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DAVE MARTIN
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Certified Mail - Return Receipt Requested

May 3, 2011

Mr. Juan Lopez, President
Abiquiu MDWCA & MSWA
P.O. Box 133
Abiquiu, NM 87510

Re: Minor Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, Abiquiu MDWCA, NM0024830, April 28, 2011

Dear Mr. Lopez,

Enclosed, please find a copy of the report for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the Federal Clean Water Act.

Findings are based on the inspector's observations in regards to specific requirements of the NPDES permit. The Abiquiu WWTP received an overall evaluation rating of "2" on a scale of 1 to 5. Problems were found in the areas of Recordkeeping and Reporting, Operations and Maintenance, Laboratory and Sludge Disposal. Please refer to the Further Explanations section of the report for more detail.

You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and to modify your operational and/or administrative procedures, as appropriate. Further, you are encouraged to notify in writing both USEPA (Diana McDonald, USEPA (6EN-WT), 1445 Ross Ave, Dallas, Texas, 75202) and NMED (at above address) regarding modifications and compliance schedules.

I wish to thank you for the cooperation extended to the NMED while at the Abiquiu Wastewater Treatment Plant. If you have any questions about this inspection report, please contact me at (505) 222-9587 or sarah.holcomb@state.nm.us.

Sincerely,

Sarah Holcomb
Environmental Scientist/Specialist
Surface Water Quality Bureau

Cc: Marcia Gail Adams, USEPA (6EN-AS), by e-mail
Samuel Tate, USEPA (6EN-AS), by e-mail
Carol Peters-Wagnon, USEPA (6EN-AS), by e-mail
Diana McDonald, USEPA (6EN-AS), by e-mail
Larry Giglio, USEPA (6WQ-P), by e-mail
NMED District II, by email
Mike Coffman, NMED Utility Operator Certification Officer, by e-mail
Brad Reid, NMED GWQB, by e-mail

Introduction

On April 28, 2011, Sarah Holcomb of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Abiquiu Wastewater Treatment Plant (WWTP). The Abiquiu WWTP has a design flow capacity of 0.04 MGD (million gallons per day) and is classified as a minor discharger under the Federal Clean Water Act, Section 402, of the National Pollutant Discharge Elimination System (NPDES) permit program. It is assigned NPDES permit number NM0024830. This permit regulates the WWTP discharge to the Rio Chama in segment 20.6.4.116 according to the *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC*. This segment includes the designated uses of irrigation, livestock watering, wildlife habitat, coldwater aquatic life, warmwater aquatic life, and secondary contact.

The NMED performs a certain number of CEIs for the U.S. Environmental Protection Agency (USEPA), Region VI, under the NPDES permit program, in accordance with the Federal Clean Water Act. USEPA uses these inspections to determine compliance with the NPDES permit program. This inspection report is based on information provided by the permittee's representatives, observations made by the NMED inspector, and records and reports kept by the permittee and/or NMED.

Upon arrival at the WWTP at 0900 hours on April 28, 2011, the inspector conducted an entrance interview with Ms. Yvonne Lehman, Operator. The inspector and Ms. Lehman were later joined by Mr. Phillip Trujillo, Operator. The inspector presented credentials and explained the purpose of the inspection. Mr. Trujillo and Ms. Lehman conducted a tour of the facility. An exit interview was conducted with Mr. Trujillo and Ms. Lehman at the facility at approximately 1115 hours on April 28, 2011 to present the preliminary findings of the inspection.

Treatment Scheme

The Abiquiu WWTP serves a residential population of approximately 125 and a restaurant. The activated sludge package plant is situated at ground level and consists of a bar screen, an aeration basin, a clarifier, chlorine contact chamber, and a sludge digester. The facility also includes two sludge drying beds and a sand filter.

Wastewater influent directly enters the facility via gravity flow with two main collection lines converging on-site into a single pipe, which directs flow into the headworks. Influent passes through a 1-inch gapped bar screen that is manually cleaned when necessary. From the headworks, influent flows into a narrow (approximately 2' wide) aeration channel with two blowers that provide diffused air through a series of tubing situated at the bottom of the unit. One of the two blowers is always in use and the two units are alternated on a weekly basis. A series of baffles are installed in the aeration trough to increase detention time.

Following the aeration basin, wastewater enters a single clarifier equipped with a surface skimmer through which 50% of floatable solids are routed via an air lift pump to an aerated digester and 50% is sent back to the aeration trough. Return Activated Sludge (RAS) from the clarifier is also equally split between the digester and the aeration trough. The digester is primarily intended to further treat the floatable solids (largely consisting of grease) and a slot in the digester wall allows return flow of RAS into the aeration channel. Wastewater in the clarifier flows over a weir, through a chlorine tablet box and into the chlorine contact chamber.

