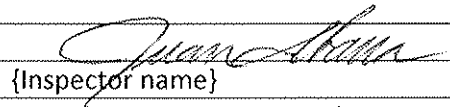
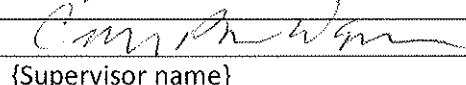




Region 6 Compliance Assurance and Enforcement Division INSPECTION REPORT

Inspection Date(s):	06/11/2014		
Media:	Water		
Regulatory Program(s)	CWA		
Company Name:	City of Aztec		
Facility Name:	Aztec WWTP		
Facility Physical Location:	900 South Oliver Street		
(city, state, zip code)	Aztec, New Mexico 87410		
Mailing address:	201 West Chaco		
(city, state, zip code)	Aztec, New Mexico 87410		
County/Parish:	San Juan County		
Facility Contact:	Josh W. Ray	City Manager	
	jray@aztecnm.gov		
FRS Number:	N/A		
Identification/Permit Number:	N/A		
Media Number:	NM0020168		
NAICS:	221320		
SIC:	4952		
Facility Representatives:	Andrew Galloway	Chief Operator	505-334-6448
	Anthony Garcia	Op. Responsible in Charge	505-334-6448
	Jayson Shaw	WW Operator I	505-334-6448
EPA Inspectors:	Juan Ibarra	Env. Scientist/6EN-WR	214-665-8493
State Inspector(s):	N/A		
Other Inspector(s):	N/A		
Metadata	Title:	City of Aztec Aztec WWTP Aztec San Juan County New Mexico	
	Author:	US EPA Region 6 Compliance Assurance and Enforcement Division Dallas TX	
	Subject:	Inspection Report Clean Water Act CWA National Pollutant Discharge Elimination System NPDES	
	Keywords:	Publically Owned Treatment Works POTW	
EPA Lead Inspector Signature/Date	 {Inspector name}	06/24/2014 Date	
Supervisor Signature/Date	 {Supervisor name}	6/27/14 Date	

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector Juan Ibarra arrived at the City of Aztec/Actec Wastewater Treatment Plant (WWTP) at 0900 on June 11, 2014 for an unannounced inspection. I met with City of Aztec wastewater representatives Andrew Galloway/Chief Operator, Anthony Garcia/Operator Responsible in Charge, and Jayson Shaw/WW Operator I at the Opening Conference. I presented my credentials and informed them that this was an EPA inspection to determine compliance with the facility's EPA NPDES permit and the Clean Water Act (CWA). The scope of the inspection was to conduct a Compliance Evaluation Inspection (CEI), which included an evaluation of the facility's compliance with their permit discharge limits, operational management of the plant, process control, laboratory data and records management.

FACILITY DESCRIPTION

Operational Design

The City of Aztec operates a 1.2 MGD Aero-Mod activated sludge treatment plant which went on-line in September, 2009. The headworks consists of a fine screen auger followed by a parallel pair of grit removal channels (used one at a time and rotated monthly). Following the headworks, flow enters the lift station (equipped with three 900 gpm pumps that run on a rotational basis) which pumps the wastewater into the Aero-Mod plant. The Aero-Mod plant consists of a Bio Phosphorus Reactor with infrequent diffusers (run six times for four minutes at a time within a 24-hr period), followed by the fermenter that is equipped with mechanical mixers to maintain low anoxic DO and to keep solids suspended. The fermenter is followed by dual train aeration basins that cycle between periods of aeration and anoxic periods for denitrification. Each train has a fine bubble and a coarse air basin. Effluent from the aeration basins flows into two secondary clarifiers. Return Activated Sludge (RAS) from the clarifiers goes back to the fermenter, and decant from the aerobic digesters goes back to the coarse air units of the aeration basins. The clarifiers are followed by the Advanced Nutrient Removal System (ANR) which also operates as a sand filter. Ferric chloride is added prior to the ANR to precipitate phosphorus as it runs thru a "tortuous path" within the ANR. The ANR is followed by UV disinfection and the effluent is discharge into the Animas River thru a 1000' pipe.

