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Ohio | Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

November 16, 2011

Mayor and Council
Village of New Vienna
P.O. Box 323
New Vienna, Ohio 45159

Re: Village of New Vienna WWTP, NPDES Permit No. 1PA00005*FD / OH0021393
Reconnaissance Inspection and Notice of Violation

Dear Mayor and Council:

On Thursday, October 20, 2011, Ron Ware of this office conducted a Reconnaissance Inspection at the above referenced facility. Aaron Moore with Environmental Engineering Service represented the Village during the inspection. The purpose of the inspection was to evaluate plant operation and performance. In addition, information gathered during the inspection assists in the determination of compliance with the NPDES permit. As indicated in the attached report, four of the five areas that were evaluated during the inspection received a rating other than "Satisfactory."

"Self - Monitoring Program" received a "marginal" rating due to: 1) not reporting instances of non-compliance with the plant's final effluent limitations during control discharge events; and 2) inadequate sampling of the plant's final effluent during control discharge events. The amounts of the composited samples allotted to analysis for $CBOD_5$, and Ammonia Nitrogen do not conform to the recommended sample sizes in the Ohio EPA's General Lab Criteria (1000 ml for $CBOD_5$, and 500 ml for Ammonia Nitrogen).

"Records/Reports" received a "marginal" rating due to the lack of a record keeping log book at the plant site that meets the authenticity criteria referenced in Ohio Administrative Code 3745-7-09.

"Effluent/Receiving Waters" received an "marginal" rating due to violations of the final effluent limitations in this facility's current NPDES permit (1PA00005*FD) that have occurred over the past three years.

"Flow Measurement" received an "unsatisfactory" rating due to a failure to develop an adequate means of determining the upstream flow rate in the receiving stream to facilitate a controlled discharge event. In a previous inspection report from February 2007, it was noted that receiving stream flows were being calculated based on 10% of the readings from the USGS gauging station in Perintown, Ohio on the East Fork of the Little Miami River (about 79 miles downstream). This gauging station at Perintown measures flows from a drainage area of 476 square miles while the receiving stream for the New Vienna WWTP receives drainage from approximately 4 square miles (less than 1% of the drainage area for the Perintown gauging station). When one takes into consideration the flows from other tributary streams and differing weather patterns over such a large area (476 square miles), extrapolating flow readings from

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the Perintown gauging station to the flow rate in this facility's receiving stream in the manner described will inevitably overestimate the receiving stream flow rate at the plant's outfall. A request was made in the aforementioned inspection report from February 2007 for a proposed new receiving stream flow measurement method from the Village's engineering consultant; no such proposal was ever received by this office. We repeat our request for a new receiving stream flow measurement method that will more closely measure the actual flow rate in the receiving stream.

Please provide this office with a written description of any actions, either taken or proposed, to correct these problems. This written description should include the dates, either actual or proposed, for completion of these actions. Please provide this office with this written response within thirty days of receipt of this letter.

If you have any questions regarding this report, please contact Mr. Ware at (937) 285 - 6098.

Sincerely,

Martyn Burt
Compliance and Enforcement Supervisor
Ohio EPA - Division of Surface Water
Southwest District Office

cc: Steve Canter, Environmental Engineering Service
ec: Ron Ware, Ohio EPA, SWDO, Surface Water

MB\RW\bp

OhioEPA

State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding

Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PA00005*FD	OH0021393	10/20/2011	R	S	1

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
New Vienna WWTP State Route 73 New Vienna, Ohio 45159	9:15 AM	April 1, 2009
	Exit Time	**Permit Expiration Date**
	9:45 AM	March 31, 2014

Name(s) and Title(s) of On-Site Representatives	Phone Number(s)
Aaron Moore, plant operator	(513) 934 - 1512

Name, Address and Title of Responsible Official	Phone Number
Mayor and Council Village of New Vienna P.O. Box 323 New Vienna, Ohio 454159	(937) 987 - 2477

