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

October 28, 2011

Re: Adams County
Dayton Power & Light, J.M. Stuart Station
Compliance Sampling Inspection
NPDES Permit 0IB00049*MD
Correspondence (IWW)

Mr. David Orme, Plant Manager
Dayton Power and Light Company
J.M. Stuart Station
P.O. Box 468
Aberdeen, Ohio 45101

Dear Mr. Orme:

On March 7, 2011, Ohio EPA conducted a Compliance Sampling Inspection at J.M. Stuart Station located in Aberdeen, Ohio. Harry McCann, Environmental Engineer, Dan Seagraves, PPOC, and Doug McClellan, Lab Technician, represented J.M. Stuart Station and accompanied Ohio EPA during the inspection. The purpose of the inspection was to determine J.M. Stuart Station's compliance with NPDES Permit Number 0IB00049*MD and the Ohio Water Pollution Control Act, Revised Code Chapter 6111.

As a result of the inspection and review of our files, I have the following comments regarding J.M. Stuart Station's compliance with its NPDES permit:

1. J.M. Stuart Station reported the following exceedances of effluent limitations since July, 2010.

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
019	00530	Total Suspended Solids	30D Conc	30	41.	7/1/2010
019	00530	Total Suspended Solids	30D Conc	30	49.	8/1/2010
002	34044	Oxidants, Total Residual	1D Conc	0.05	.17	8/3/2010
013	01220	Chromium, Dissolved He	1D Conc	31	38.5	8/3/2010
013	01220	Chromium, Dissolved He	1D Qty	2.44	3.352	8/3/2010
019	00530	Total Suspended Solids	30D Conc	30	46.8	9/1/2010
013	01220	Chromium, Dissolved He	1D Conc	31	34.2	11/17/2010
013	01220	Chromium, Dissolved He	1D Qty	2.44	2.977	11/17/2010
019	00530	Total Suspended Solids	30D Conc	30	30.14	3/1/2011

Southeast District Office
2195 Front Street
Logan, OH 43138-8637

740 | 385 8501
740 | 385 6490 (fax)
www.epa.ohio.gov

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
001	34044	Oxidants, Total Residual	1D Conc	0.05	.19	6/9/2011
013	01220	Chromium, Dissolved He	1D Conc	31	33.1	6/14/2011
013	01220	Chromium, Dissolved He	1D Qty	2.44	2.456	6/14/2011
002	34044	Oxidants, Total Residual	1D Conc	0.05	..15	6/27/2011
019	00530	Total Suspended Solids	30D Conc	30	49.	7/1/2011
013	01220	Chromium, Dissolved He	1D Conc	31	34.9	7/21/2011
013	01220	Chromium, Dissolved He	1D Qty	2.44	3.038	7/21/2011
019	00530	Total Suspended Solids	30D Conc	30	44.33	8/1/2011

DPL has proposed several improvements to the landfill settling pond to resolve the TSS violations at 019, including dredging the pond and placing rock rip rap on the banks and fingers of the pond to reduce erosion. DPL has proposed installation of a ferrous sulfate bulk chemical feed tank to improve chemical feed controls and addition of carbon dioxide gas neutralization system to improve hexavalent chromium reduction at Outfall 013.

2. DPL Stuart completed installation of the carbon dioxide injection system to lower pH in the fly ash pond complex. It is expected the system will reduce ferrous sulfate demand and enhance hexavalent chromium reduction. Ohio EPA issued a Permit To Install for the system on August 2, 2011.

3. The boiler chemical cleaning storage pond was nearly full at the time of the inspection. BJ Services treated and discharged approximately 700,000 gallons of the acid pond water to the bottom ash pond. As of 5/11/2011 there was 36" of freeboard on the pond. Sampling was performed and the results were reported on the May 2011 eDMR. There were no exceedances of effluent limits.

4. Ohio EPA collected samples at Outfalls 012, 013, and 603, and 609. A copy of the sampling results is attached. All analyses showed the effluent was in compliance with effluent limits at the time of the inspection. Acute bioassays were performed at Outfalls 012 and 013. No acute toxicity was found. Results for Outfall 603 showed that the effluent will exceed limits for TSS proposed in *draft permit 0IB00049*ND.*

General Comments:

Attached is a copy of the inspection report which indicates marginal and/or unsatisfactory evaluations of the following areas: Effluent. I gave these ratings because of the effluent limit exceedances listed in the above comments. J.M. Stuart Station should take the appropriate actions to return the facility to compliance with all terms and conditions of the NPDES permit.

The Ohio EPA strongly encourages pollution prevention as the preferred approach for waste management. The first priority of pollution prevention is to eliminate the generation of wastes and pollutants at the source (source reduction). For those wastes or pollutants that are generated, the second priority is to recycle or reuse them in an environmentally sound manner. You can benefit economically, help preserve the environment, and improve your public image by implementing pollution prevention programs. For more information about pollution prevention, including fact sheets and U.S. EPA's Facility Pollution Prevention Guide, (EPA/600/R-92/088), you may contact the Ohio EPA Pollution Prevention Section at (614) 644-3469 or me for additional information.

Sincerely,

Fred J. Snell

Fred J. Snell
District Representative
Division of Surface Water

FJS/dh

Enclosure

NPDES
Compliance Inspection Report

A. NATIONAL DATA SYSTEM CODING

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
0IB00049*MD	OH0004316	March 7, 2011	S	S	2

B. FACILITY DATA

Name & Location of Facility Inspected	Entry Time	Permit Effective Date
Dayton Power and Light, J.M Stuart Station P.O. Box 468 Aberdeen, Ohio 45101	10:45 a.m.	September 1, 2005
	Exit Time	**Permit Expiration Date**
	3:00 p.m.	June 30, 2007

Name(s) & Title(s) of On-Site Representative(s)	Phone Number(s)
Harry McCann, Environmental Engineer	(937) 549-2641, Ext. 5809 (937) 213-2170, Cell
Name, Address, & Title of Responsible Official	**Phone Number**
David Orme, Plant Manager	(937) 549-2641

C. AREAS EVALUATED DURING INSPECTION

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

(S = Satisfactory; M = Marginal; U = Unsatisfactory; N = Not Evaluated; N/A = Not Applicable)

D. SUMMARY OF FINDINGS/COMMENTS *(attach additional sheets if necessary)*

See attached letter.

Fred J. Snell

Fred J. Snell, Inspector, Ohio EPA, Southeast District Office — Date 10/28/11

Jennifer M. Witte

Jennifer M. Witte, Reviewer, Ohio EPA, Southeast District Office — Date 10/28/11

Sections E through K: Complete on all inspections as appropriate (N/A = Not Applicable; N/E = Not Evaluated)

E. PERMIT VERIFICATION

Inspection Observations Verify the Permit	YES	NO	N/A	N/E
a. Correct name & mailing address of permittee	☒	☐	☐	☐
b. Correct name & location of receiving waters	☒	☐	☐	☐
c. Product(s) & production rates conform with permit application (industries)	☒	☐	☐	☐
d. Flows & loadings conform with NPDES permit	☒	☐	☐	☐
e. Treatment processes are as described in permit application/briefing memo	☒	☐	☐	☐
f. New treatment process(es) added since last inspection	☐	☒	☐	☐
g. Notification given to state of new, different, or increased discharges	☒	☐	☐	☐
h. All discharges are permitted	☒	☐	☐	☐
i. Number & location of discharge points are as described in permit	☒	☐	☐	☐

F. COMPLIANCE SCHEDULES/VIOLATIONS

	YES	NO	N/A	N/E
a. Any significant violations since the last inspection	☒	☐	☐	☐
b. Permittee is taking actions to resolve violations	☒	☐	☐	☐
c. Permittee has compliance schedule	☐	☒	☐	☐
d. Compliance schedule contained in: _____	☐	☐	☒	☐
e. Permittee is meeting compliance schedule	☐	☐	☒	☐

Comments:

a. There were TSS violations at 019. Causes may have included high winds, heavy rains, sediment from landfill cell construction, sediment deposition in the pond, and erosion of pond banks. Hexavalent chromium violations were reported at 013. The cause appears to be inadequate ferrous sulfate feed and higher pH ash from a different coal source.

G. OPERATION AND MAINTENANCE

Treatment Facility Properly Operated & Maintained	YES	NO	N/A	N/E
a. Standby power available: Generator: ☐ Dual Feed: ☒	☒	☐	☐	☐
b. Adequate alarm system available for power or equipment failures	☒	☐	☐	☐
c. All treatment units in service other than backup units	☒	☐	☐	☐
d. Sufficient operating staff provided: # of shifts: 3 Days/Week: 7	☒	☐	☐	☐
e. Operator holds unexpired license of class required by permit. Class: A	☒	☐	☐	☐
f. Copy of certificate of Operator of Record displayed on-site	☒	☐	☐	☐
g. Minimum operator staffing requirements fulfilled (OAC 3745-7)	☒	☐	☐	☐
h. Routine & preventive maintenance schedule/performed on time	☒	☐	☐	☐
i. Any major equipment breakdown since last inspection	☐	☒	☐	☐
j. Operation & maintenance manual provided & maintained	☒	☐	☐	☐
k. Any plant bypasses since last inspection	☐	☒	☐	☐
l. Regulatory agency notified of bypasses: On MORS: ☐ 800 No.: ☐	☐	☐	☒	☐
m. Any hydraulic and/or organic overloads experienced since last inspection	☐	☒	☐	☐

Record Keeping	YES	NO	N/A	N/E
a. Log book provided	☒	☐	☐	☐
b. Log book kept on-site	☒	☐	☐	☐
c. Log book contains the following:	☐	☐	☐	☐
1. Identification of treatment works	☒	☐	☐	☐
2. Date/Time of arrival/departure of ORC	☒	☐	☐	☐
3. Daily record of operation and maintenance activities	☒	☐	☐	☐
4. Laboratory results (unless documented on bench sheets)	☐	☒	☐	☐
5. Identification of person making log entries	☒	☐	☐	☐
d. Is the ORC submitting written notification to Ohio EPA and permittee when a collection system overflow, treatment plant bypass or effluent limit violation has occurred.	☒	☐	☐	☐

Comments:

Collection System	YES	NO	N/A	N/E
a. Percent combined system. Percent: 0	☐	☐	☐	☐
b. Any collection system overflows since last inspection: CSO: ☐ SSO: ☐	☐	☒	☐	☐
c. Regulatory agency notified of overflow (SSOs)	☐	☐	☒	☐
d. CSO O&M plan provided and implemented	☐	☐	☒	☐
e. CSOs monitored and reported in accordance with permit	☐	☐	☒	☐
f. Portable pumps used to relieve system	☐	☐	☒	☐
g. Lift station alarm systems provided and maintained	☒	☐	☐	☐
h. Are lift stations equipped with permanent standby power or equivalent	☒	☐	☐	☐
i. Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection	☐	☒	☐	☐
j. Any complaints received since last inspection of basement flooding	☐	☒	☐	☐
k. Are any portions of the sewer system at or near capacity	☐	☒	☐	☐

Comments:

H. SLUDGE MANAGEMENT

	YES	NO	N/A	N/E
a. Sludge adequately disposed. Method: POTW	☒	☐	☐	☐
b. If sludge is incinerated, where is ash disposed of? _____	☐	☐	☒	☐
c. Is sludge disposal contracted? Name: AA Sanitation	☒	☐	☐	☐
d. Has amount of sludge generated changed significantly since last inspection	☐	☒	☐	☐
e. Adequate sludge storage provided at facility	☒	☐	☐	☐
f. Land application sites monitored and inspected per state rules	☐	☐	☒	☐
g. Records kept in accordance with state rules	☒	☐	☐	☐
h. Any complaints received in last year regarding sludge	☐	☒	☐	☐
i. Is sludge adequately processed (digestion, dewatering, pathogen control) in accordance with Ohio EPA rules	☒	☐	☐	☐

Comments:
STP Sludge is hauled to Maysville, KY.

