sites for additional sampling in the event that a positive sample is collected, these are the upstream and downstream sites. Please send this office a copy of the revised sampling plan. The forms and instructions were provided during the inspection.

10. Records on valves and hydrants or flushing devices in the water system were inadequate. To comply with Missouri Public Drinking Water Program Regulation 10 CSR 60-9.010, public water systems must maintain records of the distribution system. This includes individual records giving the location of and operation information on each valve, hydrant and flushing device. Please continue to develop a record on each as are found. Example record forms were given during the inspection.

11. To comply with Missouri Public Drinking Water Program Regulation 10 CSR 60-11.020, a written ordinance/rule for cross connection control must be passed by the system. Also, a copy of the duly adopted policy must be sent to the department within 90 days. A copy of a model ordinance was given at the inspection.

12. At the time of the inspection, system operators did not have an up to date distribution system map. Please update your distribution map and submit a copy to the department within 60 days.

13. The master meter on the well's discharge line was broken and should be replaced. At this time the public water supply doesn't know how much water is being pumped to the system and accurate water losses cannot be figured. Please notify this office that this has been corrected within 60 days.

14. The wellhead vent is only ½-inch in diameter and must be replaced with a least a 1½-inch diameter pipe. This can be done by drilling a 1½-inch hole in the side of the well casing and installing a pipe in it. The vent pipe must extend above the wellhead; end in a down turned position and be screened. The connection between the well casing and the vent must be continuously welded or similarly sealed to prevent the entrance of contamination.

15. The wiring entering the wellhead should be enclosed in conduit to prevent possible electrical shock and to allow adequate sealing where the wire enters the well.

SUBMITTED BY:

Richard A. Harris
Environmental Specialist II
Northeast Regional Office

APPROVED BY:

Everett C. Baker, P.E.
Environmental Engineer III
Northeast Regional Office

RAH/sf

Exhibit No.
Issue:
Witness: Randy L. Clifford
Type of Exhibit:
Sponsoring Party: Hickory Hills Water & Sewer Co., Inc.
Case No. WR-2006-0250
Date Testimony Prepared:

COMPLIANCE AND OPERATION INSPECTION REPORT
PUBLIC WATER SYSTEM
HICKORY HILLS WATER AND SEWER
PWS #3036043
June 23, 2005

INTRODUCTION

On June 14, 2005, a representative of our Northeast Regional Office conducted a compliance and operation inspection on the Hickory Hills Water and Sewer public drinking water system. The purpose of the inspection was to determine the system's compliance with the Missouri Safe Drinking Water Act and the Missouri Public Drinking Water Program Regulations. Recommendations to correct deficiencies found during this inspection are outlined as follows.

FINDINGS

1. The subdivision has a working lead ban rule and a rule for cross-connection control. Please submit a copy of these for our files.

2. On August 1, 2001, a new Missouri regulation went into effect. This regulation, 10 CSR 60-14.010, requires all water systems to have a contingency plan for a standby replacement chief operator to be available at all times. This may be a second employee certified at the chief operator level, a mutual assistance agreement with a neighboring system or an arrangement with a contract operator. Please see that the required contingency plan is developed.

3. In the near future, groundwater systems must comply with a federal regulation requiring all groundwater systems to comply with a 4-log virus inactivation. Therefore, before the regulation goes into effect your system needs to determine contact times and if necessary, find ways to increase the chlorine contact time through the system.

4. To comply with Missouri Public Drinking Water Program Regulation 10 CSR 60-9.010, public water systems must maintain records of the distribution system. This includes individual records giving the location of each valve and flushing hydrant. Please continue to develop a record on each valve and hydrant as they are found. Example record forms were given during the inspection.

5. To assure reliable service, public water systems must have enough wells or storage so that normal water service can continue with the well out of service for maintenance. The present pressure tanks do not provide enough storage to keep adequate pressure in the subdivision when the well would malfunction. The Hickory Hills system must either have an alternative source of water available for emergencies or have sufficient elevated water storage to supply the system during well maintenance. Since these construction projects are expensive, the company needs to continue making plans to obtain funding now to either add a well or standpipe or connect the system to the City of California.

6. To comply with Missouri Public Drinking Water Program Regulation 10 CSR 60-4.080(5), draw down and yield tests should be performed and recorded once every month. These tests are necessary to determine if wells and their pumps are operating properly. The tests

will alert an operator to pump problems or low water levels in the well before a pump fails or the well completely quits and leaves the system out of water.

7. To comply with Missouri Public Drinking Water Regulations 10 CSR 60-4.080 and 10 CSR 60-6.050, a minimum 20 psi pressure must be maintained throughout a water system to act as a protective barrier from contamination. Boil water advisories have been issued, when water main pressures drop below 20 psi. However, this office has not received notification of the low-pressure events or bacteriological sample reports. System officials must start notifying the department within 48 hours of each low-pressure event and receive clean bacteriological samples before lifting a boil order. If a sample shows a positive result, the boil order must be extended and additional samples must be taken until the system collects a clean sample. A copy of a low-pressure report form was provided during the inspection. Filling out a copy of the form and faxing it to this office will fulfill the notification requirement.

8. Information on water loss in the distribution system was not available during the inspection. Water loss in a distribution system is an important indicator of the condition and operation of the system. In addition, tracking water loss is a sound business practice. System officials must develop an accounting method to monthly determine water loss in the system. This needs to include water purchased, water sold and water used in system services, in fighting fires, in flushing the system, and include any other known unmetered water use during each month. When water loss exceeds 10% of production, it is excessive and spending money to reduce this loss will be cost effective.

We found that the following items had been addressed since the last inspection:

1. Disinfection residuals are being kept daily and adequate levels are being maintained.
2. New chlorine equipment has been purchased.
3. System records are being kept as required.
4. An emergency operating plan was developed.
5. An up-to-date coliform sampling plan has been completed.
6. A distribution map of all the water lines has been submitted.
7. The well master meter has been replaced.
8. The well vent is now a 1½ inch vent.
9. The wiring at the well casing is now in conduit.

SUBMITTED BY:

Eric Van Eck
Environmental Specialist III
Northeast Regional Office

APPROVED BY:

Everett C. Baker, P.E.
Environmental Engineer III
Northeast Regional Office