The chlorine contact chamber consists of metal baffles with staggered slots that extend to the base of the unit that serve to increase the detention time of effluent. After passing through the final slot, the effluent flows over a V-notch weir and into a smaller basin where the former operator installed a plastic jug with holes punched in it to release sodium bisulfite solution for dechlorination.

After the dechlorination basin, a manually operated valve allows the operator to either route the effluent directly to the outfall pipe or to a sand filter where it undergoes further treatment prior to discharging. The former operator placed the sand filter in service for three consecutive weeks, after which, effluent was diverted to the outfall for the following two week period while the sand filter dried. Accumulated solids were then raked off and placed in the drying beds.

Solids Management

Once or twice per week, solids from the digester are pumped to one of two drying beds. Both beds have underdrains and the collected wastewater is pumped to the headworks. On the day of the inspection, significant amounts of sludge were placed on bare soil with no controls to prevent storm water contamination. Sludge has been stockpiled onsite for at least fifteen years.

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED NO)

- 1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE Y N NA
- 2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES Y N NA
- 3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT Y N NA
- 4. ALL DISCHARGES ARE PERMITTED Y N NA

SECTION B - RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED YES)

- 1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs. Y N NA
- 2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE. S M U NA
 - a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING Y N NA
 - b) NAME OF INDIVIDUAL PERFORMING SAMPLING Y N NA
 - c) ANALYTICAL METHODS AND TECHNIQUES. Y N NA
 - d) RESULTS OF ANALYSES AND CALIBRATIONS. Y N NA
 - e) DATES AND TIMES OF ANALYSES. Y N NA
 - f) NAME OF PERSON(S) PERFORMING ANALYSES. Y N NA
- 3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE. S M U NA
- 4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR. S M U NA
- 5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA. Y N NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED YES)

- 1. TREATMENT UNITS PROPERLY OPERATED. S M U NA
- 2. TREATMENT UNITS PROPERLY MAINTAINED. S M U NA
- 3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED. S M U NA
- 4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE. S M U NA
- 5. ALL NEEDED TREATMENT UNITS IN SERVICE S M U NA
- 6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED. S M U NA
- 7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED. S M U NA
- 8. OPERATION AND MAINTENANCE MANUAL AVAILABLE. Y N NA
- STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED. Y N NA
- PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED. Y N NA

SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR? Y N NA
 IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED? Y N NA
 HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS? Y N NA
10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT? Y N NA
 IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT? Y N NA

SECTION D - SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED NO).
 DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT. Y N NA
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES. Y N NA
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT. Y N NA
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT. Y N NA
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT. Y N NA
6. SAMPLE COLLECTION PROCEDURES ADEQUATE Y N NA
- a) SAMPLES REFRIGERATED DURING COMPOSITING. Y N NA
- b) PROPER PRESERVATION TECHNIQUES USED. Y N NA
- c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3. Y N NA
7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT? Y N NA

SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED NO).
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. Y N NA
 TYPE OF DEVICE V-NOTCH WEIR
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED. Y N NA
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED. Y N NA
4. CALIBRATION FREQUENCY ADEQUATE. Y N NA
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES. Y N NA
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE. Y N NA
5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE. Y N NA
6. HEAD MEASURED AT PROPER LOCATION. Y N NA
7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES. Y N NA

SECTION F - LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED YES).
 DETAILS:

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES) Y N NA

Further Explanations

Note: The sections are arranged according to the format of the enclosed EPA Inspection Checklist (Form 3560-3), rather than being ranked in order of importance.

Recordkeeping and Reporting

Section B – Recordkeeping and Reporting Evaluation – Overall rating of Marginal

The permit requires, in Part III, Section D.4, Record Contents:

Records of monitoring information shall include:

- a. The date, exact place, and time of sampling or measurements;*
- b. The individual(s) who performed the sampling or measurements;*
- c. The date(s) and time(s) analyses were performed;*
- d. The individual(s) who performed the analyses;*
- e. The analytical techniques or methods used; and*
- f. The results of such analyses.*

Findings for Recordkeeping and Reporting:

Hall Environmental Analysis Laboratories is the contract lab that Abiquiu MDWCA uses for offsite analysis of BOD, TSS and E. coli for reporting purposes. The inspector reviewed the records from the month of August 2010. The results given to the facility from Hall's analysis were not clear whether the analyses were started within the required holding time for E. coli and for BOD. The inspector made a call to Hall, and discovered that the E. coli analysis was started within the six hour holding time. The BOD sample was submitted to a subcontractor, and was also analyzed within the required specifications. The facility may wish to request that Hall submits a more thorough report with this information clearly reported.