Section C: Areas Evaluated During Inspection
SS = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated

	Permit	U	Flow Measurement		Pretreatment
M	Records/Reports		Laboratory		Compliance Schedule
S	Operations & Maintenance	M	Effluent/Receiving Waters	M	Self-Monitoring Program
	Facility Site Review		Sludge Storage/Disposal		Other
	Collection System				

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

Inspector	Reviewer
Ron Ware 11/16/11	Martyn G Burt 11/16/11
Ron Ware Division of Surface Water Southwest District Office Date	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office Date

Permit # : 1PA00005*FD
NPDES #: OH0021393

Sections F thru K: Complete on all inspections as appropriate
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

Section F: Compliance

(a) Any violations since the last inspection..... Y
(b) Appropriate Non-compliance notification of violations..... N
(c) Permittee is taking actions to resolve violations..... N/E
(d) Permittee has a compliance schedule..... N
(e) Compliance schedule contained in...N/A
(f) Permittee is in compliance with schedule..... N/A

Comments/Status:

Jan. 2009	$CBOD_5$	30D Con.	25	43	Jan. 1, 2009
Jan. 2009	$CBOD_5$	7 Con.	40	41	Jan. 1, 2009
Jan. 2009	$CBOD_5$	7D Con.	40	45	Jan. 8, 2009
June 2009	$CBOD_5$	30D Con.	25	25.625	June 1, 2009
July 2009	$CBOD_5$	30D Con.	25	28.4	July 1, 2009
May 2010	$CBOD_5$	30D Con.	25	26.05	May 1, 2010
June 2010	$CBOD_5$	30D Con.	25	29.4	June 1, 2010
June 2010	$CBOD_5$	7D Con.	40	41.4	June 22, 2010
March 2011	$CBOD_5$	30D Con.	25	30.85	March 1, 2011
April 2011	$CBOD_5$	30D Con.	25	38.15	April 1, 2011
April 2011	$CBOD_5$	7D Con.	40	47.7	April 15, 2011

Section G: Operation & Maintenance

Record Keeping/Operator of Record:

(a) Wastewater Treatment Works classification (OAC 3745-7)..... I
(b) Operator of Record holds unexpired license of class required by Permit..... Y
(c) Copy of certificate of Operator of Record displayed on-site..... N
(d) Has the Operator of Record submitted an ORC Notification form.. Y

(e) Minimum operator staffing requirements fulfilled (OAC 3745-7).... N/E
(f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met..... N/A
(g) Operator of Record log book provided..... N
(h) Format of log book (e.g. computer log, hard bound book)

N/A

(i) Log book kept onsite (in an area protected from weather)..... N
(j) Log book contains the following:
  I. Identification of treatment works..... N/A
  II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... N/A
  III. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)..... N/A
  IV. Laboratory results (unless documented on bench sheets)... N/A
  V. Identification of person making entries..... N/A
(k) Has the Operator of Record submitted written notifications to the permittee, Ohio EPA and, if applicable, any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred..... N

Comments/Status:

Section I: Self-Monitoring Program

Flow Measurement:

Primary flow measuring devices

The flow meter on the controlled discharge line is a Doppler type meter with a flow totalizer.

(a) Flow measurement equipment adequate to handle full range of flows..... Y
(b) All discharged flow is measured..... Y

Comments/Status:

Permit # : 1PA00005*FD
NPDES #: OH0021393

Sampling:

(a) Sampling location(s) are as specified by permit..... Y
(b) Parameters and sampling frequency agree with permit..... Y
(c) Permittee uses required sampling method..... N

Comments/Status:

(c) The amounts of the composited samples allotted to analysis for $CBOD_5$, and Ammonia Nitrogen do not conform to the recommended sample sizes in the Ohio EPA's General Lab Criteria (1000 ml for $CBOD_5$, and 500 ml for Ammonia Nitrogen).