I. SELF-MONITORING PROGRAM

Part 1 – Flow Measurement	YES	NO	N/A	N/E
a. Primary flow measuring device properly operated & maintained. Type of device: ☐ Ultrasonic & parshall flume ☒ Calculated from influent ☐ Weir ☒ Other ☐ Ultrasonic & weir specify: _____	☒	☐	☐	☐
b. Calibration frequency adequate. Date of last calibration: _____	☐	☐	☐	☐
c. Secondary instruments (totalizers, recorders, etc.) properly operated and maintained	☒	☐	☐	☐
d. Flow measurement equipment adequate to handle expected ranges of flows	☒	☐	☐	☐
e. Actual flow discharged is measured	☒	☐	☐	☐
f. Flow measuring equipment inspection frequency: ☒ Daily ☐ Monthly ☐ Weekly ☐ Other				

Comments:
012 Digital Control System, 013 graduated probe at rectangular weir, 020 graduated probe, 609 pump run time.

Part 2 - Sampling	YES	NO	N/A	N/E
a. Sampling location(s) are as specified by permit	☒	☐	☐	☐
b. Parameters and sampling frequency agree with permit	☒	☐	☐	☐
c. Permittee uses required sampling method	☒	☐	☐	☐
d. Sample collection procedures are adequate	☒	☐	☐	☐
i. Samples refrigerated during compositing	☒	☐	☐	☐
ii. Proper preservation techniques used	☒	☐	☐	☐
Conform with 40 CFR 136.3	☒	☐	☐	☐
e. Monitoring records (e.g., flow, pH, D.O., etc.) maintained for a minimum of three years including all original strip chart recordings (e.g., continuous monitoring instrumentation, calibration, & maintenance records)	☒	☐	☐	☐
f. Adequate records maintained of sampling date, time, exact location, etc.	☒	☐	☐	☐

Comments:

Part 3 – Laboratory, General	YES	NO	N/A	N/E
a. Written Standard Operating Procedures (SOPs) for all analysis performed on-site	☒	☐	☐	☐
b. EPA approved analytical testing procedures used (40 CFR 136.3)	☒	☐	☐	☐
c. If alternate analytical procedures are used, proper approval has been obtained	☐	☐	☒	☐
d. Analysis being performed more frequently than required by permit	☐	☒	☐	☐
e. If (c) is yes, are results reported in permittee's self-monitoring report	☐	☐	☒	☐
f. Commercial laboratory used: 1. Parameters analyzed by commercial lab: BOD, fecal coliform, O+G 2. Lab name: Test America				

Comments:

Part 3 – Laboratory, Quality Control/Quality Assurance	YES	NO	N/A	N/E
a. Quality assurance manual provided and maintained	☒	☐	☐	☐
b. Satisfactory calibration and maintenance of instruments and equipment	☒	☐	☐	☐
c. Adequate records maintained	☒	☐	☐	☐
d. Results of latest U.S. EPA quality assurance performance sampling program: Date: 3/15/10 ☒ Satisfactory ☐ Marginal ☐ Unsatisfactory				

Comments:
d. 20 of 20 parameters analyzed were within acceptable range.

J. EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall #	Oil Sheen	Grease	Turbidity	Visible Foam	Visible Float Solids	Color	Other
001	None	None	Moderate	Moderate	Moderate	Brown	
002	None	None	Moderate	Moderate	Moderate	Brown	
012	None	None	None	None	None	Clear	
013	None	None	None	None	None	Clear	
019	None	None	Moderate	None	None	Brown	
020	None	None	Moderate	None	None	Light brown	

Comments:

K. MULTIMEDIA OBSERVATIONS

Collection System	YES	NO	N/A	N/E
a. Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories	☐	☒	☐	☐
b. Do you notice staining or discoloration of soils, pavement, or floors	☐	☒	☐	☐
c. Do you notice distressed (unhealthy, discolored, dead) vegetation	☐	☒	☐	☐
d. Do you see unidentified dark smoke or dustclouds coming from sources	☐	☒	☐	☐
e. Do you notice any unusual odors or strong chemical smells	☐	☒	☐	☐
f. Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities	☐	☒	☐	☐

If any of the above are observed, ask the following questions:
1. What is the cause of the conditions?
2. Is the observed condition or source a waste product?
3. Where is the suspected contaminant normally disposed?
4. Is this disposal permitted?
5. How long has the condition existed and when did it begin?

Comments:

General Lab Criteria

Facility: JM Stuart Station

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance				
• 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[6]	☒ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Drying Oven (Suspended Solids)				
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☒ Yes	☐ No	
	• Log book maintained[6]	☒ 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 in 0.1° C increments[5]	☒ Yes	☐ No	
	• Acceptable temperature range is 103° – 105° F [4]	☒ Yes	☐ No	
	• Instrument manual available	☒ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH Meter				
• 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[9]	☒ 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	Acceptable?		Rating
Dissolved Oxygen Meter				
• Calibration Method	• Air or known DO calibration method[10]	☐ Yes	☐ No	
	• Calibration per manufacturer specification[10]	☐ Yes	☐ No	**NR**
• Calibration Frequency	• Logbook maintained[9]	☐ Yes	☐ No	

General Lab Criteria

	• Instrument manual available	☒ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Ammonia Meter		**Acceptable?**		
• 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[9]	☒ 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:

Criteria	Standard Methods Requirement			Rating
Sample Collection/Handling		**Acceptable?**		
• 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[9]	☒ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Desiccator		**Acceptable?**		
• General criteria	• Properly working seals.	☒ Yes	☐ No	
	• Desiccant fresh (blue color)	☒ Yes	☐ No	
• Documentation	• Log book being maintained[9]	☒ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Bench sheets		**Acceptable?**		
• 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

Notation of Referenced Method

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

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

Ohio Environmental Protection Agency

INTER-OFFICE COMMUNICATION

TO: Fred Snell, DSW, SEDO
FROM: Randy Spencer, DSW, WQ, SEDO
DATE: October 21, 2011
RE: Dayton Power and Light; J.M. Stuart Station, 0IB00049*ND

A compliance sampling event was performed at the Dayton Power and Light; J.M. Stuart Station, U.S. Route 52, Aberdeen, Adams County, State of Ohio. DP&L Stuart is covered under the effective NPDES permit 0IB00049*MD with an expiration date of July 31, 2012. The sampling occurred on March 7th thru March 8th, 2011. The effluent sampled at DP&L Stuart is discharged to the Little Threemile Creek at river mile 0.3, through outfall 012 and to the Ohio River at river mile 577.74, through outfall 013. All samples taken by Ohio EPA were preserved pursuant OEPA standard operating procedures, parameter dependent and were placed on ice. All samples were kept lock and transported to the Division of Environmental Services March 8th, 2011 under chain of custody.

Initial field parameters of pH, Dissolved Oxygen, Conductivity and Temperature were taken with a YSI 556 MPS unit which was calibrated before sampling. An ISCO automatic portable composite sampler model 3710 was used to obtain a composite effluent samples from outfalls 012 and 013. The sample container was a large glass container cleaned and rinsed per Ohio EPA protocol and procedures. The composite sample was refrigerated in the ISCO sampler with ice. All tubing was inert teflon lined tubing. Observed effluent was clear in nature at both outfalls. One result was above NPDES permit limit – outfall 603 had a TSS sample value of 4610 mg/L while the limit is 100 mg/L. Outfall 012 had a 3/8/2011 grab sample value of 3110 mg/L result for TDS while the WQS is 1500 mg/L. There was no toxicity detected in either test species for outfalls 012 and 013. For toxicity details, please refer to the attached bioassay report.

Should you need any additional information or modifications to the tables or have any questions please contact me.
rds

Dayton Power and Light J. M. Stuart Station outfall 012	Date Collected: 3/7 thru 8/2011 24 hr. composite		
Parameter	Units	Results	MRL
Ammonia	mg/L	1.42	0
Conductivity	umhos/cm	3580	2
CBOD5	mg/L	<2.0	2
Alkalinity	mg/L	60.9	5
Total Suspended Solids	mg/L	7	5
TKN	mg/L	2.13	0
Total Phosphorus	mg/L	0.013	0
Nickel	ug/L	44.8	2
Total Dissolved Solids	mg/L	3070	10
Chloride	mg/L	684	5
Nitrate+nitrite	mg/L	4.28	0
Chromium	ug/L	6.0	2
COD	mg/L	51	20
Aluminum	ug/L	444	200
Barium	ug/L	132	15
Calcium	mg/L	620	2
Iron	ug/L	655	50
Magnesium	mg/L	105	1
Manganese	ug/L	291	10
Potassium	mg/L	6	2
Sodium	mg/L	40	5
Strontium	ug/L	1130	30
Zinc	ug/L	47	10
Hardness, Total	mg/L	1980	10
Lead	ug/L	<2.0	2
Cadmium	ug/L	1.09	0
Arsenic	ug/L	6.8	2
Selenium	ug/L	80.7	2
Copper	ug/L	8.1	2

Composite Sampler Results		
Temperature	°C	7.7
Dissolved Oxygen	mg/L	11.94
pH	S.U.	7.26
Conductivity	umhos/cm	3495
Little Threemile Creek Results		
Temperature	°C	7.16
Dissolved Oxygen	mg/L	13.25
pH	S.U.	7.71
Conductivity	umhos/cm	1835
Upstream Dilution Grab 50/50		
Temperature	°C	8.13
Dissolved Oxygen	mg/L	12.59
pH	S.U.	8.09
Conductivity	umhos/cm	480
1st Day Grab Results - 3/7/2011		
Temperature	°C	14.1
Dissolved Oxygen	mg/L	8.23
pH	S.U.	7.06
Conductivity	umhos/cm	3218
2nd Day Grab Results - 3/8/2011		
Temperature	°C	15
Dissolved Oxygen	mg/L	8.92
pH	S.U.	7.27
Conductivity	umhos/cm	3201

