

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

The Staff of the Missouri Public Service Commission,)	
)	
)	
Complainant,)	
)	<u>Case No. WC-2008-0030</u>
v.)	
)	
Suburban Water and Sewer Co. and Gordon Burnam,)	
)	
)	
Respondents.)	

STAFF’S UPDATED REPORT AND MOTION FOR EVIDENTIARY HEARING

The Staff of the Public Service Commission, by attorney, states that this updated status report addresses the current condition of the Suburban Water System standpipe and Suburban’s ability to provide safe and adequate water service. The status of Suburban’s system has not changed since Staff’s Status Report filed November 13, 2007, and those issues remain for Commission determination. However, information regarding the abysmal condition of the standpipe has been ascertained and is described in the following remarks and exhibits. The condition of the standpipe compels the Staff to renew its November 13, 2007 request for hearing and move the Commission again to address the safety and adequacy of Suburban Water’s provision of water services to its customers.

Clyde Zelch of Tomcat Consultants cleaned and inspected the standpipe on August 29, 2007. In spite of discovery efforts, Zelch’s report was not provided to the undersigned and Staff until December 6, 2007, when the undersigned deposed Zelch and obtained the following information regarding the standpipe:

1. The standpipe has **no coating** between the wall of the tank and the water that is distributed to Suburban's water customers. Customers are consuming water that is in direct contact with rust, blisters, pits and barnacles inside the standpipe. The pictures attached to Zelch's deposition as Exhibit 14 show in numbers 8 through 19 that the inside of the tank, as described by Zelch in Exhibit 15, is "SOLID RUST", "RUST, RUST and more RUST" and "NO paint, just rust"(emphasis in original). Deposition Exhibits 14, 15, and 16 are attached hereto.

2. Zelch states that picture number 15 shows "heavy barnacles, blisters and pits. **I am confident that if I scratched very much, I would find pits that go completely through to daylight**"(emphasis in original). Describing picture number 17, Zelch claims "the lower $\frac{1}{4}$ to $\frac{1}{3}$ of the tank is ABSOLUTE JUNK AND NOT REPAIRABLE. The tank will have to be replaced, it is not worth spending money on this one." Zelch Depo. Exhibit 15. Zelch identified over 30 patched leaks on the tank. Zelch Depo., p. 41.

3. When queried about the quality of water being sold by Suburban from its standpipe, Zelch answered that "[standpipes] have to be clean. You can't get clean water out of a dirty tank.... you can't really get good, clean, drinking water out of a tank that has coatings that are full of blisters, failed paint. So the condition of the coating is directly tied to tank sanitation." Zelch Depo., p. 16 and 17.

4. Standpipes should be drained, cleansed and evaluated every five years. Id., p. 16-17. Suburban's standpipe has been in service for over 30 years. But there is no indication that Suburban's standpipe was ever recoated on the inside. Id., p. 40. Had the

standpipe been properly maintained, its useful life would have been “unlimited”. Id., p. 48.

5. Water sold to Suburban customers is not sufficiently chlorinated because the water has “no real detention time” in the tank in the summer. Any water that enters the tank flows into and out of the tank through the same pipe located at the bottom of the tank. In the summer, the relatively cooler water enters and stays on the bottom of the tank due to thermal stratification, then exits without circulating with warmer water that stays at higher levels in the tank, thereby reducing the time the chlorine has to work. By contrast, in the winter the water is relatively warm and after entering the tank the water rises, thereby circulating with water already in the tank and providing more detention time. Id., p. 59-61.

6. System water pressure is important to providing safe and adequate water by keeping contaminants out of the distribution system. Zelch described the water pressure generated by the standpipe as “pretty damn minimal” and “a bottom end of what's functional in water pressure.” Id., p. 46.

7. There are additional problems with the safety and adequacy of the standpipe at Suburban identified in Zelch’s report. Inadequacies include but are not limited to the lack of a valve to isolate the standpipe from the well. Id., p. 32-33. Also, “the overflow is stubbed out at the top and it is screened and the vent stack is entirely too short. The air intake point is only a few inches, some like three or four, and possibly less than that since that's 3-inch pipe. The distance to the roof is about 3 inches, which does not meet sanitary requirements. The overflow needs at least a 12-inch clearance between

the lowest point of air intake and the closest reasonably flat surface that the birds can sit on and crap on.” Zelch Depo., p. 30-34.

Wherefore, the Staff requests the Commission to: 1. Find that there is no just reason for delay; 2. Bring this matter to conclusion and order Suburban to make improvements so that it can provide safe and adequate water service; and, 3. Set this matter for prehearing conference, establish a procedural schedule, and set an evidentiary hearing.

Respectfully submitted,

/s/ Steven C. Reed

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing 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 4th day of January, 2008.

