

The Staff notes that the current condition of the standpipe is not yet known, though an inspection is alleged to have been done. The condition of the standpipe is of paramount importance in this case, as noted in the Staff's July 20, 2007 Report filed in WC-2007-0452, which is also attached. The Staff and GCO eagerly await information from Suburban regarding the standpipe's condition and any plans for improvement or repair.

Respectfully submitted,

/s/ Steven C. Reed

Steven C. Reed

Missouri Bar No. 40616

Attorney for the Staff of the
Missouri Public Service Commission
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CERTIFICATE OF SERVICE

I hereby certify that copies of the Staff Report on the Current Condition of Suburban Water System Serving Bon-Gor Lake Estates Subdivision have been delivered by first class mail postage prepaid, and electronic mail, to Tom Harrison, Attorney for Suburban Water and Sewer Co., and via electronic mail to Christina Baker, Office of the Public Counsel, at Christina.Baker@ded.mo.gov on this 20th day of September, 2007.

/s/ Steven C. Reed

Staff Followup Report on Suburban Water and Sewer Company, Inc. System
September 20, 2007
WC-2008-0030

By Martin Hummel and Jim Merciel
Water and Sewer Department

On July 20, 2007, the Public Service Commission Staff (Staff) reported on the conditions of the water system owned by Suburban Water and Sewer Company, Inc. (Suburban), providing service to water customers in Bon-Gor Lake Estates. Deficiencies were noted, and eight (8) Recommendations were made in that report. A copy of that report, which includes a description of the system, is attached.

The Staff has been involved with written correspondence, telephone calls, and a site visit that was held on September 12, 2007. Suburban, instructed by its attorneys, has refused to speak directly with the Staff about improvements or to answer direct questions about improvements to the system. Rather Suburban's attorneys have insisted that communication be done formally, through discovery, which was served on Suburban's attorneys on September 13, 2007. Suburban has not yet responded to all of the Staff's discovery requests. The following comments are in regard to the current status of Suburban's water system, in the same order as the recommendations of the July report.

1. **OPERATOR** - The Staff has been given the name of a certified operator that has apparently been contracted to operate the system, along with a copy of the operator's license issued by the Missouri Department of Natural Resources (DNR). The operator was not present for the Staff's September 12 inspection, the Staff has not met nor been in contact with the operator, and has not yet been given contact information for the operator. The Staff does not know the extent of the operator's commitment toward operating this system, the extent of the operator's knowledge of the system, or his availability toward responding to the operational needs of the system.
2. **Meters** - During its September 12 site visit, the Staff observed that 16 meters to some units of 4 fourplex buildings were not yet installed. The Staff believes that Suburban intends to install these meters within a matter of weeks. Staff expects to be able to verify their installation within a few days of notification and obtain an accurate count of meters installed. With these meters installed, to the best of the Staff's knowledge, all customers will have metered service, several by metering multi-unit buildings as one customer. As of the date of the site visit, most of the remainder of the meters beyond the aforementioned fourplex units had been installed or replaced. Some meter boxes are in poor condition, which could affect ease of meter reading, although the condition of the meter box does not affect accurate metering.
3. **Standpipe condition** - The Staff was told verbally that an inspection of the standpipe was made, but the Staff has not received a copy of the report.

4. **Standpipe plan** – The Staff has not received any plan from the Company as to the Standpipe rehabilitation or replacement.

5. **As-built plans of the distribution system** – On September 12, the Staff was given a paper plan sheet labeled "as-build layout". The Staff observed some inaccuracies and a need for some additional detail. The Staff has spoken to the consulting engineer contracted by Suburban, who is currently updating the plan. By the discussion, the Staff expects that he will have it completed within two weeks.