Dayton Power and Light J. M. Stuart Station outfall 013	Date Collected: 3/7 thru 8/2011 24 hr. composite		
Ammonia	mg/L	4.77	0
Conductivity	umhos/cm	1160	2
CBOD5	mg/L	<2.0	2
Alkalinity	mg/L	66.5	5
Total Suspended Solids	mg/L	<5	5
TKN	mg/L	4.81	0
Total Phosphorus	mg/L	<0.010	0
Copper	ug/L	3.0	2
Nickel	ug/L	10.4	2
Total Dissolved Solids	mg/L	796	10
Chloride	mg/L	104	5
Nitrate+nitrite	mg/L	1.62	0
Chromium	ug/L	37.6	2
COD	mg/L	<20	20
Aluminum	ug/L	758	200
Barium	ug/L	266	15
Calcium	mg/L	158	2
Iron	ug/L	748	50
Magnesium	mg/L	21	1
Manganese	ug/L	72	10
Potassium	mg/L	10	2
Sodium	mg/L	39	5
Strontium	ug/L	492	30
Zinc	ug/L	<10	10
Hardness, Total	mg/L	481	10
Lead	ug/L	<2.0	2
Cadmium	ug/L	<0.20	0
Arsenic	ug/L	15.9	2
Selenium	ug/L	56.0	2

Composite Sampler Results		
Temperature	°C	5.18
Dissolved Oxygen	mg/L	13.41
pH	S.U.	8.23
Conductivity	umhos/cm	1101
Ohio River Results		
Temperature	°C	7.79
Dissolved Oxygen	mg/L	11.89
pH	S.U.	7.78
Conductivity	umhos/cm	678
Upstream Dilution Grab 50/50		
Temperature	°C	6.89
Dissolved Oxygen	mg/L	13.35
pH	S.U.	7.66
		266
1st Day Grab Result - 3/7/2011		
Temperature	°C	11.2
Dissolved Oxygen	mg/L	10.91
pH	S.U.	8.22
Conductivity	umhos/cm	1076
2nd Day Grab Results - 3/8/2011		
Temperature	°C	11.76
Dissolved Oxygen	mg/L	11.95
pH	S.U.	8.23
Conductivity	umhos/cm	1112

Dayton Power and Light J.M. Stuart Station outfall 012	Date Collected: 3/8/2011 Grab		
Parameter	Units	Result	MRL
Oil & Grease	mg/L	<2.0	2
Phenolics	ug/L	17.0	10
Cyanide, Total	ug/L	<10	10
Total Suspended Solids	mg/L	7	5
Copper	ug/L	8.0	2
Nickel	ug/L	47.9	2
Sulfate	mg/L	712	5
Total Dissolved Solids	mg/L	3110	10
Chloride	mg/L	685	5
Chromium	ug/L	6.2	2
Aluminum	ug/L	385	200
Barium	ug/L	128	15
Calcium	mg/L	575	2
Iron	ug/L	516	50
Magnesium	mg/L	99	1
Manganese	ug/L	181	10
Potassium	mg/L	5	2
Sodium	mg/L	40	5
Strontium	ug/L	1090	30
Zinc	ug/L	42	10
Hardness, Total	mg/L	1840	10
Lead	ug/L	<2.0	2
Cadmium	ug/L	1.02	0
Arsenic	ug/L	<10.0	2
Selenium	ug/L	83.9	2

Dayton Power and Light J.M. Stuart Station Outfall 013	Date Collected: 3/8/2011 Grab		
Parameter	Units	Result	MDL
Phenolics	ug/L	18.9	10
Ammonia	mg/L	4.84	0
Cyanide, Total	ug/L	<10	10
Total Suspended Solids	mg/L	<5	5
TKN	mg/L	4.91	0
Copper	ug/L	3.3	2
Total Dissolved Solids	mg/L	870	10
Chloride	mg/L	113	5
Nickel	ug/L	11.9	2
Chromium	ug/L	41.4	2
Aluminum	ug/L	831	200
Barium	ug/L	265	15
Calcium	mg/L	163	2
Iron	ug/L	794	50
Magnesium	mg/L	22	1
Manganese	ug/L	74	10
Potassium	mg/L	10	2
Sodium	mg/L	40	5
Strontium	ug/L	504	30
Zinc	ug/L	<10	10
Hardness, Total	mg/L	498	10
Lead	ug/L	<2.0	2
Cadmium	ug/L	0.25	0
Arsenic	ug/L	16.8	2
Selenium	ug/L	55.2	2

Dayton Power and Light J.M. Stuart Station outfall 609	Date Collected: 3/7/2011 Grab		
Parameter	Units	Result	MRL
Ammonia	mg/L	0.099	0
CBOD5	mg/L	<2.0	2
Total Suspended Solids	mg/L	<5	5
Sulfate	mg/L	234	5
Total Dissolved Solids	mg/L	1030	10
Chloride	mg/L	174	5
Nitrate+nitrite	mg/L	18.3	0
Aluminum	ug/L	<200	200
Barium	ug/L	41	15
Calcium	mg/L	163	2
Iron	ug/L	154	50
Magnesium	mg/L	26	1
Manganese	ug/L	42	10
Potassium	mg/L	15	2
Sodium	mg/L	71	5
Strontium	ug/L	355	30
Zinc	ug/L	131	10
Hardness, Total	mg/L	514	10

Dayton Power and Light J.M. Stuart Station Outfall 608	Date Collected: 3/8/2011 Grab		
Parameter	Units	Result	MRL
Total Suspended Solids	mg/L	4610	5
Copper	ug/L	140	2
Nickel	ug/L	370	2
Sulfate	mg/L	1270	5
Total Dissolved Solids	mg/L	8720	10
Chloride	mg/L	4980	5
Chromium	ug/L	154	2
Aluminum	ug/L	57600	200
Barium	ug/L	1100	15
Calcium	mg/L	3040	2
Iron	ug/L	53000	50
Magnesium	mg/L	558	1
Manganese	ug/L	1520	10
Potassium	mg/L	27	2
Sodium	mg/L	89	5
Strontium	ug/L	5110	30
Zinc	ug/L	729	10
Hardness, Total	mg/L	9890	10
Lead	ug/L	164	2
Cadmium	ug/L	9.41	0
Arsenic	ug/L	125	2
Selenium	ug/L	769	2

A Report on the Acute Toxicity of Dayton Power and Electric/Stuart Station Outfall 012 Effluents to *Pimephales promelas* and *Ceriodaphnia dubia*

Bioassay Report Number:
11-4027-SE

Sample Number:
129727

Reviewed By:
Ohio EPA - DES
QA Staff

MAR 1 4 2011

Reviewer VD

Jonathan C. McLaughlin

Bioassay Section
Division of Environmental Services
Ohio Environmental Protection Agency

INTRODUCTION

Two grab samples and a composite sample of Dayton Power and Electric/Stuart Station outfall 012 effluents were collected by Randy Spencer, DSW, SEDO, Ohio EPA for use in screening bioassays as part of a toxics evaluation in conjunction with permit reissuance. Grab samples were also collected from the receiving stream, Threemile Creek, upstream from the discharge. The effluent grab samples were collected on 7 March 2011 at 1242 hours and on 8 March 2011 at 1216 hours. The composite sample was collected on 7-8 March 2011 between 1230-1210 hours. The Threemile Creek upstream water was collected on 7 March 2011 at 1503 hours. A mixing zone sample was manually prepared in the field on 7 March 2011 at 1501 hours by combining equal aliquots of upstream water and effluent. The fathead minnow, *Pimephales promelas*, and *Ceriodaphnia dubia* were used as test organisms in these 48-hour screening bioassays.

PREVIOUS RESULTS

Bioassays of Dayton Power and Electric/Stuart Station outfall 012 effluents have not been previously conducted by the Ohio EPA within the last ten years.

RESULTS AND CONCLUSIONS

Details of the tests may be found on the attached bioassay report forms. The effluents were not acutely toxic. One fathead minnow died in the Threemile Creek upstream water. *Ceriodaphnia* mortality was 10, 10, 5, and 15 percent in the upstream water, 7 and 8 March effluent grabs, and composite effluent, respectively. No mortality or other adverse effects were observed in the remaining samples tested for either *P. promelas* or *C. dubia*. Survival in the laboratory controls was 100 percent for both species.

Screening bioassays are utilized to determine if an effluent is acutely toxic to the test organisms and to indicate if more extensive bioassays should be conducted to estimate median lethal concentrations or persistence of toxicity. The results of these bioassays indicate that Dayton Power and Electric/Stuart Station outfall 012 effluents were not acutely toxic to either *P. promelas* or *C. dubia*. Additional bioassays should be conducted to further demonstrate the absence of unacceptable toxic conditions associated with this discharge.

These tests did not address the possibility of chronic toxicity. Discharge data for Dayton Power and Electric/Stuart Station outfall 012 and the Threemile Creek should be evaluated to determine if chronic toxicity is of concern. Chronic tests may be required to adequately evaluate the possibility of toxicity in this discharge.

OHIO ENVIRONMENTAL PROTECTION AGENCY
Screening Bioassay Report Form

Report Date: 11 March 2011	**Bioassay Report Number:** 11-4027-SE

Investigators:	Jonathan C. McLaughlin

Effluent tested and source:	Dayton Power and Electric/Stuart Station, US Route 52, Aberdeen, Adams County, Ohio, outfall 012
NPDES Number:	OH0004316
Ohio EPA Permit Number:	0IB00049*ND
Business/Process:	Electric Power Station
Collector(s):	Randy Spencer, DSW, SEDO, Ohio EPA

Test Organisms:	Fathead minnow (*Pimephales promelas*) and *Ceriodaphnia dubia* from Ohio EPA Bioassay Section rearing units

Fathead Minnow Data:	n = 20. Number of fish used in estimating mean standard length and mean weight

	Mean	Standard Deviation	Range
Standard Length (millimeters):	6.5	0.65	5.5-7.5
Weight (milligrams):	1.1	0.47	0.5-2.0
Hatched: 24-25 February 2011; 11-12 days old at test initiation			

Rearing unit water and reconstituted water were used in the controls for this static bioassay. Adverse effects measured in the test are death, immotility, and loss of equilibrium. Death is the cessation of all visible movement with no response to gentle prodding (fish) or to gentle test container agitation (*Ceriodaphnia*). An immotile organism is paralyzed or stunned with only occasional slight movements and cannot maintain its normal position in the water column. Loss of equilibrium is the organism's inability to maintain normal swimming posture in the water column and may be characterized by periods of quiescence followed by bursts of uncontrolled swimming. The effluent is considered to be acutely toxic if 20 percent, or more, of either species of test organism exhibits any combination of the adverse effects in the 100 percent effluent. Test results are invalid if more than ten percent of either species of test organism exhibits the adverse effects in the control.