The analysis for $CBOD_5$, Ammonia Nitrogen, Total Suspended Solids, and fecal coliform is performed by Belmonte Laboratories.

Section 3: Effluent/Receiving Water Observations

Outfall # 1PA00005*FD
Outfall Description: Plant outfall to the East Fork of the Little Miami River

Receiving Stream: the East Fork of the Little Miami River
Receiving Stream Description: Warm Water Habitat, Primary Contact Recreation

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights [1,2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used.[3]	☐ Yes	☐ No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum[1]	☐ Yes	☐ No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable)[1]	☐ Yes	☐ No	
	• Must be able to measure to 0.1 grams[4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
	• Log book maintained[2]	☐ Yes	☐ No	

Comments: :

Criteria	Standard Methods Requirement			Rating
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☐ Yes	☐ No	
	• Log book maintained[2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1,2]. Correction factor posted on thermometer / equipment[1]	☐ Yes	☐ No	
• Other	• Thermometer temperature accurate to 0.5° Celsius[5]	☐ Yes	☐ No	
	• Acceptable temperature range is 103° – 105° C [4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments: :

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
	• Logbook maintained[2]	☐ Yes	☐ No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result[7]	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet[2]	☐ Yes	☐ No	
• Buffer Expiration Date	• Buffers must not be expired	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[8]	☐ Yes	☐ No	

Comments: :

Criteria	Standard Methods Requirement			Rating
• Calibration Method	• Air or known DO calibration method[10]	☐ Yes	☐ No	
	• Calibration per manufacturer specification[10]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Logbook maintained[2]	☐ Yes	☐ No	
	• Calibration verification required at least once each day the meter is used.[3]	☐ Yes	☐ No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)[11]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use[1] (E-Coli)	☐ Yes	☐ No	
	• Temperature checked / recorded daily[2] (CBOD)	☐ Yes	☐ No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0°[12]	☐ Yes	☐ No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5°[22]	☐ Yes	☐ No	
	• Logbook maintained[2]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
	• Temperature correction information posted on incubator[1]	☐ Yes	☐ No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)[23]	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Temperature Log (thermometer accurate to 0.5 Celsius).[1]	☐ Yes	☐ No	

Comments: :

Criteria	Standard Methods Requirement			Rating
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.5 Celsius).[5]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
• Other	• Thermometer held in water bath.[1]	☐ Yes	☐ No	
	• Refrigerator temperature ≤6° Celsius.[13]	☐ Yes	☐ No	
	• Do not store volatile solvents, food, or beverages.[14]	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV[15]	☐ Yes	☐ No	
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification[16]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Log book being maintained.[2]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments: :

Criteria	Standard Methods Requirement			Rating
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
	• Log book being maintained[2]	☐ Yes	☐ No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	☐ Yes	☐ No	
• Calibration Method	• Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec.[17]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[18]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments: :

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
[illegible]				
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed).[19]	☐ Yes	☐ No	
• Chain of Custody	• Chain of custody (description, date, time, signature).[19]	☐ Yes	☐ No	
• Other	• Composite samples refrigerated during sample collection[14]	☐ Yes	☐ No	
	• Equipment blanks utilized[14]	☐ Yes	☐ No	
	• SOP for cleaning of sampling equipment	☐ Yes	☐ No	
	• Logbook being maintained[2]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
[illegible]				
• General criteria	• Properly working seals.	☐ Yes	☐ No	
	• Desiccant fresh (blue color)	☐ Yes	☐ No	
• Documentation	• Log book being maintained[2]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
[illegible]				
• General criteria	• Date(s)[2]	☐ Yes	☐ No	
	• Analyst initials[2]	☐ Yes	☐ No	
	• Blue or black ink pen[2]	☐ Yes	☐ No	
	• Calibration information[2]	☐ Yes	☐ No	
	• Equations, calculations, units for all measurements, notations, and results present[2]	☐ Yes	☐ No	
	• Corrections, single line through, initialed and dated[2]	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C)[21]	☐ Yes	☐ No	
	• Incubator temperature 44.5° C ± 0.2° [21/24]			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) [1, 5]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C [25]	☐ Yes	☐ No	
	• 10 to 30 minutes time based on material being sterilized[26]	☐ Yes	☐ No	
• Documentation	• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust. [1]	☐ Yes	☐ No	
	• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used [1]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available *Geobacillus stearothermophilus* in spore strips, suspensions, or capsules [1]	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
[redacted]				
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Thermometer accurate to 0.1° Celsius[5]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
Comments:				
Number of Criteria Rated:	[redacted]			
	[redacted]			