6. **Flush valves** - On September 12, when the Staff evaluated the installation of flush valves, two new flush valves were observed along with additional pipeline control valves. The functionality of the flush valves could not be ascertained, because the system operator was not present and the Staff had no desire to operate the valves without the operator present. Water pipelines approach each of the two valves from at least two directions, and control valves would need to be operated in order to effectively flush all pipelines. For this reason, accurate detail on the "as-built plan" is necessary in order to properly identify the control valves and flush the system effectively. The Staff believes that it needs to observe flushing, measure the flow, and be sure the operator understands the system layout. The Staff intends to contact the operator to set a date and time to observe the flushing capacity of the valves once Suburban has responded to the discovery request to provide contact information for the operator and all necessary valves have been installed. Suburban's response is due on or about October 13, 2007.

7. **Meter reading** – The Staff has not yet verified that all customer meters have been read, although it does not doubt the accuracy of Suburban's meter records that have been made available. The aforementioned 16 meters had yet to be installed. The master meter is being read, with those readings recorded on a log in the wellhouse. There was no evidence of the operator reading well water level drawdown, nor evidence that the operator is recording pressure anywhere in the distribution system during operator visits.

8. **Report of water sold vs. water produced** – This report is not expected to be received by the Water and Sewer Department until December 2007. All meters must be in place and read in order to compile this information.

In Summary:

The Staff has noted that Suburban has spent considerable time and money with regard to customer metering. There is progress on flush valve installation, although the effectiveness is not yet known, and additional valves may still be necessary. Staff is unsure of when Suburban will be in complete compliance with the Commission's June 16, 2005 Order directing that it make certain improvements to the system. Staff awaits Suburban's discovery responses, and hopes for an opportunity for full communication with Suburban's employees and agents when Suburban is willing to cooperate with Staff's less formal efforts to confirm that certain terms of the Order have been complied with.

The Staff has made limited observations regarding pressure, and has not observed pressures below the 20 pounds per square inch (psi) minimum pressure as required by DNR. The Staff believes that this system is capable of maintaining adequate pressure so long as it receives proper maintenance and operator attention.

The Staff believes that it should be able to observe flushing, with demonstration of effective flushing for all pipelines, and observe all remaining meters to be installed by end of October and that Suburban will be in a position to show unaccounted for water (loss) by December 31.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

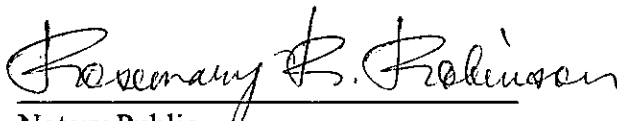
AFFIDAVIT OF MARTIN HUMMEL

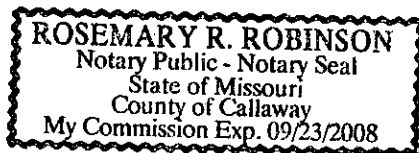
STATE OF MISSOURI)
)
COUNTY OF COLE) ss **CASE NO. WC-2008-0030**

COMES NOW Martin Hummel, being of lawful age, and on his oath states the following: (1) that he is a Utility Regulatory Engineer in the Missouri Public Service Commission's Water & Sewer Department ; (2) that he participated in the preparation of the foregoing *Staff Followup Report on Suburban Water and Sewer Company, Inc. System*; (3) that he has knowledge of the information presented in the foregoing *Staff Followup Report on Suburban Water and Sewer Company, Inc. System*; and (4) that the information presented in the foregoing *Staff Followup Report on Suburban Water and Sewer Company, Inc. System* is true and correct to the best of his knowledge, information and belief.