While the Aero-Mod plant was initially designed to denitrify and remove phosphorus, the City decided to utilize the Aero-Mod plant specifically for denitrification, and use ferric chloride to precipitate phosphorus in the ANR after finding that the plant would not effectively perform both nutrient removal functions within a single treatment unit. Waste Activated Sludge (WAS) comes directly from the aeration basins into the two aerated digesters (there is no solids thickening), followed by belt press dewatering. Dewatered solids are stored in the former drying beds and then shipped to the Bondad Landfill in Colorado for disposal.

Contingency/Emergency Operations

The facility has two back-up generators to run the lift station and UV. In the event of a power or unit failure, the plant has an old clarifier and 1 MG oxidation ditch for flow equalization (EQ), and a permanently stationed pump at the plant should a bypass occur to the EQ. Additionally, there is a new SCADA and call-out system, in the event of a power disruption or unit failure, for the entire plant and the Llano Lift Station.

Section II – OBSERVATIONS

The plant appeared to be well maintained at the time of the inspection. The facility produces a high quality effluent using the Aero-Mod activated sludge wastewater treatment system, followed by the ANR sand filter and UV disinfection. The effluent was very clear, and visually appeared to be of high quality. Solids dewatering was working effectively, using a polymer additive, producing a dump truck load (5 yards) of solids about every 1.5 hours. The belt press is run about six hours during a single day of the week, but it occasionally runs upwards of eighteen hours a week when more digester solids need to be removed.

The facility did not have a recent flow meter calibration, and the staff gauge, which was covered with algae and scum, was unreadable. Additionally, I noted that the facility was not running process control testing to evaluate solids settleability, sludge age (or MCRT), and several other standard activated sludge process control parameters. They also needed a new sludge judge.

Section III – AREAS OF CONCERN**Flow Measurement**

The facility received an “Unsatisfactory” rating for Flow Measurement because the flow meter has not been calibrated since 8/17/2012, nor have any flow measurement checks been performed (recommended at least quarterly). Also, the Parshall flume staff gauge was unreadable.

Operations and Maintenance

The facility also received a “Marginal” rating for Operations and Maintenance because additional process control testing is required to monitor solids retention time for efficient determination of sludge wasting and return rates. This process control testing must also, include 30 minute settleability, F/M and SVI. The plant needs to develop a tracking system for these and other in-plant operating parameters (such as unit DOs, MLSS, etc.), and it should be performed at a frequency to optimize plant performance (perhaps 3x/week). Additionally, the plant needs a new sludge judge, as the old one is too short for the new units.

Effluent

The facility received a “Marginal” rating for Effluent due to several permit limit violations for Total Nitrogen and Total Phosphorus. For the DMR review period of January 2012 to present, the effluent exceeded permit limit for Total Nitrogen during two months, and Total Phosphorus during four months. See the table below. Note, that since January, 2013, the facility has only experienced a single DMR violation (for the Total Nitrogen effluent limits). Additionally, the plant had a single minor pH violation of 6.4 (permit limit is 6.6) for the July, 2012 DMR.

Total Nitrogen

Limit			
Limit Unit Desc	Pounds per Day	Milligrams per Liter	Milligrams per Liter
Statistical Base	30DA AVG	30DA AVG	DAILY MX
Limit Value	25.3	3.04	3.04
DMR Values			
1/31/12	34	8.3	8.3
1/31/13	27.2	3.8	9

Total Phosphorus

Limit			
Limit Unit Desc	Pounds per Day	Milligrams per Liter	Milligrams per Liter
Statistical Base	30DA AVG	30DA AVG	DAILY MX
Limit Value	9.32	1.12	1.12
DMR Values			
5/31/12	10.47	1.9	1.9
6/30/12		1.2	1.2
7/31/12	19	3.7	3.7
8/31/12	28.5	4.6	4.6

Records Review

Additionally, during a records review of effluent data for the month of April, 2014, a few minor errors were discovered. A single pH entry of 7.01 was omitted from the DMR for 4/10/2014. A revised DMR report must include this data point as it was the low pH for the month. Also, an entry for E. coli was missed for 4/4 and 6/2014. These missing data points do not affect E. coli compliance for the monthly DMR. And, the contract laboratory analyzing BOD was contacted during the inspection because all BOD parameters were <2, and the maximum dilution of sample was 200 ml. The sample volume can be increased to 295 to 300 ml (as the laboratory always uses dilutions of 100-150-200 mls for the City of Aztec wastewater effluent) to help obtain more precise data.