Results of screening bioassays of Dayton Power and Electric/Stuart Station outfall 012 effluent

Bioassay Number: 11-4027-SE

Sample	Time Collected Date: Time: (hours)	Test Start Date: Time: (hours)	Cumulative percent mortality (plus those pale in appearance)			
			P. prometas Time (hours)		*C. dubia* Time (hours)	
			24	48	24	48
Threemile Creek upstream	7 March 2011 1503	8 March 2011 0720	0	5	5	10
Manual mixing zone (1:1)	7 March 2011 1501	8 March 2011 0720	0	0	0	0
Grab 012	7 March 2011 1242	8 March 2011 0720	0	0	0 (5)	10
Rearing unit water control		8 March 2011 0720	0	0	-	-
Reconstituted water control		8 March 2011 0720	-	-	0	0
Grab 012	8 March 2011 1216	9 March 2011 0855	0	0	0	5
Composite 012	7-8 March 2011 1230-1210	9 March 2011 0855	0	0	5	15
Rearing unit water control		9 March 2011 0855	0	0	-	-
Reconstituted water control		9 March 2011 0855	-	-	0	0

Relevant information: A mixing zone sample was manually prepared in the field by combining equal aliquots of upstream water and effluent. The ambient waters and effluents were clear. After warming to the 25°C test temperature, the ambient waters and effluents were shaken vigorously for approximately 15 seconds to release supersaturated dissolved oxygen. Physicochemical parameters measured prior to test initiation and at test end are on the next page.

Results of screening bioassays of Dayton Power and Electric/Stuart Station outfall 012 effluent

Bioassay Number: 11-4027-SE

Relevant information (cont.): Physicochemical parameters recorded prior to test initiation were:

Sample	Temperature (°C) Upon Rcpt.	Temperature (°C) Test Init.	Dissolved Oxygen (mg/L) Initial-Adjusted	pH (S.U.)	Conductivity (µmhos/cm)
Threemile Creek upstream	2.7	25.4	11.9-8.3	8.04	492
Manual mixing zone (1:1)	2.7	25.5	11.8-8.3	7.85	1988
Grab 012, 7 March 2011	2.6	25.3	9.2-8.0	7.87	3430
Grab 012, 8 March 2011	2.0	24.8	9.3-7.9	7.75	3210
Composite 012	1.9	25.0	9.2-7.8	7.70	3480
Rearing unit water control	21.6	25.4	8.5	7.49	474
Reconstituted water control	25.1	25.1	7.9	8.02	564

Physicochemical values for the laboratory controls are the averages of two measurements.

Physicochemical parameters recorded at *P. promelas* (FHM) and *C. dubia* (CDU) test end were:

Sample	Temperature (°C) FHM	Temperature (°C) CDU	Dissolved Oxygen (mg/L) FHM	Dissolved Oxygen (mg/L) CDU	pH (S.U.) FHM	pH (S.U.) CDU	Conductivity (µmhos/cm) FHM	Conductivity (µmhos/cm) CDU
Threemile Creek upstream	-	-	-	-	-	-	-	-
Manual mixing zone (1:1)	-	-	-	-	-	-	-	-
Grab 012, 7 March 2011	-	-	-	-	-	-	-	-
Grab 012, 8 March 2011	-	-	-	-	-	-	-	-
Composite 012	-	-	-	-	-	-	-	-
Rearing unit water control	-	-	-	-	-	-	-	-
Reconstituted water control	-	-	-	-	-	-	-	-

Physicochemical values for the laboratory controls are the averages of two measurements.

Appendix 1.

Results of previous bioassays of Dayton Power and Electric/Stuart Station outfall 012 effluent

Screening Results

Bioassay Number	Date (mm/yy)	Acutely Toxic (Y/N)	*Pimephales promelas* mortality (plus/or exhibiting other adverse effects)			*Ceriodaphnia dubia* mortality (plus those pale in appearance)		
			Day 1 Grab	Day 2 Grab	Composite	Day 1 Grab	Day 2 Grab	Composite

* All previous results are available electronically upon request.

Definitive Results

Bioassay Number	*Pimephales promelas*			*Ceriodaphnia dubia*		
	LC50 (95 percent confidence limits)	EC50 (95 percent confidence limits)	LC50 TUa (EC50 TUa)	LC50 (95 percent confidence limits)	EC50 (95 percent confidence limits)	LC50 TUa (EC50 TUa)
-	-	-	-	-	-	-
-	-	-	-	-	-	-

Definitions

- The LC50s and EC50s are reported as percent by volume effluent (%).
- The LC50 is the effluent concentration that is lethal to 50 percent of a species of test organism in a stated exposure period. The EC50 includes mortality plus data on other adverse effects. Both are usually obtained by statistical or graphical methods.
- The TUa is calculated by dividing 100 by the LC50 or EC50.

OHIO EPA, DES, BIOASSAY SECTION, SAMPLE SUBMISSION FORM

Name of Entity & Outfall Tested:	DP&L Stuart outfall 012	**OEPA Permit #:**	0IB00049*ND
Facility Address:	Route 52, Aberdeen, OH	**NPDES #:**	OH0004316
Receiving Stream (R.M.)	L. Threemile Ck - RM 0.3 Storet #301335	**County:**	Adams
Collector(s) [Print Full Name]:	Randy Spencer		
Collector(s) Signature:	Randy Spencer		

Upstream control samples shall be collected upstream from any discharge/receiving stream interactions. Generally, acute (near field) *samples should be collected in the center of the effluent plume 5 times the stream depth downstream from the outfall and chronic (far* field) samples should be collected midplume, or if a plume no longer exists midstream 5 times the stream width downstream from the outfall. If atypical mixing characteristics exist, samples can be collected at closer distances than the above guidelines to insure the samples are within the effluent plume. If a mixing zone sample cannot be safely collected, one can be prepared using equal aliquots of the day 1 effluent grab and upstream dilution water (be sure to write "manual" in the "Location of Sample Collection" space provided below).

Sample Identification	**Effluent Day 1 Grab**	**Effluent Day 2 Grab**	**Effluent Composite**	**Upstream/ Dilution-Grab**	**Acute Mixing Zone-Grab**	**Chronic Mixing Zone-Grab**
Location of Sample Collection	012	012	012	50/50	L. Threemile Creek	
If Composite, Sample Volume and Frequency				301340	X99Q01	
Collection Containers, Types and Number	1 cubi	1 cubi	2 cubi	1 cubi	3 cubi	
Volume Collected	1 gal	1 gal	2 gal	1gal	3 gal	
Date of Sample Collection	3/7/2011	3/8/2011	3/7-8/11	3/7/2011	3/7/2011	
Time of Sample Collection, beginning-Ending Time	12 ~~1~~2	~~1320~~		1523	1501	
Flow (in MGD)						
Temperature (°C)	14.10			8.13	7.16	
Dissolved Oxygen (mg/L)	8.23			12.59	13.25	
pH (S.U.)	7.06			8.09	7.71	
Conductivity (µmhos/cm)	3218			480	1813	
Total Residual Chlorine (mg/L)	—			—	—	

Place a check mark next to all the appropriate characteristics of the outfall/mixing zone:

Turbulent Mixing	Onshore Pipe	Shore hugging Plume	Flume
___ *Nonturbulent Mixing*	___ *Offshore Pipe*	___ *Rapid Complete Mixing*	___ *Diffuser*

Notes: Sample for outfall 012 Taken in Treatment Building - @ wier overflow before Discharge to Stream -

second day / composite - next day 3-8-11

129727

Name and Title		Year	Month	Day	Hour	Minute
Received from:	Reynaldo Sayson	11	03	08	06	38
Received by:	[illegible]	11	03	08	06	38
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						

In the vicinity of the discharge: Steam Depth _____ Stream Width _____

CHEMISTRY SAMPLE NUMBERS

Location Map Drawing

Describe and map the upstream control and any mixing zone sampling sites sosomeone else could sample at the exact same points (include landmarks if possible). Stream depth should be recorded for any acute (near field) mixing zone sample and stream width for any chronic (far field) mixing zone sample. For the mixing zone sampldocation, delineate the distance downstream from the outfall and map the effluent plume. Be specific on discharge and receiving stream characteristics.

OHIO EPA, DES, BIOASSAY SECTION, SAMPLE SUBMISSION FORM

Name of Entity & Outfall Tested:	DP&L Stuart outfall 012	**OEPA Permit #:**	0IB00049*ND
Facility Address:	Route 52, Aberdeen, OH	**NPDES #:**	OH0004316
Receiving Stream (R.M.)	*L. Threemile Ck - RM 0.3 Storet #301335*	**County:**	Adams
Collector(s) [Print Full Name]:	Randy Spencer		
Collector(s) Signature:	Randy Spencer		

Upstream control samples shall be collected upstream from any discharge/receiving stream interactions. Generally, acute (near field) samples should be collected in the center of the effluent plume 5 times the stream depth downstream from the outfall and chronic (far field) samples should be collected midplume, or if a plume no longer exists midstream 5 times the stream width downstream from the outfall. If atypical mixing characteristics exist, samples can be collected at closer distances than the above guidelines to insure the samples are within the effluent plume. If a mixing zone sample cannot be safely collected, one can be prepared using equal aliquots of the day 1 effluent grab and upstream dilution water (be sure to write "manual" in the "Location of Sample Collection" space provided below).

Sample Identification	**Effluent Day 1 Grab**	**Effluent Day 2 Grab**	**Effluent Composite**	**Upstream/ Dilution-Grab**	**Acute Mixing Zone-Grab**	**Chronic Mixing Zone-Grab**
Location of Sample Collection	012	012	012	50/50	L. Threemile Creek	
If Composite, Sample Volume and Frequency			15 min / @ 250 ml	301340	X99Q01	
Collection Containers, Types and Number	1 cubi	1 cubi	2 cubi	1 cubi	3 cubi	
Volume Collected	1 gal	1 gal	2 gal	1gal	3 gal	
Date of Sample Collection	3/7/2011	3/8/2011	3/7-8/11	3/7/2011	3/7/2011	
Time of Sample Collection, beginning-Ending Time	1242	1216	1230 - 1210	1503	1501	
Flow (in MGD)						
Temperature (°C)	14.10	15.00	7.70	8.13	7.16	
Dissolved Oxygen (mg/L)	8.23	8.92	11.94	12.59	12.25	
pH (S.U.)	7.06	7.27	7.26	8.09	7.71	
Conductivity (µmhos/cm)	3218	3201	3495	480	1835	
Total Residual Chlorine (mg/L)						

Place a check mark next to all the appropriate characteristics of the outfall/mixing zone:

Turbulent Mixing	Onshore Pipe	Shore hugging Plume	Flume
___ *Nonturbulent Mixing*	___ *Offshore Pipe*	___ *Rapid Complete Mixing*	___ *Diffuser*

Notes: Sample Taken @ Treatment Building from Wier box before Discharge to L. Threemile Cr. - Dilution & 50/50 mix taken upstream of Discharge in L. Threemile Cr. - No flood conditions noted.