Martin Hummel

Subscribed and sworn to before me this 20th day of September 2007


Notary Public

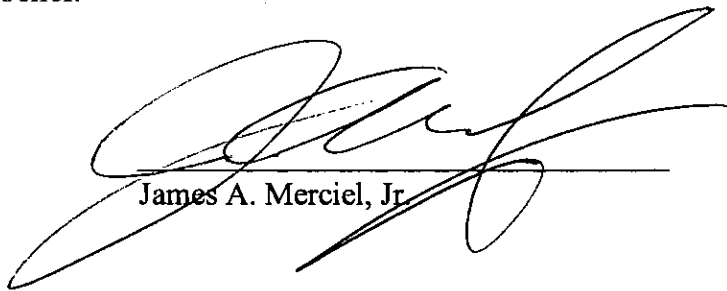


BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

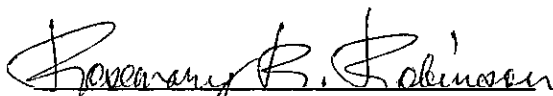
AFFIDAVIT OF JAMES A. MERCIEL, JR.

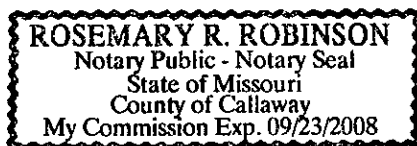
STATE OF MISSOURI)
)
COUNTY OF COLE) ss **CASE NO. WC-2008-0030**

COMES NOW James A. Merciel, Jr., being of lawful age, and on his oath states the following: (1) that he is a Utility Regulatory Engineer in the Missouri Public Service Commission's Water & Sewer Department ; (2) that he participated in the preparation of the foregoing *Staff Followup Report on Suburban Water and Sewer Company, Inc. System*; (3) that he has knowledge of the information presented in the foregoing *Staff Followup Report on Suburban Water and Sewer Company, Inc. System*; and (4) that the information presented in the foregoing *Staff Followup Report on Suburban Water and Sewer Company, Inc. System* is true and correct to the best of his knowledge, information and belief.


James A. Merciel, Jr.

Subscribed and sworn to before me this 20th day of September 2007


Notary Public



**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

The Staff of the Missouri)	
Public Service Commission,)	
	Complainant,	
v.)	
)	<u>Case No. WC-2007-0452</u>
Suburban Water and Sewer Co. and Gordon)	<u>and WO-2007-0444</u>
Burnam,)	
	Respondents.	

STAFF'S REPORT OF INSPECTION & RECOMMENDATIONS

COMES NOW the Staff of the Missouri Public Service Commission, by counsel, and submits its Staff Report of Inspection and Recommendations.

1. On July 13, 2007, Staff filed a pleading indicating a Staff report was forthcoming regarding the Suburban Water system.
2. On July 13, 2007, an inspection took place, and Staff's Report, including recommendations regarding adequate operation of the system, is attached hereto as Attachment A.

Respectfully Submitted,

/s/ Shelley Syler Brueggemann

Shelley Syler Brueggemann

Senior Counsel

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of this Report has been provided, either by first-class mail, by electronic mail, by facsimile transmission or by hand-delivery, to each attorney and/or party of record for this case on this 24th day of July 2007.

/s/ Shelley Syler Brueggemann

Staff Report of Inspection

Case No. WC-2007-0452

PSC STAFF

v.

SUBURBAN WATER & SEWER COMPANY
and
GORDAN BURNAM

Prepared By:

Martin Hummel
Water & Sewer Department
and

Jim Merciel
Water & Sewer Department

July 20, 2007

Staff's Inspection: On July 13, 2007, Martin Hummel and Jim Merciel of the Water & Sewer Department ("Staff"), accompanied by Gordon Burnam and Paula Belcher of Suburban Water & Sewer Company ("Company"), made an inspection of the water system facilities serving BonGor Lake Estates. Prior to and subsequent to this field inspection, the Staff has made various inquiries of Mr. Burnam and Ms. Belcher in order to compile a current assessment of the condition of the Company's water system.