Closing Conference

Following the inspection, a Closing Conference was held with Josh W. Ray/City Manager, Andrew Galloway/Chief Operator, and Anthony Garcia/Operator Responsible in Charge. The Areas of Concern listed above (with the exception of the Effluent violations which were not obtained until after the completion of the inspection) were discussed during the exit briefing.

Section IV – FOLLOW UP

A copy of the inspection report will be sent to the facility.

Section V – LIST OF APPENDICES

Appendix 1 – 3560 Cover Sheet

Appendix 1

3560 Cover Sheet

EPA**NPDES Compliance Inspection Report**

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N 2 5 3 N M 0 0 2 0 1 6 8 11 12 1 4 0 6 1 1 17 18 C 19 R 20 I					
21 S I C C O D E : 4 9 5 2					66
Inspection Work Days	Facility Evaluation Rating	BI	QA	-----Reserved-----	
67 69	70 4	71 N	72 N	73	74 75 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time/Date	Permit Effective Date
The Aztec WWTP is located at 900 S. Oliver Street, south of Hwy 516, in Aztec, San Juan County, New Mexico.	0900 / 6/11/14	9/1/09
	Exit Time/Date	Permit Expiration Date
	1450 / 6/11/14	8/31/14
Name(s) of On-Site Representatives	Title(s)	Phone
Jayson Shaw	WW Operator 1	505-334-6448
Anthony Garcia	Operator Responsible in Charge	"
Andrew Galloway	Chief Operator	"
Name, Address of Responsible Official	Title	
Josh W. Ray	City Manager	
City of Aztec	Phone Number	Contacted: YES ☒ NO ☐
201 W. Chaco	505-334-7600	
Aztec, NM 87401		

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	U	Flow Measurement	S	Storm Water	S	CSO/SSO (Sewer Overflow)
S	Records/Reports	S	Self-Monitoring Program	S	Sludge Handling/Disposal	N	Pollution Prevention
S	Facility Site Review	N	Compliance Schedules	N	Pretreatment	N	Multimedia
M	Effluent/Receiving Waters	S	Laboratory	M	Operations & Maintenance		

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

The facility produces a high quality effluent using an Aero-Mod activated sludge treatment plant which went on-line in September, 2009. The headworks consists of a fine screen auger followed by a parallel pair of grit removal channels (used one at a time and rotated monthly). Following the headworks, flow enters the lift station, (equipped with three 900 gpm pumps that run on a rotational basis) which pumps the wastewater into the Aero-Mod plant. The Aero-Mod plant consists of a Bio Phosphorus Reactor with infrequent diffusers (run six times for four minutes at a time within a 24-hr period), followed by the fermenter that is equipped with mechanical mixers to maintain low anoxic DO and to keep solids suspended. The fermenter is followed by dual train aeration basins that cycle between periods of aeration and anoxic periods for denitrification. Each train has a fine bubble and a coarse air basin. Effluent from the aeration basins flows into two secondary clarifiers. RAS from the clarifiers goes back to the fermenter, and decant from the aerobic digesters goes back to the coarse air units of the aeration basins. The clarifiers are followed by the Advanced Nutrient Removal System (ANR) which also operates as a sand filter. Ferric chloride is added prior to the ANR to precipitate phosphorus as it runs thru a "tortuous path" within the ANR. The ANR is followed by UV disinfection and the effluent is discharge into the Animas River thru a 1000' pipe.

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WAS comes directly from the aeration basins into the two aerated digesters (there is no solids thickening), followed by belt press dewatering. Dewatered solids are stored in the former drying beds and then shipped to the Bonadad Landfill in Colorado for disposal.

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The facility has a Multi-Sector storm water permit (NMR05H529) effective 9/29/08 and expiring 9/29/13. However, a new General Permit has not been issued by the EPA. A brief review of the SWPPP (prepared on 9/15/10) showed that the facility was performing the quarterly inspections and annual reports. When the General Permit is reissued, the facility will have to renew the permit.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
Juan Ibarra	US EPA/6EN-WR/(214) 665-8493	24 June 2014
Signature of Reviewer	Agency/Office US EPA/6EN-WR	Date