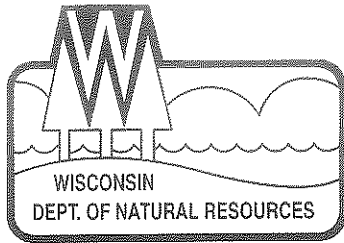


Item 18-1



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary
Lloyd L. Eagan, Regional Director

South Central Region Headquarters
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August 2, 2007

File ref: 3310
FID No. 113022470

Mr. David Denig-Chakroff, Manager
Madison Water Utility
119 E. Olin Avenue
Madison, WI 53713-1431

SUBJECT: 2007 DNR ANNUAL INSPECTION REPORT

Dear Mr. Denig-Chakroff:

Monday, July 23, 2007, I met with you, Al Larson, Chuck Engelhart, Dan Rodefeld and Kathy Cryan to conduct this year's annual inspection of the Madison Water Utility. Inspections of public water supply systems in Wisconsin are conducted yearly by the Department to inspect improvements made during the year in the system, review-operating practices and to ensure the water system continues to meet state and federal requirements. During the last year, a number of things have been addressed by the Water Utility or have been added to the Water Utility's infrastructure. Those items are as follows:

- Last year, the Utility hired a drilling firm to abandoned well no. 5 as this well was never grouted as required by code. The DNR never received a copy of the abandonment report form for our files. I contact Mr. Mark Thurow from Water Well Solutions and asked him to send me a copy of the well abandonment report form which he has since done. I've enclosed a copy of the Well no. 5 abandonment report for your files just in case you never received a copy.
The Water Utility during the last 12 months has completed seven new Well Head Protection plans (WHPP) for the City wells. The Water Utility now has WHPPs for wells no. 6, 12, 14, 15, 18, 19, 24, 26, 28, 29 & 30.
The Water Utility has started the process for siting a new well to replace well no. 3 which is scheduled to be abandoned later this year. Well no. 3 was taken out of service by the Water Utility due to increasing concentrations of carbon tetrachloride. The Utility is encouraged to continue to move forward in a timely manner to find a suitable site for a new well. Any questions you or your consultants might have in regard to well siting issues should be directed to Mark Harder, from our Central Office and he can be reached at (608) 267- 5262.
In August of 2007, the Felland Road Reservoir will be put into service. This 6 million gallon reservoir is located off of Felland Road on the Far East side of the City. When the reservoir is operational, it will float on the system to maintain a stable pressure in this area of the system. Due to the size of the reservoir and problems associated with taking such a large reservoir out of service every five years, I have added this reservoir to the following list of reservoirs in Madison that have been granted an exemption to inspect on a ten year basis instead of every five years are required by code. (High Service Reservoir #106, Smith Reservoir at well no. 20, High Point Reservoir at well no. 26, the Reservoir at well no. 19, the Allis Heights Reservoir at well no. 9, the Reservoir at well no. 24, the E.L. Nordness Reservoir and the Felland Rd. Reservoir.)

- The Water Utility has plans to run the test well located on Larkin Street this summer to gain more information on water quality and quantity issues at this location. We ask that you keep us informed on the test pump data so that we can better evaluate plans and specifications for any permanent well that may get sited for this location.
- The following well site reservoirs were cleaned and inspected in 2007: Well #6, 8, 13, 17, 18, 27, 28 & 29.

The Madison Water Utility needs to continue to make improvements to the infrastructure to make it as reliable and dependable as possible for the Madison water consumer. As a result of this year's inspection visit, the following items were noted and will need to be addressed in addition to those items listed in previous year's inspection reports. Those items are as follows:

1. The screen on the well vent at well no. 23 needs to be replaced as it was missing on the day of this inspection. Please see that this item is taken care of immediately.
2. The Madison Water Utility has been in the process of evaluating what is the best treatment technique to be installed at well no. 29 to address the manganese issue. The Utility has decided to install a filtering plant at well 29 to remove the manganese from the water before it is pumped into the distribution system. I want to make sure the Water Utility understands that with the addition of the new filtering plant at well #29, the waterworks operators will now be required to obtain certification in Subclass I in addition to Subclass G and D that they should already be certified in. The Subclass I certification is required of operators that work at water utilities that utilizes filtration as a treatment practice. Please see that the waterworks operators obtain this subclass to meet this operator certification requirement.
3. The Water Utility must continue to enforce the City's private well abandonment ordinance. Reportedly, I have heard that there are over 6,000 private wells within the City limits. Private wells that are within the City's service area need to be addressed by either permitting these wells through the City's permitting process or if the well owners don't want to keep their wells, then those wells must be permanently abandoned. Proper enforcement of this ordinance can help to protect the ground water aquifers against possible contamination. Please continue to implement this necessary program.
4. The injection point for fluoride acid needs to be located in the lower half of the discharge pipe with the injection nozzle projecting upward. Please see that this is taken care of and the fluoride injection point is relocated at well no. 8, 9 and 19, as the present location is into the top of the pipe.
5. Separate chlorine rooms that are airtight need to be installed at unit wells no. 6, 7, 11, 12, 13, and 23, whenever major repairs are made at these facilities. This is required to prevent injury to personnel and to prevent costly repairs to the equipment.
6. When the access doors at wells no. 10, 12 and 14 need to be replaced, they must be installed to open to the exterior instead of the present design, which has them opening into the well house.
7. At well no. 11 and 13, the pump discharge piping is buried between the respective well and reservoir. Our concern over this type of installation is that the well discharge line is under negative pressure when the reservoir is drained and this could allow surface water to infiltrate the buried line. The well discharge line either must be encased in concrete to prevent surface water from infiltrating the water line or the line could be dug up and installed through concentric piping. Either one of these methods would be acceptable to correct this problem noted at these two wells. Plans for upgrading these facilities, to prevent surface water from infiltrating the buried sections of piping, should be submitted to this Department for approval when major repairs are made to these well house facilities.

8. The booster pump and the electrical equipment located in the basement of well no. 7 should be relocated to an above ground location.
9. When well no. 3 is permanently abandoned, please send me a copy of the well abandonment report form for my files.
10. Reportedly, the elevated storage tank referred to as 315 is scheduled to be painted within the next year. Please be reminded that prior Department approval for the type of paint used on the interior surface of the tank must be obtained before this work can commence. The paint specifications should be sent to Larry Landsness, Bureau of Drinking Water, 101 South Webster, Box 7921, Madison, WI 53707.

A review of Department records reveals an excellent history of sampling and report submission for the last 12-month period. Monthly operational reports have been thoroughly completed and submitted to the Department in a timely manner. The required number of monthly distribution and quarterly raw water samples has been submitted to the State Lab for bacteriological analysis and all samples were reported to be safe. The operators have done an excellent job in the collection of bacteria samples during the last twelve months and they are encouraged to continue this fine work.

A review of the City's fluoridation program reveals a good history for the last 12-month period. The average residual for the twelve monthly split samples was 1.21 parts per million (ppm) which is just slightly higher than the optimum level of 1.1 ppm. The operators should strive to maintain the optimum fluoride residual in the water at all times to provide the greatest benefits to the public to protect against tooth decay. The monthly fluoride split sample results submitted by the operators have compared favorably to those obtained by the State Lab of Hygiene. This is an indication that they are doing a good job when performing the fluoride residual test. It also indicates that the fluoride testing equipment used to obtain these analyses is functioning properly. Overall, they are commended and encouraged to keep up the good work with the fluoridation program in the future.

I would like to thank all of you for your fine cooperation and tour of the facilities on the date of my visit. If there are any questions, feel free to contact me at this office.

Sincerely,



Thomas B. Stunkard, P.E.
Public Water Supply Engineer
Telephone: (608) 275-3300

cc: Mr. Mark Harder, Bureau of Drinking Water - DG/2
Mr. Chuck Engelhart, Maintenance Superintendent, 110 S. Paterson Street, Madison, WI 53703
Mr. Alan Larson, Principal Engineer, 119 Olin Avenue, Madison, WI 53713
Mr. Dan Rodefeld, 110 S. Paterson Street, Madison, WI 53703