System Description: The system has one 1,050 foot deep 6 inch diameter well, one submersible pump capable of 120 gallons per minute, a master meter, and a 6 foot diameter 80 foot tall standpipe, sometimes referred to as the tank. These facilities are located near the north end of the system. Distribution piping of about 7,000 feet of primarily 2 inch diameter PVC is run in easements in various locations, mostly in back yards, and not in the streets. There is one 2 inch flush valve at the south end of the system. A connection exists to Consolidated Public Water Supply District No. 1 ("Water District") with a 2 inch Water District owned meter located at the very north end of the system, which is normally shut off. This connection is available for emergency use such as maintenance of Suburban's system or if the well fails.

Component Descriptions

- **Meter:** The device used to measure the volume of water delivered to a customer.
- **Meter Box/Meter Setting/Meter Well:** A housing consisting of a barrel in the ground, a rim and removable lid on the surface of the ground, and a meter yoke onto which the

Attachment A

meter fits by threaded connections. For installations in which a meter is not installed, a "jumper" is installed in the meter yoke in place of a meter.

- **Jumper:** A short piece of pipe installed in place of the meter, which allows unmetered water to flow to the customer.
- **Flush Valve:** A valve at the end of a water distribution pipe that allows water to freely flow on to the ground, resulting in a velocity of flow in the distribution pipe that will carry sediment, rust and debris out of the pipe.
- **Well:** The source of drinking water, consisting of a drilled hole, approximately 1,050 feet deep in this instance, with a submersible pump located at the end of a "drop pipe" several hundred feet deep into the water in the well.
- **Standpipe or Tank:** A steel structure into which the well pump transfers water. The purpose of the elevation of the standpipe is to maintain system pressure. Some of the volume of water in the tank is used when instantaneous customer demand is greater than the production capability of the well pump, that volume is replaced when customer instantaneous demand is less.

Comments Regarding the Current Operation of the System

Meters for Customers: While the Staff observed several meter boxes in the field, not all meter locations were observed, and the Staff is relying on information provided by Mr. Burnam. There appears to be a meter box (not to be confused with an actual meter) to every building, house, duplex or fourplex, except for 3 buildings. Several of the fourplexes have one meter box for the entire building, which is owned by one person or entity and is considered as one customer. Others have one meter box for each living unit. Many of the fourplex meter boxes have no meters installed, instead using a jumper so that water flows, with the company assessing the flat rate. However, several of the meter boxes are broken, collapsed, or completely buried, possibly needing to be replaced or have a surface extension added. Thus, by working on a few of the meter boxes and installing meters in all of them, metered service with a meter for each customer is feasible. Work verifying which meter/connection serves which living unit of fourplexes, installing new meters, verifying the accuracy of those meters to be kept in service, and landscaping around some meter boxes in order to facilitate efficient meter reading needs to be done. Currently, there are about 42 meters read monthly, possibly another 42 that are not read (and may not work) and possibly 36 customers/living units with no meter (a single meter may serve 4 living units in a fourplex). On a going-forward basis, all meters need to be read and used for billing purposes, and a ten year meter replacement program with appropriate record keeping needs to be implemented.

Meters must be in place and functioning in order for this system to be competently operated, no matter who is operating it or what is the source of water. The customer meters are used by the operator and manager in assessing the condition of the distribution piping by comparing the

amount of water sold to all customers with the amount of water pumped through the master meter. Or, alternatively when wholesale purchase is involved, the meters are even more critical since water lost through leaks on the company's distribution system is purchased at the wholesale rate, which is considerably greater than the basic cost of pumping from a well. Meters are also valuable in detecting leaks on customer-owned plumbing. Finally, the customer meters are the "cash register" for the Company's sale of water to its customers.

Distribution System Plan/Map: A verified as-built plan needs to be produced so that the Company, and its operator, can make sound decisions regarding system maintenance and improvements. Such a plan should show the location and size of all distribution pipes and valves, as well as the location of other utilities (gas, electric, phone, and sewer) that are nearby. Apparently, a preliminary system plan, but not an "as-built" plan, was drawn in 1972. At this time, the best current information should be used to confirm pipe and valve locations and sizes.