96 Samples Collected - short

012

Name and Title		Year	Month	Day	Hour	Minute
Received from:	[illegible]	11	03	09	8	15
Received by:	[illegible]	11	03	09	08	15
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						

In the vicinity of the discharge: Steam Depth _____ Stream Width _____

CHEMISTRY SAMPLE NUMBERS			
129748	129755	129752	129756
		~~129751~~	

Location Map Drawing

Describe and map the upstream control and any mixing zone sampling sites sosomeone else could sample at the exact same points (include landmarks if possible). Stream depth should be recorded for any acute (near field) mixing zone sample and stream width for any chronic (far field) mixing zone sample. For the mixing zone sampldocation, delineate the distance downstream from the outfall and map the effluent plume. Be specific on discharge and receiving stream characteristics.

OhioEPA Division of Environmental Services

Laboratory Inorganic Analysis Data Report

Sample	129748				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected	03/07/2011 12:30 PM	03/08/2011 12:10 PM		**Station ID**	301335
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70373
OEPA Division	DSW				
Location	1 - Dayton Power and Light J.M. Stuart Station outfall 012				

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
CBOD-5	CBOD5	P80082	<2.0	2	mg/L	03/09/2011	
Solids_Diss	Total Dissolved Solids	P70300	3070	10	mg/L	03/10/2011	
Solids_Susp	Total Suspended Solids	P530	7	5	mg/L	03/10/2011	
ICPMS_(WAT)	Arsenic	P1002	6.8	2	ug/L	03/18/2011	
ICPMS_(WAT)	Cadmium	P1027	1.09	0.2	ug/L	03/18/2011	
ICPMS_(WAT)	Chromium	P1034	6.0	2	ug/L	03/18/2011	
ICPMS_(WAT)	Copper	P1042	8.1	2	ug/L	03/18/2011	
ICPMS_(WAT)	Lead	P1051	<2.0	2	ug/L	03/18/2011	
ICPMS_(WAT)	Nickel	P1067	44.8	2	ug/L	03/18/2011	
ICPMS_(WAT)	Selenium	P1147	80.7	4	ug/L	03/18/2011	
ICP_(WAT)	Aluminum	P1105	444	200	ug/L	03/16/2011	
ICP_(WAT)	Barium	P1007	132	15	ug/L	03/16/2011	
ICP_(WAT)	Calcium	P916	620	10	mg/L	03/16/2011	
ICP_(WAT)	Hardness, Total	P900	1980	10	mg/L	03/16/2011	
ICP_(WAT)	Iron	P1045	655	50	ug/L	03/16/2011	
ICP_(WAT)	Magnesium	P927	105	5	mg/L	03/16/2011	
ICP_(WAT)	Manganese	P1055	291	10	ug/L	03/16/2011	
ICP_(WAT)	Potassium	P937	6	2	mg/L	03/16/2011	
ICP_(WAT)	Sodium	P929	40	5	mg/L	03/16/2011	
ICP_(WAT)	Strontium	P1082	1130	30	ug/L	03/16/2011	
ICP_(WAT)	Zinc	P1092	47	10	ug/L	03/16/2011	
Alkalinity	Alkalinity	P410	60.9	5	mg/L	03/11/2011	
Ammonia	Ammonia	P610	1.42	0.05	mg/L	03/18/2011	
COD	COD	P340	51	20	mg/L	03/17/2011	
Chloride	Chloride	P940	684	25	mg/L	03/09/2011	
Conductivity	Conductivity	P95	3580	2	umhos/cm	03/15/2011	
Nitrate	Nitrate+nitrite	P630	4.28	0.1	mg/L	03/18/2011	
TKN	TKN	P625	2.13	0.2	mg/L	03/23/2011	
TP	Total Phosphorus	P665	0.013	0.01	mg/L	03/23/2011	

Field Comments

Lab Comments

QC / Sample Comments

Approved By VDESHMUKH **On** 04/06/2011

OhioEPA Division of Environmental Services

Laboratory Inorganic Analysis Data Report

Sample	129752				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected			03/08/2011 12:42 PM	**Station ID**	301335
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70381
OEPA Division	DSW				
Location	2 - Dayton Power and Light J.M. Stuart Station outfall 012				

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
Oil&Grease	Oil & Grease	P556	<2.0	2	mg/L	03/11/2011	
Solids_Diss	Total Dissolved Solids	P70300	3110	10	mg/L	03/10/2011	
Solids_Susp	Total Suspended Solids	P530	7	5	mg/L	03/10/2011	
ICPMS_(WAT)	Arsenic	P1002	<10.0	10	ug/L	03/18/2011	
ICPMS_(WAT)	Cadmium	P1027	1.02	0.2	ug/L	03/18/2011	
ICPMS_(WAT)	Chromium	P1034	6.2	2	ug/L	03/18/2011	
ICPMS_(WAT)	Copper	P1042	8.0	2	ug/L	03/18/2011	
ICPMS_(WAT)	Lead	P1051	<2.0	2	ug/L	03/18/2011	
ICPMS_(WAT)	Nickel	P1067	47.9	2	ug/L	03/18/2011	
ICPMS_(WAT)	Selenium	P1147	83.9	10	ug/L	03/18/2011	
ICP_(WAT)	Aluminum	P1105	385	200	ug/L	03/16/2011	
ICP_(WAT)	Barium	P1007	128	15	ug/L	03/16/2011	
ICP_(WAT)	Calcium	P916	575	10	mg/L	03/16/2011	
ICP_(WAT)	Hardness, Total	P900	1840	10	mg/L	03/16/2011	
ICP_(WAT)	Iron	P1045	516	50	ug/L	03/16/2011	
ICP_(WAT)	Magnesium	P927	99	5	mg/L	03/16/2011	
ICP_(WAT)	Manganese	P1055	181	10	ug/L	03/16/2011	
ICP_(WAT)	Potassium	P937	5	2	mg/L	03/16/2011	
ICP_(WAT)	Sodium	P929	40	5	mg/L	03/16/2011	
ICP_(WAT)	Strontium	P1082	1090	30	ug/L	03/16/2011	
ICP_(WAT)	Zinc	P1092	42	10	ug/L	03/16/2011	
Chloride	Chloride	P940	685	25	mg/L	03/09/2011	
Cyanide_Total	Cyanide, Total	P720	<10	10	ug/L	03/10/2011	
Phenolics_MD	Phenolics	P32730	17.0	10	ug/L	03/21/2011	
Sulfate	Sulfate	P945	712	100	mg/L	03/09/2011	

Field Comments 1st Day Grab

Lab Comments

QC / Sample Comments As analysed diluted to remove the interference.

Approved By VDESHMUKH **On** 04/06/2011

OhioEPA Division of Environmental Services

Laboratory Organic Analysis Data Report

Sample	129755				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected	03/07/2011 12:30 PM	03/08/2011 12:10 PM		**Station ID**	301335
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70389
OEPA Division	DSW				
Location	11 - Dayton Power and Light J.M. Stuart Station outfall 012				

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 625	ug/L					
Acenaphthene		000083-32-9	<5.2	5.2	03/14/2011	
Acenaphthylene		000208-96-8	<5.2	5.2	03/14/2011	
Anthracene		000120-12-7	<2.1	2.1	03/14/2011	
Benzo[a]anthracene		000056-55-3	<2.1	2.1	03/14/2011	
Benzo[a]pyrene		000050-32-8	<2.1	2.1	03/14/2011	
Benzo[b]fluoranthene		000205-99-2	<2.1	2.1	03/14/2011	
Benzo[g,h,i]perylene		000191-24-2	<2.1	2.1	03/14/2011	
Benzo[k]fluoranthene		000207-08-9	<2.1	2.1	03/14/2011	
bis(2-Chloroethoxy)methane		000111-91-1	<5.2	5.2	03/14/2011	
bis(2-Chloroethyl)ether		000111-44-4	<2.1	2.1	03/14/2011	
bis(2-Chloroisopropyl)ether		000108-60-1	<2.1	2.1	03/14/2011	
bis(2-Ethylhexyl)phthalate		000117-81-7	<10.4	10.4	03/14/2011	
4-Bromophenyl-phenylether		000101-55-3	<5.2	5.2	03/14/2011	
Butylbenzylphthalate		000085-68-7	<2.1	2.1	03/14/2011	
4-Chloro-3-methylphenol		000059-50-7	<10.4	10.4	03/14/2011	
2-Chloronaphthalene		000091-58-7	<5.2	5.2	03/14/2011	
2-Chlorophenol		000095-57-8	<2.1	2.1	03/14/2011	
4-Chlorophenyl-phenylether		007005-72-3	<2.1	2.1	03/14/2011	
Chrysene		000218-01-9	<2.1	2.1	03/14/2011	
Di-n-butylphthalate		000084-74-2	<5.2	5.2	03/14/2011	
Di-n-octylphthalate		000117-84-0	<2.1	2.1	03/14/2011	
Dibenz[a,h]anthracene		000053-70-3	<2.1	2.1	03/14/2011	
1,3-Dichlorobenzene		000541-73-1	<2.1	2.1	03/14/2011	
1,4-Dichlorobenzene		000106-46-7	<2.1	2.1	03/14/2011	
1,2-Dichlorobenzene		000095-50-1	<2.1	2.1	03/14/2011	
2,4-Dichlorophenol		000120-83-2	<2.1	2.1	03/14/2011	
Diethylphthalate		000084-66-2	<5.2	5.2	03/14/2011	
2,4-Dimethylphenol		000105-67-9	<10.4	10.4	03/14/2011	
Dimethylphthalate		000131-11-3	<5.2	5.2	03/14/2011	
4,6-Dinitro-2-methylphenol		000534-52-1	<5.2	5.2	03/14/2011	
2,4-Dinitrophenol		000051-28-5	<20.7	20.7	03/14/2011	
2,6-Dinitrotoluene		000606-20-2	<2.1	2.1	03/14/2011	
2,4-Dinitrotoluene		000121-14-2	<2.1	2.1	03/14/2011	
Fluoranthene		000206-44-0	<2.1	2.1	03/14/2011	
Fluorene		000086-73-7	<2.1	2.1	03/14/2011	
Hexachlorobenzene		000118-74-1	<2.1	2.1	03/14/2011	
Hexachlorobutadiene		000087-68-3	<2.1	2.1	03/14/2011	
Hexachlorocyclopentadiene		000077-47-4	<2.1	2.1	03/14/2011	
Hexachloroethane		000067-72-1	<5.2	5.2	03/14/2011	
Indeno[1,2,3-cd]pyrene		000193-39-5	<2.1	2.1	03/14/2011	
Isophorone		000078-59-1	<2.1	2.1	03/14/2011	
N-Nitroso-di-n-propylamine		000621-64-7	<2.1	2.1	03/14/2011	
N-Nitrosodiphenylamine		000086-30-6	<5.2	5.2	03/14/2011	
Naphthalene		000091-20-3	<2.1	2.1	03/14/2011	
Nitrobenzene		000098-95-3	<2.1	2.1	03/14/2011	
2-Nitrophenol		000088-75-5	<2.1	2.1	03/14/2011	
4-Nitrophenol		000100-02-7	<20.7	20.7	03/14/2011	
Pentachlorophenol		000087-86-5	<10.4	10.4	03/14/2011	
Phenanthrene		000085-01-8	<2.1	2.1	03/14/2011	
Phenol		000108-95-2	<2.1	2.1	03/14/2011	
Pyrene		000129-00-0	<2.1	2.1	03/14/2011	

