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MISSISSIPPI STATE DEPARTMENT OF HEALTH

REPORT OF INSPECTION OF DRINKING WATER SUPPLY

PWS: 0240060 **Class:** D

An inspection of the NAVAL CONSTRUCTION BATTAL CTR water supply in HARRISON county was made on 08/29/2011. Present at the time of inspection was GORDON R CULPEPPER, OPERATOR; WRITER. Official CHRISTOPHER KNUDSEN Address 2401 UPPER NIXON AVE GULFPORT MS 39501 W.W. Operator GORDON R CULPEPPER Address 15767 TEXAS AVENUE GULFPORT MS 39503 No. Connections 1271 No. Meters ___ Population Served 3341 Field Chemical Analysis: pH ___ Cl2(free) 1.5 Cl2(total) ___ H2S N/A Iron ___ Fluoride ___ Point of Sampling DISTRIBUTION Water Rates ___

COMMENTS

Technical: 5 Managerial: 5 Financial: N/A

OVERALL CAPACITY RATING: 5.0 / 5.0

1. The water system appeared to be well maintained and operating properly at the time of inspection. No significant deficiencies were observed during the survey.

2. The design capacity calculations attached to this report and the table below give the required minimum chlorine residual near each entry point. Should system officials choose to conduct 4-log virus inactivation to comply with the Groundwater Rule, the free chlorine residual will have to be measured and recorded at least daily at or before the first customer near each entry point and must meet the minimum residuals given below.

Location	Required minimum
Well #02 First Connection	0.2 mg/L
Well #04 First Connection	0.3 mg/L
Well #05 First Connection	2.2 mg/L

3. It is possible to obtain a lower residual for Well #05 by adding a storage tank in the well yard. This will increase contact time and will decrease the required minimum chlorine residual.

4. No pressure problems were reported at the time of inspection.

5. The system has a generator at each well to provide water in the event of a power outage.

6. Before any improvements are made on the water system, plans and specifications must be submitted by a Registered Professional Engineer licensed to practice in Mississippi. Plans and specifications must be approved by the Mississippi Department of Health-Bureau of Public Water Supply before any construction can begin.

7. When repairs are made on the water distribution system, all lines affected should be properly chlorinated and flushed before they are placed back in service.

8. All dead-end water lines should be flushed on a routine schedule to clear the lines of sediment and stagnant water.

9. Whenever system pressure is lost, even for brief periods of time, contaminants may be introduced to the system through back-siphonage and back flow. When this occurs, system officials should notify all customers in the affected area to boil their drinking water until clear bacteriological samples have been obtained.

Completed by Wendy Ferrill, P.E. on 08/30/2011.

Reviewed by Keith Allen on 09/06/2011.

If you have any questions, please call (228)297-5187.

pc:

CHRISTOPHER KNUDSEN, OFFICIAL
GORDON R CULPEPPER, OPERATOR

Mississippi Department of Health
Bureau of Public Water Supply

NON-TRANSIENT, NON-COMMUNITY FORM

FY 2012 Public Water System Capacity Assessment Form

NOTE: This form must be completed whenever a routine sanitary survey of a public water system is conducted by a regional engineer of the Bureau of Public Water Supply.

PWS ID#: 0240060 Class: D Survey Date: 08-29-2011 County: HARRISON
Public Water System: NAVAL CONSTRUCTION BATTAL CTR Conn: 1271
Certified Waterworks Operator: GORDON R CULPEPPER Pop: 3341

CAPACITY RATING DETERMINATION

Technical (T) Capacity Rating: [5] Managerial (M) Capacity Rating [5]

Capacity Rating $= \frac{T+M}{2} = \frac{10}{2} = 5$

Overall Capacity Rating = 5.0

Completed by Wendy Ferrill, P.E. on 08/30/2011
Reviewed by Keith Allen on 09/06/2011

Comments:

Technical Capacity Assessment	Point Scale	Point Award
[T1] Does the water system have any significant deficiencies? [Y (N)]	N - 1pt. Y - 0pt.	1
[T2] 1) Was the water treatment process functioning properly? [(Y) N] (i.e. Is ph, iron, free chlorine, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at the time of survey? [(Y) N] (**NOTE:** Equipment deficiencies must be identified in survey report.) 3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [(Y) N NA]	All Y - 1 pt. Else - 0 pt.	1
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? [(Y) N] 2) Was log book up to date and properly maintained and did it show that MDH Minimum Job Guidelines for W.W. Operators were being met? [(Y) N] 3) Was water system properly maintained at time of survey? [(Y) N] 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? [(Y) N] (**NOTE:** All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	1
[T4] 1) Does water system routinely track water production and were acceptable water production records available for review by the regional engineer? [(Y) N] 2) Is water system overloaded? (i.e. serving customers in excess of MDH approved design capacity)? [Y (N)] 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? [Y (N)] (based on operator information, customer complaints, MSDH records, other information) 4) Are well pumping tests performed routinely? [(Y) N NA] (**NOTE:** YES for #1 & YES OR N/A/ FOR #4 and NOs for #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt. 4)Y - pt.	1
[T5] 1) Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.) [(Y) N] NOTE: Systems may provide bottled water if included as part of a published emergency plan. 2) Does the water system have a usable backup source of water? [(Y) N]	All Y - 1 pt. Else - 0 pt.	1
TECHNICAL CAPACITY RATING = [5] (Total Points)		