Flushing Capability: There is currently one flush valve for the Company's system, but no way to determine what part of the distribution system this valve may adequately flush. The distribution system must be evaluated, and improvements made to make routine flushing workable and effective. The extent of improvements necessary will be discovered with evaluation of accurate system plans and field verification of existing valves. More than one flush valve will likely be necessary. The installation of whatever flush valves are necessary to flush all the mains at 3 feet per second velocity is critical to maintaining sanitary conditions in the distribution piping. At the present time, sections of the distribution piping may contain some residue, contributing to both low pressure and low quality water to some customers.

Distribution Piping: The condition of the distribution is unknown and will be uncertain until meters are functioning and adequate flushing is undertaken. If there is considerable unaccounted-for water (greater than 15%), then leaks will need to be located and corrected. If problems of inadequate pressure remain after adequate flushing and repairs of any leaks, then those problems will also need to be addressed. Additionally, if the Water District's connection is to be used, then installing a pressure-reducing valve at that connection should be considered, particularly if the system's unaccounted-for water is greater than 10%.

Day-to-Day Operations: During at least the past four years, there has not been adequate operations. There is no Certified Operator who is licensed as a water supply and distribution operator by the Missouri Department of Natural Resources ("DNR") at this time. The application of chlorine has not been properly controlled and has resulted in excessive corrosion in the well house. A trained operator understands the proper and safe use of chlorine for the disinfection of water. Likewise, a trained operator understands flushing techniques, maintaining pressure, and well operation. Competent operations must be done on a going forward basis.

Well Condition: The existing well is 1,050 feet deep, with a pressure grouted casing greater than 400 feet deep. The water produced is of similar quality and character as the Water District's water. The casing pipe at the wellhead has sustained severe corrosion in the recent past. While

this has been improved by painting the exterior of this pipe, the interior of this pipe should also be inspected for corrosion and corrective actions taken if needed.

Standpipe Condition: The standpipe has had several leaks patched recently, and has about 30 welded patches on the bottom third of the tank. Also, the tank's anchor bolts are not tight and should be tightened immediately, as the standpipe was observed previously to be swaying on a windy day. This was brought to the attention of Mr. Burnam at the time of the inspection, and was previously brought to the attention of representatives of the Company.

For the short term, the standpipe must be inspected from the inside by someone that specializes in water tank inspection. This inspection is critical to the determination of whether this standpipe can be kept in service or should be replaced. If the standpipe is to be kept in service, the inlet pipe from the well needs to be extended to a higher elevation in the tank to provide better circulation and reduce the risk of water stagnating in the tank, and to provide proper chlorine mixing and contact time.

Of note, if a transfer of the Company's system to the Water District was imminent, or if it were to be determined that the system will be operated as a wholesale customer of the Water District, then abandonment of the tank, instead of inspection and rehabilitation, would be appropriate. (Additionally, the tank and well would need to be isolated from the system.)

Recommendations Regarding Adequate Operation of the System

Several system improvements are necessary so that the Company can provide safe and adequate service to its customers, regardless of the final disposition regarding the source of water supply or system ownership. Those improvements, and dates by which they should be made, are set out below.

1. Not later than August 31, 2007, employ/contract with an appropriate DNR-certified operator that will be onsite at least three times a week, that will ensure that the system is operated in accordance with applicable DNR safe drinking water standards, specifically including daily checks on the chlorination and distribution system residuals, that will become familiar with this particular system, and that will be physically available on short notice to respond to problems in the system.
2. Not later than August 31, 2007, establish properly operating meters for all customers, buildings or connections to ensure that all dwelling units are individually metered. Install new meters where necessary.
3. Not later than August 31, 2007, contract with a qualified tank inspector to inspect the interior and exterior of the standpipe to determine its condition and whether it can/should remain in service, with the inspection to be completed, and a report of

the inspection to be provided to the Manager of the Water & Sewer Department, by September 30, 2007.