OhioEPA Division of Environmental Services

Laboratory Organic Analysis Data Report

Sample	129756				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected			03/08/2011 12:30 PM	**Station ID**	301335
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70408
OEPA Division	DSW				
Location	12 - Dayton Power and Light J.M. Stuart Station outfall 012				

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 624	ug/L					
Benzene		000071-43-2	<0.50	0.5	03/09/2011	
Bromobenzene		000108-86-1	<0.50	0.5	03/09/2011	
Bromochloromethane		000074-97-5	<0.50	0.5	03/09/2011	
Bromodichloromethane		000075-27-4	<0.50	0.5	03/09/2011	
Bromoform		000075-25-2	<0.50	0.5	03/09/2011	
Bromomethane		000074-83-9	<0.50	0.5	03/09/2011	
n-Butylbenzene		000104-51-8	<0.50	0.5	03/09/2011	
sec-Butylbenzene		000135-98-8	<0.50	0.5	03/09/2011	
tert-Butylbenzene		000098-06-6	<0.50	0.5	03/09/2011	
Carbon tetrachloride		000056-23-5	<0.50	0.5	03/09/2011	
Chlorobenzene		000108-90-7	<0.50	0.5	03/09/2011	
Chloroethane		000075-00-3	<0.50	0.5	03/09/2011	
Chloroform		000067-66-3	<0.50	0.5	03/09/2011	
Chloromethane		000074-87-3	<0.50	0.5	03/09/2011	
2-Chlorotoluene		000095-49-8	<0.50	0.5	03/09/2011	
4-Chlorotoluene		000106-43-4	<0.50	0.5	03/09/2011	
Dibromochloromethane		000124-48-1	<0.50	0.5	03/09/2011	
1,2-Dibromo-3-chloropropane		000096-12-8	<0.50	0.5	03/09/2011	
1,2-Dibromoethane		000106-93-4	<0.50	0.5	03/09/2011	
Dibromomethane		000074-95-3	<0.50	0.5	03/09/2011	
1,2-Dichlorobenzene		000095-50-1	<0.50	0.5	03/09/2011	
1,3-Dichlorobenzene		000541-73-1	<0.50	0.5	03/09/2011	
1,4-Dichlorobenzene		000106-46-7	<0.50	0.5	03/09/2011	
Dichlorodifluoromethane		000075-71-8	<0.50	0.5	03/09/2011	
1,1-Dichloroethane		000075-34-3	<0.50	0.5	03/09/2011	
1,2-Dichloroethane		000107-06-2	<0.50	0.5	03/09/2011	
1,1-Dichloroethene		000075-35-4	<0.50	0.5	03/09/2011	
cis-1,2-Dichloroethene		000156-59-2	<0.50	0.5	03/09/2011	
trans-1,2-Dichloroethene		000156-60-5	<0.50	0.5	03/09/2011	
1,2-Dichloropropane		000078-87-5	<0.50	0.5	03/09/2011	
1,3-Dichloropropane		000142-28-9	<0.50	0.5	03/09/2011	
2,2-Dichloropropane		000594-20-7	<0.50	0.5	03/09/2011	
1,1-Dichloropropene		000563-58-6	<0.50	0.5	03/09/2011	
cis-1,3-Dichloropropene		010061-01-5	<0.50	0.5	03/09/2011	
trans-1,3-Dichloropropene		010061-02-6	<0.50	0.5	03/09/2011	
Ethylbenzene		000100-41-4	<0.50	0.5	03/09/2011	
Hexachlorobutadiene		000087-68-3	<0.50	0.5	03/09/2011	
Isopropylbenzene		000098-82-8	<0.50	0.5	03/09/2011	
4-Isopropyltoluene		000099-87-6	<0.50	0.5	03/09/2011	
Methylene chloride		000075-09-2	<0.50	0.5	03/09/2011	
Naphthalene		000091-20-3	<0.50	0.5	03/09/2011	
n-Propylbenzene		000103-65-1	<0.50	0.5	03/09/2011	
Styrene		000100-42-5	<0.50	0.5	03/09/2011	
1,1,1,2-Tetrachloroethane		000630-20-6	<0.50	0.5	03/09/2011	
1,1,2,2-Tetrachloroethane		000079-34-5	<0.50	0.5	03/09/2011	
Tetrachloroethene		000127-18-4	<0.50	0.5	03/09/2011	
Toluene		000108-88-3	<0.50	0.5	03/09/2011	
1,2,3-Trichlorobenzene		000087-61-6	<0.50	0.5	03/09/2011	
1,2,4-Trichlorobenzene		000120-82-1	<0.50	0.5	03/09/2011	
1,1,1-Trichloroethane		000071-55-6	<0.50	0.5	03/09/2011	
1,1,2-Trichloroethane		000079-00-5	<0.50	0.5	03/09/2011	

OhioEPA Division of Environmental Services

Laboratory Organic Analysis Data Report

Sample	129756				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected		03/08/2011 12:30 PM		**Station ID**	301335
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70408
OEPA Division	DSW				
Location	12 - Dayton Power and Light J.M. Stuart Station outfall 012				

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 624	ug/L					
Trichloroethene		000079-01-6	<0.50	0.5	03/09/2011	
Trichlorofluoromethane		000075-69-4	<0.50	0.5	03/09/2011	
1,2,3-Trichloropropane		000096-18-4	<0.50	0.5	03/09/2011	
1,2,4-Trimethylbenzene		000095-63-6	<0.50	0.5	03/09/2011	
1,3,5-Trimethylbenzene		000108-67-8	<0.50	0.5	03/09/2011	
Vinyl chloride		000075-01-4	<0.50	0.5	03/09/2011	
o-Xylene		000095-47-6	<0.50	0.5	03/09/2011	
Total m&p-xylenes		000108-38-3	<0.50	0.5	03/09/2011	

Field Comments 1st Day Grab

Lab Comments

QC / Sample Comments

Approved By SROBERTS **On** 03/23/2011

A Report on the Acute Toxicity of Dayton Power and Electric/Stuart Station
Outfall 013 Effluents to *Pimephales promelas* and *Ceriodaphnia dubia*

Bioassay Report Number:
11-4026-SE

Sample Number:
129728

Reviewed By
Ohio EPA - DES
QA Staff

MAR 1 4 2011

Reviewer ____ JD

Jonathan C. McLaughlin

Bioassay Section
Division of Environmental Services
Ohio Environmental Protection Agency

INTRODUCTION

Two grab samples and a composite sample of Dayton Power and Electric/Stuart Station outfall 013 effluents were collected by Randy Spencer, DSW, SEDO, Ohio EPA for use in screening bioassays as part of a toxics evaluation in conjunction with permit reissuance. Grab samples were also collected from the receiving stream, Ohio River, upstream from the discharge. The effluent grab samples were collected on 7 March 2011 at 1327 hours and on 8 March 2011 at 1246 hours. The composite sample was collected on 7-8 March 2011 between 1320-1255 hours. The Ohio River upstream water was collected on 7 March 2011 at 1351 hours. A mixing zone sample was manually prepared in the field on 7 March 2011 at 1354 hours by combining equal aliquots of upstream water and effluent. The fathead minnow, *Pimephales promelas*, and *Ceriodaphnia dubia* were used as test organisms in these 48-hour screening bioassays.

PREVIOUS RESULTS

Bioassays of Dayton Power and Electric/Stuart Station outfall 013 effluents were previously conducted by the Ohio EPA within the last ten years in November 2005 (Bioassay Number 05-3359-SE). The 2005 effluents were acutely toxic to *P. promelas* and *C. dubia* (Appendix 1). Fathead minnow mortality was 20 percent in the composite effluent. Daphnia mortality plus other adverse acute effects ranged from 45 to 80 percent in the effluent samples tested with toxicity persisting into the manual mixing zone. *Ceriodaphnia* mortality in the manual mixing zone was 40 percent.

RESULTS AND CONCLUSIONS

Details of the tests may be found on the attached bioassay report forms. The effluents were not acutely toxic. One fathead minnow died in the acute mixing zone. No mortality or other adverse effects were observed in the remaining ambient waters and effluents for either *P. promelas* or *C. dubia*. Survival in the laboratory controls was 100 percent for both species.

Screening bioassays are utilized to determine if an effluent is acutely toxic to the test organisms and to indicate if more extensive bioassays should be conducted to estimate median lethal concentrations or persistence of toxicity. The results of these bioassays indicate that Dayton Power and Electric/Stuart Station outfall 013 effluents were not acutely toxic to either *P. promelas* or *C. dubia*. This is in contrast to the 2005 results in which the effluent was acutely toxic to both species. Additional bioassays should be conducted to better determine effluent variability and, if present, the magnitude of toxicity associated with this discharge.

These tests did not address the possibility of chronic toxicity. Discharge data for Dayton Power and Electric/Stuart Station outfall 013 and the Ohio River should be evaluated to determine if chronic toxicity is of concern. Chronic tests may be required to adequately evaluate the possibility of toxicity in this discharge.

OHIO ENVIRONMENTAL PROTECTION AGENCY
Screening Bioassay Report Form

Report Date: 11 March 2011	**Bioassay Report Number:** 11-4026-SE

Investigators:	Jonathan C. McLaughlin

Effluent tested and source:	Dayton Power and Electric/Stuart Station, US Route 52, Aberdeen, Adams County, Ohio, outfall 013
NPDES Number:	OH0004316
Ohio EPA Permit Number:	0IB00049*ND
Business/Process:	Electric Power Station
Collector(s):	Randy Spencer, DSW, SEDO, Ohio EPA

Test Organisms:	Fathead minnow (*Pimephales promelas*) and *Ceriodaphnia dubia* from Ohio EPA Bioassay Section rearing units

Fathead Minnow Data:	n = 20. Number of fish used in estimating mean standard length and mean weight

	Mean	Standard Deviation	Range
Standard Length (millimeters):	6.6	0.65	5.5-7.5
Weight (milligrams):	1.2	0.47	0.5-2.0
Hatched: 24-25 February 2011; 11-12 days old at test initiation			

Rearing unit water and reconstituted water were used in the controls for this static bioassay. Adverse effects measured in the test are death, immotility, and loss of equilibrium. Death is the cessation of all visible movement with no response to gentle prodding (fish) or to gentle test container agitation (*Ceriodaphnia*). An immotile organism is paralyzed or stunned with only occasional slight movements and cannot maintain its normal position in the water column. Loss of equilibrium is the organism's inability to maintain normal swimming posture in the water column and may be characterized by periods of quiescence followed by bursts of uncontrolled swimming. The effluent is considered to be acutely toxic if 20 percent, or more, of either species of test organism exhibits any combination of the adverse effects in the 100 percent effluent. Test results are invalid if more than ten percent of either species of test organism exhibits the adverse effects in the control.