/s/ Steven C. Reed



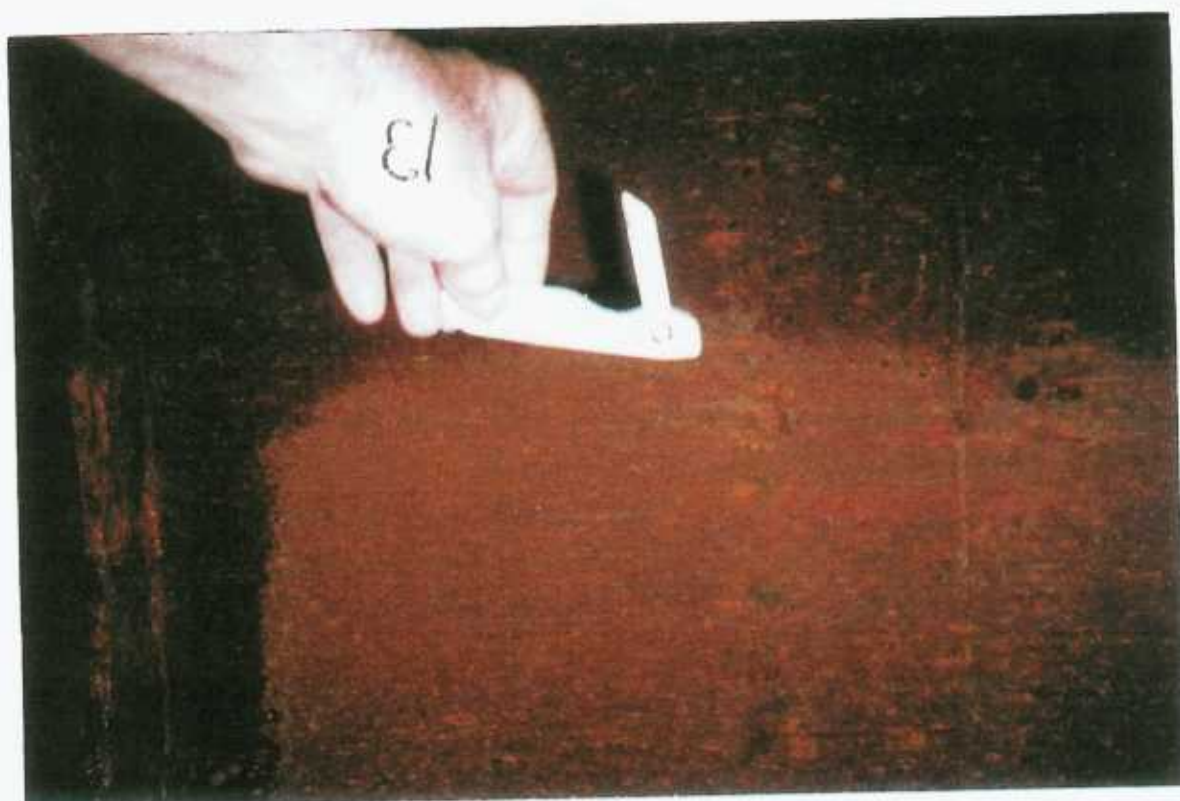
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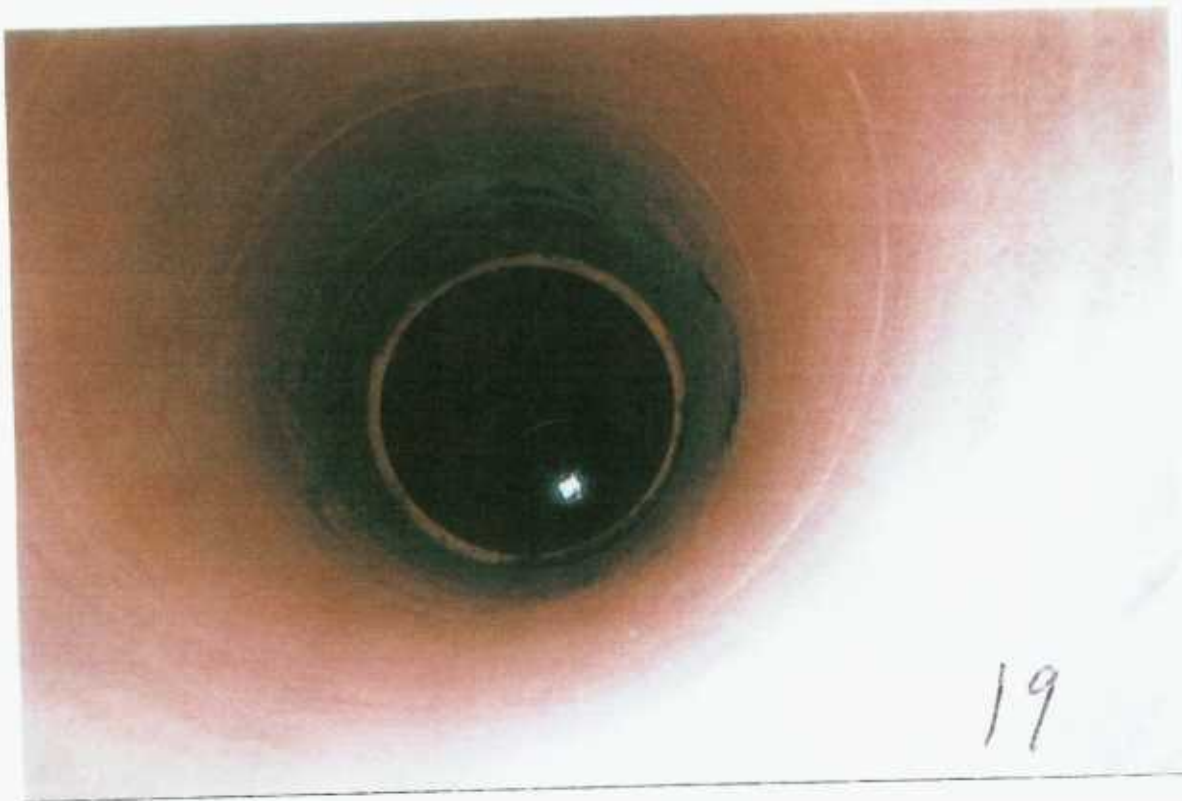