4. Not later than October 31, 2007, provide the Manager of the Water & Sewer Department with a written plan regarding the rehabilitation or replacement of the standpipe, consistent with the findings set out in the inspection report.
5. Not later than August 31, 2007, contract with an engineering firm to produce a plan of the distribution system, as described above, with that plan to be completed and provided to the Manager of the Water & Sewer Department by October 31, 2007.
6. Not later than six months after the distribution system plan is produced, install an adequate number of flush valves to establish flushing capabilities of at least 3 feet per second in all mains, with the flushing capability to be verified in the field by DNR or PSC Staff. Once the valves are installed, system flushing should be done on a regular basis, beginning on a six-month basis.
7. Beginning with the next billing cycle, read all installed meters on a monthly basis and use those meter readings for billing purposes, and also read the system's master meter in conjunction with obtaining the customer meter readings.
8. Beginning with the September 2007 billing cycle, prepare monthly reports comparing the aggregate customer meter readings with the system's master meter readings, and provide those reports to the Manager of the Water & Sewer Department quarterly beginning in December 2007.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

AFFIDAVIT OF MARTIN HUMMEL

STATE OF MISSOURI)

) SS

CASE NO. WC-2007-0452

COUNTY OF COLE)

COMES NOW Martin Hummel, being of lawful age, and on his oath states the following: (1) that he is a Utility Regulatory Engineer in the Missouri Public Service Commission's Water & Sewer Department; (2) that he participated in the preparation of the foregoing *Staff Report of Investigation*; (3) that he has knowledge of the information presented in the foregoing *Staff Report of Investigation*; and (4) that the information presented in the foregoing *Staff Report of Investigation* is true and correct to the best of his knowledge, information and belief.




Martin Hummel


Subscribed and sworn to before me this 24th day of July 2007.



Notary Public

My Commission Expires:

 June 7, 2008


CARLA K. SCHNIEDERS
Notary Public - Notary Seal
State of Missouri
County of Cole
My Commission Exp. 06/07/2008

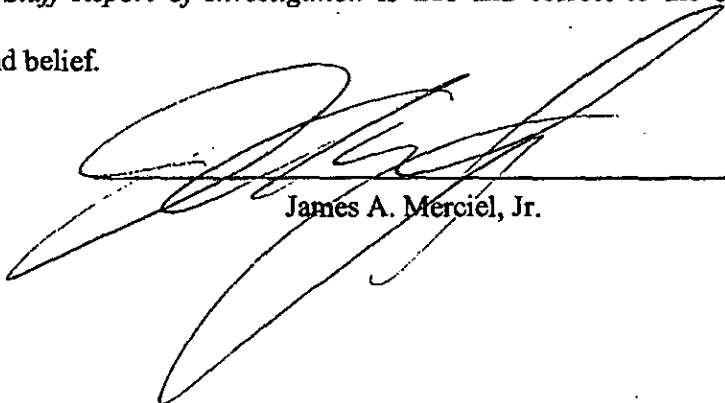
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

AFFIDAVIT OF JAMES A. MERCIEL, JR.

STATE OF MISSOURI)
) SS
COUNTY OF COLE)

CASE NO. WC-2007-0452

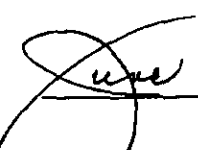
COMES NOW James A. Merciel, Jr., being of lawful age, and on his oath states the following: (1) that he is a Utility Regulatory Engineering Supervisor in the Missouri Public Service Commission's Water & Sewer Department; (2) that he participated in the preparation of the foregoing *Staff Report of Investigation*; (3) that he has knowledge of the information presented in the foregoing *Staff Report of Investigation*; and (4) that the information presented in the foregoing *Staff Report of Investigation* is true and correct to the best of his knowledge, information and belief.


James A. Merciel, Jr.

Subscribed and sworn to before me this 24th day of July 2007.


Notary Public

My Commission Expires:


June 7, 2008