Results of screening bioassays of Dayton Power and Electric/Stuart Station outfall 013 effluent

Bioassay Number: 11-4026-SE

Sample	Time Collected Date: Time: (hours)	Test Start Date: Time: (hours)	Cumulative percent mortality (plus/or exhibiting other adverse effects)			
			P. promelas Time (hours)		*C. dubia* Time (hours)	
			24	48	24	48
Ohio River upstream	7 March 2011 1351	8 March 2011 0715	0	0	0	0
Manual mixing zone (1:1)	7 March 2011 1354	8 March 2011 0715	5	5	0	0
Grab 013	7 March 2011 1327	8 March 2011 0715	0	0	0	0
Rearing unit water control		8 March 2011 0715	0	0	-	-
Reconstituted water control		8 March 2011 0715	-	-	0	0
Grab 013	8 March 2011 1246	9 March 2011 0850	0	0	0	0
Composite 013	7-8 March 2011 1320-1255	9 March 2011 0850	0	0	0	0
Rearing unit water control		9 March 2011 0850	0	0	-	-
Reconstituted water control		9 March 2011 0850	-	-	0	0

Relevant information: A mixing zone sample was manually prepared in the field by combining equal aliquots of upstream water and effluent. The ambient waters were opaque yellow. The effluents were clear with a yellow tinge. After warming to the 25°C test temperature, the ambient waters and effluents were shaken vigorously for approximately 15 seconds to release supersaturated dissolved oxygen. Physicochemical parameters measured prior to test initiation and at test end are on the next page.

Results of screening bioassays of Dayton Power and Electric/Stuart Station outfall 013 effluent

Bioassay Number: 11-4026-SE

Relevant information (cont.): Physicochemical parameters recorded prior to test initiation were:

Sample	Temperature (°C)		Dissolved Oxygen (mg/L) Initial-Adjusted	pH (S.U.)	Conductivity (µmhos/cm)
	Upon Rcpt.	Test Init.			
Ohio River upstream	2.8	25.1	12.0-8.3	8.66	261
Manual mixing zone (1:1)	2.6	25.3	12.4-8.2	8.17	749
Grab 013, 7 March 2011	2.5	25.7	11.6-8.1	8.12	1153
Grab 013, 8 March 2011	1.9	25.7	11.0-7.9	7.92	1106
Composite 013	2.7	25.6	11.2-7.9	8.01	1122
Rearing unit water control	21.6	24.8	8.4	7.51	476
Reconstituted water control	25.1	25.1	7.9	8.02	564

Physicochemical values for the laboratory controls are the averages of two measurements.

Physicochemical parameters recorded at *P. promelas* (FHM) and *C. dubia* (CDU) test end were:

Sample	Temperature (°C)		Dissolved Oxygen (mg/L)		pH (S.U.)		Conductivity (µmhos/cm)	
	FHM	CDU	FHM	CDU	FHM	CDU	FHM	CDU
Ohio River upstream	-	-	-	-	-	-	-	-
Manual mixing zone (1:1)	-	-	-	-	-	-	-	-
Grab 013, 7 March 2011	-	-	-	-	-	-	-	-
Grab 013, 8 March 2011	-	-	-	-	-	-	-	-
Composite 013	-	-	-	-	-	-	-	-
Rearing unit water control	-	-	-	-	-	-	-	-
Reconstituted water control	-	-	-	-	-	-	-	-

Physicochemical values for the laboratory controls are the averages of two measurements.

Appendix 1.

Results of previous bioassays of Dayton Power and Electric/Stuart Station outfall 013 effluent

Screening Results

Bioassay Number	Date (mm/yy)	Acutely Toxic (Y/N)	*Pimephales promelas* mortality (plus/or exhibiting other adverse effects)			*Ceriodaphnia dubia* mortality (plus those pale in appearance)		
			Day 1 Grab	Day 2 Grab	Composite	Day 1 Grab	Day 2 Grab	Composite
05-3359-SE**	11/05	Y	0	0	20	45(50)	65	65(80)

* All previous results are available electronically upon request.
** Toxicity to *C. dubia* persisted into the acute mixing zone.

Definitive Results

Bioassay Number	*Pimephales promelas*			*Ceriodaphnia dubia*		
	LC50 (95 percent confidence limits)	EC50 (95 percent confidence limits)	LC50 TUa (EC50 TUa)	LC50 (95 percent confidence limits)	EC50 (95 percent confidence limits)	LC50 TUa (EC50 TUa)
-	-	-	-	-	-	-
-	-	-	-	-	-	-

Definitions

- The LC50s and EC50s are reported as percent by volume effluent (%).
- The LC50 is the effluent concentration that is lethal to 50 percent of a species of test organism in a stated exposure period. The EC50 includes mortality plus data on other adverse effects. Both are usually obtained by statistical or graphical methods.
- The TUa is calculated by dividing 100 by the LC50 or EC50.

OHIO EPA, DES, BIOASSAY SECTION, SAMPLE SUBMISSION FORM

Name of Entity & Outfall Tested:	DP&L Stuart outfall 013	**OEPA Permit #:**	0IB00049*ND
Facility Address:	Route 52, Aberdeen, OH	**NPDES #:**	OH0004316
Receiving Stream (R.M.)	Ohio River - RM 577.74 Storet #301338	**County:**	Adams
Collector(s) [Print Full Name]:	Randy Spencer		
Collector(s) Signature:	Randy Spencer		

Upstream control samples shall be collected upstream from any discharge/receiving stream interactions. Generally, acute (near field) samples should be collected in the center of the effluent plume 5 times the stream depth downstream from the outfall and chronic (far field) samples should be collected midplume, or if a plume no longer exists midstream 5 times the stream width downstream from the outfall. If atypical mixing characteristics exist, samples can be collected at closer distances than the above guidelines to insure the samples are within the effluent plume. If a mixing zone sample cannot be safely collected, one can be prepared using equal aliquots of the day 1 effluent grab and upstream dilution water (be sure to write "manual" in the "Location of Sample Collection" space provided below).

Sample Identification	**Effluent Day 1 Grab**	**Effluent Day 2 Grab**	**Effluent Composite**	**Upstream/ Dilution-Grab**	**Acute Mixing Zone-Grab**	**Chronic Mixing Zone-Grab**
Location of Sample Collection	013	0013	013	50/50	Ohio River	
If Composite, Sample Volume and Frequency				301341	301339	
Collection Containers, Types and Number	1 cubi	1 cubi	2 cubi	1 cubi	3 cubi	
Volume Collected	1 gal	1 gal	2 gal	1gal	3 gal	
Date of Sample Collection	3/7/2011	3/8/2011	3/7-8/11	3/7/2011	3/7/2011	
Time of Sample Collection, beginning-Ending Time	1327			1351	1354	
Flow (in MGD)						
Temperature (°C)	11.20			6.89	7.79	
Dissolved Oxygen (mg/L)	10.91			13.35	11.89	
pH (S.U.)	8.22			7.66	7.78	
Conductivity (µmhos/cm)	1076			266	678	
Total Residual Chlorine (mg/L)	—			—	—	

Place a check mark next to all the appropriate characteristics of the outfall/mixing zone:

Turbulent Mixing	Onshore Pipe	Shore hugging Plume	Flume
___ Nonturbulent Mixing	___ Offshore Pipe	___ Rapid Complete Mixing	___ Diffuser

Notes: Sample Taken a pond wier Box before Discharge to Ohio River - Ohio River in flood condition - Very Turbid - milky Brown - Upstream taken from shore
second Day/composite - next day 3-8-11

129728

Name and Title		Year	Month	Day	Hour	Minute
Received from:	[illegible]	11	03	08	06	38
Received by:	[illegible]	11	03	08	06	38
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						

In the vicinity of the discharge: Steam Depth _____ Stream Width _____

CHEMISTRY SAMPLE NUMBERS

Location Map Drawing

Describe and map the upstream control and any mixing zone sampling sites sosomeone else could sample at the exact same points (include landmarks if possible). Stream depth should be recorded for any acute (near field) mixing zone sample and stream width for any chronic (far field) mixing zone sample. For the mixing zone sampleocation, delineate the distance downstream from the outfall and map the effluent plume. Be specific on discharge and receiving stream characteristics.

OHIO EPA, DES, BIOASSAY SECTION, SAMPLE SUBMISSION FORM

Name of Entity & Outfall Tested:	DP&L Stuart outfall 013	**OEPA Permit #:**	0IB00049*ND
Facility Address:	Route 52, Aberdeen, OH	**NPDES #:**	OH0004316
Receiving Stream (R.M.)	Ohio River - RM 577.74 Storet #301338	**County:**	Adams
Collector(s) [Print Full Name]:	Randy Spencer		
Collector(s) Signature:	Randy D. Spencer		

Upstream control samples shall be collected upstream from any discharge/receiving stream interactions. Generally, acute (near field) samples should be collected in the center of the effluent plume 5 times the stream depth downstream from the outfall and chronic (far field) samples should be collected midplume, or if a plume no longer exists midstream 5 times the stream width downstream from the outfall. If atypical mixing characteristics exist, samples can be collected at closer distances than the above guidelines to insure the samples are within the effluent plume. If a mixing zone sample cannot be safely collected, one can be prepared using equal aliquots of the day 1 effluent grab and upstream dilution water (be sure to write "manual" in the "Location of Sample Collection" space provided below).