Public Water System: NAVAL CONSTRUCTION BATTAL CTR PWS ID #: 0240060

FY 2012 Public Water System Capacity Assessment Form Survey Date: 08-29-2011

Management Capacity Assessment	Point Scale	Point Award
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? [Y N]	Y - 1pt. N - 0pt.	1
[M2] Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies and procedures available for review during the survey? [Y N]	Y - 1pt. N - 0pt.	1
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? [Y N]	N - 1pt. Y - 0pt.	1
[M4] Has the water system developed a preventive maintenance schedule and was a copy of this schedule available for review during survey? [Y N]	Y - 1pt. N - 0pt.	1
[M5] 1) Does the water system have an effective cross connection control program in compliance with MSDH regulations? [Y N] 2) Was a copy of the MSDH approved bacti sample site plan and lead and copper sample site plan available for review and do bacti results clearly show this approved plan is being used for all bacti monitoring? [Y N]	All Y - 1 pt. Else - 0 pt.	1
MANAGEMENT CAPACITY RATING = [5] (Total Points)		

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MISSISSIPPI DEPARTMENT OF HEALTH
BUREAU OF PUBLIC WATER SUPPLY
DESIGN CAPACITY SHEET

System: **NAVAL CONSTRUCTION BATTAL CTR**
ID: **0240060** Class: **D** County: **HARRISON**

Date Completed: **08/30/2011**
Connections - Actual: **1271** Equivalent: **1271**
Design Capacity: **5000** Percent Design Capacity: **1271/5000 = 25.4%**

Design Capacity = Well Capacity + (Elevated Storage / 200)

Well Capacity = 500 + 1000 + 1000
Well Capacity = 2500

Elevated Storage = 500,000 + 200,000
Elevated Storage = 700,000

Design Capacity = 2500 + (700,000 / 200)
Design Capacity = 2500 + 3500
Design Capacity = 6000

NOTE: Design Capacity limited to two times (2X) the Well Capacity.
Design Capacity = 2500 * 2 = 5000

% of Design Capacity = (# of existing connections / design capacity) * 100
% of Design Capacity = (1271 / 5000) * 100
% of Design Capacity = 25

GROUNDWATER RULE CALCULATIONS:

Well #02: T = 68F + 9 = 77F
CT = 2.0 mg*min/L

C = 2.0 mg*min/L / ((142ft*5.9gal/ft)/500GPM + (79ft*2.6gal/ft)/250GPM + (771ft*2.6gal/ft)/125GPM + (50ft*2.6gal/ft)/63GPM)
C = <0.2 mg/L *Therefore, the minimum residual of free chlorine at the first connection should be 0.2mg/L in order to comply with the Groundwater Rule and the Safe Drinking Water Act.

Well #04: T = 68F + 8 = 76F
CT = 2.1mg*min/L

C = 2.1mg*min/L / ((47ft*2.6gal/ft)/1000GPM + (181ft*2.6gal/ft)/500GPM + (362ft*2.6gal/ft)/250GPM + (94ft*2.6gal/ft)/125GPM)
C = 0.3 mg/L *Therefore, the minimum residual of free chlorine at the first connection should be 0.3mg/L.

Well #05: T = 68F + 7 = 75F
CT = 2.2mg*min/L

C = 2.2mg*min/L / ((63ft*2.6gal/ft)/1000GPM + (118ft*2.6gal/ft)/500GPM + (275ft*0.2gal/ft)/250GPM)
C = 2.2 mg/L *Therefore, the minimum residual of free chlorine at the first connection should be 2.2mg/L.

MISSISSIPPI STATE DEPARTMENT OF HEALTH
DIVISION OF WATER SUPPLY
PUBLIC WATER SUPPLY - MASTER DATA SHEET

Name of Supply Naval Construction Battalion Center **Owner** U.S. Navy

County Harrison **Class** D **Date of Last Inspection** 08-29-11 **Master Meter** Yes

PWS ID Number 0240060 **Design Capacity** 5000 **Connections Served** 1271(eq)

Supply: **Source:** **Purchase** ____ **Surface** ____ **Ground** X **Number of wells** Five

Well Data:

Well ID No.	Location	Year Const.	Cap. gpm	Pres.	Casing	Screen	Depth	Cl2 Setting
240060-01	Plant 1	1942	600		10"		1196'	Abandoned
* 02	Plant 2	1942	500		10"		854'	10
03	Plant 3	1943	500		10"		761'	Abandoned
** 04	McKinney Ave.	1978	1000		16"	10"	746'	30
*** 05	Brown Ave	1978	1000		16"	10"	722'	35

* Master meter reading 275 GPM and 94159221 gallons on 08-29-11.
** Master meter reading 1291138 gallons on 08-29-11.
*** Master meter reading 1100 GPM and 450020000 gallons on 08-17-10.

Treatment: **Iron** ____ **Softening** ____ **Corrosion** ____ **Chlorine** X **Fluoride** ____

	No.	Type	Capacity	Remarks
Aerator				
Flash Mix				
Flocculator				
Settling				
Gravity Filter		**Media**		
Pressure Filter		**Media**		
Chlorinator	3	Advance 200	100 ppd	Switchover
Fluoridator				
Chemical Feeders				

Storage:	Location	Material	Capacity	Remarks
Elevated	Next to Office	Steel	500,000	const. 1985, bottom 97' 10"
Elevated	Well 4	Steel	200,000	const. 2004, OF 134' 6"

Service Pumps:	No.	Location	Capacity gpm	Head	Controls

Booster Stations:	Location	Collector Tank	Pumps	Storage Tank