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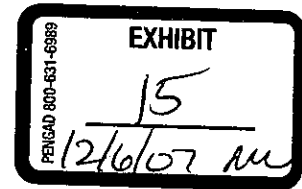


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September 25, 2007

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Contact Person: Tom Harrison

Inspection Date: August 29, 2007

The following pictures were taken during the cleaning and inspection of the standpipe water storage tank located at Bongor Estates, which is owned by Suburban Water & Sewer, located at 1501 Vandiver Drive in Columbia, Missouri.

PICTURE REPORT

- | <u>Picture #</u> | <u>Description</u> |
|-------------------------|---|
| 1. | Tank is 6' diameter by approximately 80' tall, the well house is visible behind the tank. The lower 1/3 has almost no paint left and several patches. The exterior has, or HAD, a two or more coat alkyd system with a red iron oxide primer and an oil base aluminum finish. Tank exterior was last painted in 1990 or 1991 (I painted it), the tank was NOT drained and <u>NO</u> interior cleaning or painting was done at that time |
| 2. | Looking from the well house towards the tank – I drew piping lines on this picture as I believe they exist. There are two valves that can shut water off, both right and left, going to distribution BUT CAN NOT CLOSE OFF THE TANK, another valve is needed at the (X), marked on the picture. |
| 3. | Ground level access manway is 16 1/2" inside diameter and the cover plate is not hinged, or on a davit arm. This opening is too small and is not compliant with current Design Standards of the MO.DNR or AWWA. The anchor bolts are loose, there are 8 bolts @ 2" diameter, but tightening them now is pointless. |
| 4. | The overflow is stubbed out at the top and it is screened. Overflow's are required to come to grade and should have both a # 4 screen and a hinged flapgate. |

5. Tank is 80' 8" tall. The ladder is not compliant with current OSHA Design & Safety Regulations, has no safety climb and no climb prevention cover. The roof hatch is 24" square, hinged and lockable, this would be okay.
6. The vent is a 3" diameter pipe, inverted J, and it inhales air less than 3" above the roof. This vent is NOT frost resistant, NOT sanitary, and NOT complaint. I put the screen on in the early 1990's.
7. Inside the tank - overflow intake is an open end 4" pipe and the high water level is 79' 10". There is a very small amount of red paint on the roof and top few feet of shell wall.
8. Very little paint at the top and nothing but RUST going down.
9. Looking down - Solid RUST. There are 4 or 5 reinforcement bands inside.
10. The top 3 shell sections are covered with rust grains, starting at the 4th section down there is scale rust and pitting.
11. The places with solid rust scale and shallow pits are indicated by arrows
12. At the joint of section 4 to 5 down is SOLID RUST.
13. The 6th and 7th sections down is RUST, RUST and more RUST. The pits are getting more serious.
14. About halfway down I found NO paint, just rust.
15. About 2/3 down are heavy barnacles, blisters and pits. I am confident that if I scratched very much, I would find pits that go completely through to daylight.
16. RUST, pits and patches welded on the outside.
17. The lower ¼ to 1/3 of the tank is ABSOLUTE JUNK AND NOT
18. REPAIRABLE. The tank will have to be replaced, it is not worth
& spending money on this one. Start over with a different tank, there
19. should be decent repairable 6' tanks out there, that could be moved here and set on this concrete pad.
20. The roof hatch is closed and held with a bolt.