Acceptable Ratings – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).

Marginal Ratings – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).

Unsatisfactory Rating - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).

Consider recommending PAI Audit from DES when:	>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable

Notation of Referenced Method

1 Method 9020-B, Item 3
2 Method 1020-A, Item 1
3 Method 1020-B, Item 10
4 Method 2540-B, Item 2
5 Method 2550-B, Item 1
6 Method 1020-A, Item 1
7 Method 4500-H B, Item 4
8 Method 4500-H B, Item 2
9 Method 1020-B, Item 2
10 Method 4500-O B, Item 3
11 Method 4500-O G, Item 3
12 Method 5210-B, Item 5
13 CFR 136.3, Table II
14 Method 1060A, Item 1
15 Method 4500-Cl I, Item 2
16 Method 4500-Cl I, Item 4
17 Method 4500-NH3 D, Item 4
18 Method 4500-NH3 D, Item 2
19 Method 1060-B, Item 2
20 Method 1060-B, Item 1
21 Method 9222D, Item 1
22 Method 9223 B, Item 2
23 Method 9223 B, Item 3
24 Method 1603, Item 2
25 Method 9030-B, Item 3
26 Method 9020 B, Table IV

Equipment Logbook Content - all maintenance performed on a piece of equipment should be documented in the logbook. This should include parts replacement and routine maintenance activities. Entries should include date, maintenance performed and initials of person making entry.

General Lab Criteria

Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate ≤6° C	6h	48h
TSS	P, G	200	G, C	Refrigerate ≤6° C	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH3-N	P, G	500	G, C	Analyze as soon as possible or add H_2SO_4 to pH <2, Refrigerate ≤6° C	7 d	28 d
TRC	P, G	500	G	Analyze immediately	0.25h	0.25 h
DO (electrode)	G, BOD Bottle	300	G	Analyze immediately	0.25h	0.25 h
Temperature	P, G	--	G	Analyze immediately	0.25h	0.25 h
Metals, general	P, G	1000	G, C	For dissolved filter immediately and add HNO_3 to pH <2	6 months	6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH<2, Refrigerate ≤6° C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° C If chlorine present, add sodium thiosulfate tablet	6 hrs transport Start analysis within 2 hrs of receipt in lab.	
Oil and Grease	G	1000	G	HCl or H_2SO_4 to pH <2, Refrigerate ≤6° C	28 d	28 d

Approved Standard Methods

CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 D
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G
Total Suspended Solids, Dried at 103-105 °C	Std Methods 2540-D
Dissolved Oxygen, Membrane Electrode Method	Std Method 4500-O G
pH, Electrometric Method	Std Methods 4500-H+ B
Fecal Coliform, Membrane Filter Procedure	Std Methods 9222D
Escherichia Coli, Enzyme Substrate Test	Std Method 9223B
Escherichia Coli Membrane Filtration Procedure	EPA Method 1603
Oil and Grease	USEPA 1664A or Std Methods 5520B
Metals, general	USEPA 200, Std Methods 3111B or C, or 3120B
Volatiles (Purgeables by purge and trap)	USEPA 6210, Std Methods 624
Semi-Volatiles (Base/Neutrals and acids)	USEPA 6410, Std Methods 625
Pesticides	USEPA 6410 and 6630, Std Methods 608