Operations and Maintenance

Section C – Operations and Maintenance Evaluation – Overall rating of Unsatisfactory

The permit requires, in Part III.B.3.a, Proper Operation and Maintenance:

- a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.*
- b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.*

Findings for Operation and Maintenance:

This facility serves about 125 residences and a restaurant. The headworks is fitted with a bar screen to remove solids from the influent, however, the bar screen is spaced wide enough (1" openings) that many solids proceed into the rest of the plant. This is noted especially when observing the clarifier, which surface is completely clouded with particulate matter that has not settled.

The facility has no standby power. During the inspection the operator noted that there was an incident where the facility lost power and the aeration pumps were off for a significant period of time before staff noticed and repaired the situation. Because this is a small facility and staff are not present onsite for long periods of time, it is important to have some power backup in case of an emergency. The facility also does not have any sort of an alarm system for notification of power failures or other problems at the plant.

Although Mr. Trujillo and Ms. Lehman are operating the facility, they are doing so without state certification. This facility has a long history of not providing a certified operator. At the last major inspection by the state in 2006, the same problem was also noted.

The facility has spare parts but maintains no formal records of these items.

The operator indicated that there have not been any hydraulic or organic overloads of the plant; however, Mr. Trujillo stated that since the facility is not fenced off, the public can enter the facility and he suspected that some of the controls had been tampered with. One of the valves, specifically, was turned so that sludge was allowed to enter the chlorine contact chamber and was then sent out through the effluent pipe to the sand filter. The facility should construct a fence around the components of the WWTP so that this is not a possibility in the future. The facility is responsible for any non-compliance, even if it is caused by outside influences. In addition, if a member of the public were to fall into the sand filter, it could have very negative consequences.

Laboratory

Section F – Laboratory Evaluation – overall rating of Marginal.

Permit Requirements for Laboratory:

The permit states in Part III.C.5.a:

Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

The permit requires in Part III.C.5.c:

An adequate analytical quality control program, including the analyses of sufficient standards, spikes and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.

Findings for Laboratory:

The facility staff perform pH and chlorine tests on site. Currently there is only one approved method for pH analysis in 40 Code of Federal Regulations Part 136.3, which is Standard Methods 4500 H+ B. This method specifically states that the expected sample pH is to be bracketed during the calibration process. For example, if the expected pH is 7.5 Standard Units, the first two calibrations should be the 7 buffer, followed by the 10 buffer. The analyst can then “check” calibration with the 4 buffer. The facility staff currently calibrates their meter with the 4 and 7 buffers and then checks with the 10 process, regardless of the expected pH.

In Chapter 7 of the NPDES Compliance Inspection Manual (EPA 305-X-04-001; July 2004), it states that duplicate samples should be performed with each batch of samples, but in general should be collected 10% of the time. The permittee was using a contract laboratory that recently went out of business. When the facility started using Hall Environmental Analysis Laboratories, they also ceased collecting and submitting duplicate samples for quality assurance purposes. This should be resumed again as soon as possible.

Sludge Disposal

Section H – Sludge Disposal Evaluation – overall rating of Unsatisfactory.

Permit Requirements for Sludge Disposal:

The permit requires, in Part III.B.3, Proper Operation and Maintenance:

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

The permit requires, in Part IV, Element 1, Section 1.A.1, General Requirements:

The permittee shall handle and dispose of sewage sludge in accordance with Section 405 of the Clean Water Act and all other applicable Federal Regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present in the sludge.

In the Code of Federal Regulations at 40 CFR Part 503.9 (y):

...the placement of sewage sludge on land on which the sewage sludge remains for two years or less.

Findings for Sludge Disposal:

The permittee has accumulated about 15 years' worth of sewage sludge on the facility property, according to the facility's operator. The two sludge beds on site are full, and there is a large pile of sludge that is sitting on an unlined, uncontained area of the facility. They have not tested the sludge to see if it meets either Class A or Class B requirements, but the operator indicated during the inspection that they would like to give it away. The NMED Ground Water Quality Bureau is also working with the permittee to resolve this problem.

NMED/SWQB

Official Photograph Log

Photo # 1

Photographer: Sarah Holcomb	Date: 4-28-2011	Time: 1103 hours
City/County: Abiquiu/Rio Arriba County		
Location: Abiquiu WWTP		
Subject: Effluent pipe discharging into the Rio Chama.		