21. The hatch is closed and bolted. The tank is chlorinated and refilling.
22. There are 30 + patches on the bottom 5 or 6 shell sections. Very little aluminum finish and not much red primer. This tank is in VERY POOR condition.

Comments:

In the well house the pressure gauge and control pressure switch are set up wrong, or they are the wrong type. The pressure gauge should be installed on the down stream side of the snubber, to take out the hammer of starting and stopping from the gauge (that is why the needle is bent), and the gauge can not remain reasonably accurate when it's hammered, as it is now.

The pressure switch is the wrong type. The spread between "on & off" is entirely too wide and can not be adjusted down to what is needed. This type of switch is intended for use on a hydro-pneumatic system, with a pressure spread of 15 to 20 PSI. Your system needs a pressure switch with an adjustable spread of no more than 5 PSI. They are available from USA Bluebook and others.

Clyde H. Zelch

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September 5, 2007

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County: Boone

Contact Person: Tom Harrison

Inspection Date: August 29, 2007

Tank : Located at Bongor Estates, and owned by Suburban Water & Sewer
which is located at 1501 Vandiver Drive in Columbia, Missouri.

INSPECTION REPORT

Specs:

The system was shut down for the cleaning & inspection of the tank but pressure can be maintained by the Rural Water District.

It is unknown when the tank was built, or who built it.

This is a standpipe water storage tank.

It holds approximately 210 gallons per foot.

The tank capacity is 16,850 gallons total.

The high water level is 79' 10".

The tank is 80' 8" in height.

The tank is 6' inside diameter.

There is electric in the well house, about 30' away.

The tank is not lettered.

The tank area has limited working room.

Tank Exterior and Conditions:

The foundations are concrete pad and in GOOD condition.

The foundations show no indication of settling.

The tank base is anchor chairs and they are GOOD.

The base plate has heavy rust.

There are 8 anchor bolts @ 2" diameter, they are GOOD.

There were no indications of leaks in the tank on the day of the inspection, but the bottom section had at least 32 patches.

The tank ladder has 5/8" X 14 1/2" rungs, 5/16" X 2" side rails, and 4 1/2" toe clearance. There is no climb prevention cover and no safety climb. This is not compliant and not safe.

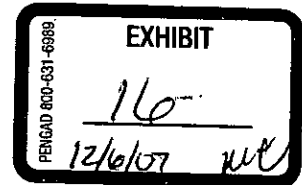
OSHA requires tank ladders have 3/4" X 16" non-skid rungs, 3/8" X 2" side rails, and 7" toe clearance.

The tank has no balcony.

The tank has no roof ladder.

The tank has no water level indicator, there is a pressure switch and gauge in the well house.

There are no facilities to drain the tank.



There are no bolts, rivets, or welds missing.

The roof vent is POOR. It is a single screen design, not frost proof and too short.

The overflow piping is 4", stubbed out at the top and screened.

The roof access hatch is 24" square, hinged and lockable, but needs a gasket.

The paint on the roof is POOR.

The paint on the tank is POOR.

The general condition of the exterior coating is POOR.

The general condition of the exterior steel is POOR. It looks bad and has many patches.

Tank Interior and Condition:

There is no significant interior coating left, it's all rust.

There is no rigging rail.

There is no ladder into the tank.

The roof coating is POOR.

The upper tank coating has HEAVY RUST.

The center tank coating has HEAVY SCALE RUST.

The lower tank coating is RUST, with deep pits to numerous to count.

The tank base plate coating is POOR, it has deep pits.

The overflow intake is an open end 4" pipe.

The fillpipe size is 6" inside diameter and 7" outside diameter.

The fill pipe is 6" in height and has no cover.

The upper tank steel is FAIR to POOR.

The center tank steel is POOR.

The lower tank steel is POOR.

The base plate steel is POOR.

The tank access manway is 16 1/2" inside diameter, has 16 bolts @ 5/8", is not hinged and has no davit arm.

The general condition of the interior coating is that there is NO COATING LEFT, only RUST, more heavy rust and pits.

The general condition of the interior steel is that it's JUNK.

ITEMS DIRECTLY RELATED TO SANITATION

1. The tank is clean.
2. There are no interior tank coatings left.
3. The rust scale and heavy pitting is, in itself, a sanitary problem.
4. The overflow is stubbed out at the top and screened, overflow's are required to come to grade.
5. There are numerous patches on the bottom section of the tank and the steel is junk. This tank is NOT repairable.

Clyde H. Zelch

Clyde H. Zelch, Inspector
Tomcat Consultants