Sample Identification	**Effluent Day 1 Grab**	**Effluent Day 2 Grab**	**Effluent Composite**	**Upstream/ Dilution-Grab**	**Acute Mixing Zone-Grab**	**Chronic Mixing Zone-Grab**
Location of Sample Collection	013	0013	013	50/50	Ohio River	
If Composite, Sample Volume and Frequency			15 min @ 250 ml	301341	301339	
Collection Containers, Types and Number	1 cubi	1 cubi	2 cubi	1 cubi	3 cubi	
Volume Collected	1 gal	1 gal	2 gal	1gal	3 gal	
Date of Sample Collection	3/7/2011	3/8/2011	3/7-8/11	3/7/2011	3/7/2011	
Time of Sample Collection, beginning-Ending Time	1327	1246	1320 - 1255	1351.	1354.	
Flow (in MGD)						
Temperature (°C)	11.20	11.76	5.18	6.89	7.79	
Dissolved Oxygen (mg/L)	10.91	11.95	13.41	13.35	11.89	
pH (S.U.)	8.22	8.23	8.28	7.66	7.78	
Conductivity (µmhos/cm)	1076	1112	1101	266	678	
Total Residual Chlorine (mg/L)	—	—	—	—	—	

Place a check mark next to all the appropriate characteristics of the outfall/mixing zone:

Turbulent Mixing	Onshore Pipe	Shore hugging Plume	Flume
___ Nonturbulent Mixing	___ Offshore Pipe	___ Rapid Complete Mixing	___ Diffuser

Notes: Sample Taken @ wier Box before discharge to Ohio River - Ohio River in flood condition - dilution & 50/50 mix taken from shore of River bank - just upstream of pond Discharge

96 Samples collected - Short

013

Name and Title		Year	Month	Day	Hour	Minute
Received from:	[illegible]	11	03	09	8	15
Received by:	[illegible]	11	03	09	08	15
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						
Received from:						
Received by:						

In the vicinity of the discharge: Steam Depth _____ Stream Width _____

CHEMISTRY SAMPLE NUMBERS			
129750	129753	129749	129754
129757-58			

Location Map Drawing

Describe and map the upstream control and any mixing zone sampling sites sosomeone else could sample at the exact same points (include landmarks if possible). Stream depth should be recorded for any acute (near field) mixing zone sample and stream width for any chronic (far field) mixing zone sample. For the mixing zone sampleocation, delineate the distance downstream from the outfall and map the effluent plume. Be specific on discharge and receiving stream characteristics.

OhioEPA Division of Environmental Services

Laboratory Inorganic Analysis Data Report

Sample	129749				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected	03/07/2011 1:20 PM	03/08/2011 12:54 PM		**Station ID**	301338
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70379
OEPA Division	DSW				
Location	6 - Dayton Power and Light J.M. Stuart Station Outfall 013				

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
CBOD-5	CBOD5	P80082	<2.0	2	mg/L	03/09/2011	
Solids_Diss	Total Dissolved Solids	P70300	796	10	mg/L	03/10/2011	
Solids_Susp	Total Suspended Solids	P530	<5	5	mg/L	03/10/2011	
ICPMS_(WAT)	Arsenic	P1002	15.9	10	ug/L	03/18/2011	
ICPMS_(WAT)	Cadmium	P1027	<0.20	0.2	ug/L	03/18/2011	
ICPMS_(WAT)	Chromium	P1034	37.6	2	ug/L	03/18/2011	
ICPMS_(WAT)	Copper	P1042	3.0	2	ug/L	03/18/2011	
ICPMS_(WAT)	Lead	P1051	<2.0	2	ug/L	03/18/2011	
ICPMS_(WAT)	Nickel	P1067	10.4	2	ug/L	03/18/2011	
ICPMS_(WAT)	Selenium	P1147	56.0	10	ug/L	03/18/2011	
ICP_(WAT)	Aluminum	P1105	758	200	ug/L	03/16/2011	
ICP_(WAT)	Barium	P1007	266	15	ug/L	03/16/2011	
ICP_(WAT)	Calcium	P916	158	2	mg/L	03/16/2011	
ICP_(WAT)	Hardness, Total	P900	481	10	mg/L	03/16/2011	
ICP_(WAT)	Iron	P1045	748	50	ug/L	03/16/2011	
ICP_(WAT)	Magnesium	P927	21	1	mg/L	03/16/2011	
ICP_(WAT)	Manganese	P1055	72	10	ug/L	03/16/2011	
ICP_(WAT)	Potassium	P937	10	2	mg/L	03/16/2011	
ICP_(WAT)	Sodium	P929	39	5	mg/L	03/16/2011	
ICP_(WAT)	Strontium	P1082	492	30	ug/L	03/16/2011	
ICP_(WAT)	Zinc	P1092	<10	10	ug/L	03/16/2011	
Alkalinity	Alkalinity	P410	66.5	5	mg/L	03/11/2011	
Ammonia	Ammonia	P610	4.77	0.05	mg/L	03/18/2011	
COD	COD	P340	<20	20	mg/L	03/17/2011	
Chloride	Chloride	P940	104	5	mg/L	03/09/2011	
Conductivity	Conductivity	P95	1160	2	umhos/cm	03/15/2011	
Nitrate	Nitrate+nitrite	P630	1.62	0.1	mg/L	03/18/2011	
TKN	TKN	P625	4.81	1	mg/L	03/23/2011	
TP	Total Phosphorus	P665	<0.010	0.01	mg/L	03/23/2011	

Field Comments

Lab Comments

QC / Sample Comments

Approved By VDESHMUKH **On** 04/06/2011

OhioEPA Division of Environmental Services

Laboratory Inorganic Analysis Data Report

Sample	129750				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected			03/08/2011 12:46 PM	**Station ID**	301338
Program	SEDO-DSW			**Customer ID**	11RDS0308
Client	DSW_C			**External ID**	70434
OEPA Division	DSW				
Location	2 - Dayton Power and Light J.M. Stuart Station Outfall 013				

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
CR+6	Hexavalent Chromium	P1220	10	10	ug/L	03/09/2011	

Field Comments 2nd Day Grab

Lab Comments

QC / Sample Comments

Approved By VDESHMUKH **On** 03/10/2011

OhioEPA Division of Environmental Services

Laboratory Inorganic Analysis Data Report

Sample	129753				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected			03/08/2011 1:27 PM	**Station ID**	301338
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70387
OEPA Division	DSW				
Location	5 - Dayton Power and Light J.M. Stuart Station Outfall 013				

Analysis	Parameter	Storet	Result	RL	Units	Date	Qualifier
Oil&Grease	Oil & Grease	P556	<2.0	2	mg/L	03/11/2011	
Solids_Diss	Total Dissolved Solids	P70300	870	10	mg/L	03/10/2011	
Solids_Susp	Total Suspended Solids	P530	<5	5	mg/L	03/10/2011	
ICPMS_(WAT)	Arsenic	P1002	16.8	10	ug/L	03/18/2011	
ICPMS_(WAT)	Cadmium	P1027	0.25	0.2	ug/L	03/18/2011	
ICPMS_(WAT)	Chromium	P1034	41.4	2	ug/L	03/18/2011	
ICPMS_(WAT)	Copper	P1042	3.3	2	ug/L	03/18/2011	
ICPMS_(WAT)	Lead	P1051	<2.0	2	ug/L	03/18/2011	
ICPMS_(WAT)	Nickel	P1067	11.9	2	ug/L	03/18/2011	
ICPMS_(WAT)	Selenium	P1147	55.2	10	ug/L	03/18/2011	
ICP_(WAT)	Aluminum	P1105	831	200	ug/L	03/16/2011	
ICP_(WAT)	Barium	P1007	265	15	ug/L	03/16/2011	
ICP_(WAT)	Calcium	P916	163	2	mg/L	03/16/2011	
ICP_(WAT)	Hardness, Total	P900	498	10	mg/L	03/16/2011	
ICP_(WAT)	Iron	P1045	794	50	ug/L	03/16/2011	
ICP_(WAT)	Magnesium	P927	22	1	mg/L	03/16/2011	
ICP_(WAT)	Manganese	P1055	74	10	ug/L	03/16/2011	
ICP_(WAT)	Potassium	P937	10	2	mg/L	03/16/2011	
ICP_(WAT)	Sodium	P929	40	5	mg/L	03/16/2011	
ICP_(WAT)	Strontium	P1082	504	30	ug/L	03/16/2011	
ICP_(WAT)	Zinc	P1092	<10	10	ug/L	03/16/2011	
Ammonia	Ammonia	P610	4.84	0.05	mg/L	03/18/2011	
Chloride	Chloride	P940	113	5	mg/L	03/09/2011	
Cyanide_Total	Cyanide, Total	P720	<10	10	ug/L	03/10/2011	
Phenolics_MD	Phenolics	P32730	18.9	10	ug/L	03/21/2011	
TKN	TKN	P625	4.91	1	mg/L	03/23/2011	

Field Comments 1st Day Grab

Lab Comments

QC / Sample Comments

Approved By VDESHMUKH **On** 04/06/2011

OhioEPA Division of Environmental Services

Laboratory Organic Analysis Data Report

Sample	129754				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected	03/07/2011 1:20 PM	03/08/2011 12:54 PM		**Station ID**	301338
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70412
OEPA Division	DSW				
Location	14 - Dayton Power and Light J.M. Stuart Station Outfall 013				

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 625	ug/L					
Acenaphthene		000083-32-9	<5.3	5.3	03/14/2011	
Acenaphthylene		000208-96-8	<5.3	5.3	03/14/2011	
Anthracene		000120-12-7	<2.1	2.1	03/14/2011	
Benzo[a]anthracene		000056-55-3	<2.1	2.1	03/14/2011	
Benzo[a]pyrene		000050-32-8	<2.1	2.1	03/14/2011	
Benzo[b]fluoranthene		000205-99-2	<2.1	2.1	03/14/2011	
Benzo[g,h,i]perylene		000191-24-2	<2.1	2.1	03/14/2011	
Benzo[k]fluoranthene		000207-08-9	<2.1	2.1	03/14/2011	
bis(2-Chloroethoxy)methane		000111-91-1	<5.3	5.3	03/14/2011	
bis(2-Chloroethyl)ether		000111-44-4	<2.1	2.1	03/14/2011	
bis(2-Chloroisopropyl)ether		000108-60-1	<2.1	2.1	03/14/2011	
bis(2-Ethylhexyl)phthalate		000117-81-7	<10.6	10.6	03/14/2011	
4-Bromophenyl-phenylether		000101-55-3	<5.3	5.3	03/14/2011	
Butylbenzylphthalate		000085-68-7	<2.1	2.1	03/14/2011	
4-Chloro-3-methylphenol		000059-50-7	<10.6	10.6	03/14/2011	
2-Chloronaphthalene		000091-58-7	<5.3	5.3	03/14/2011	
2-Chlorophenol		000095-57-8	<2.1	2.1	03/14/2011	
4-Chlorophenyl-phenylether		007005-72-3	<2.1	2.1	03/14/2011	
Chrysene		000218-01-9	<2.1	2.1	03/14/2011	
Di-n-butylphthalate		000084-74-2	<5.3	5.3	03/14/2011	
Di-n-octylphthalate		000117-84-0	<2.1	2.1	03/14/2011	
Dibenz[a,h]anthracene		000053-70-3	<2.1	2.1	03/14/2011	
1,3-Dichlorobenzene		000541-73-1	<2.1	2.1	03/14/2011	
1,4-Dichlorobenzene		000106-46-7	<2.1	2.1	03/14/2011	
1,2-Dichlorobenzene		000095-50-1	<2.1	2.1	03/14/2011	
2,4-Dichlorophenol		000120-83-2	<2.1	2.1	03/14/2011	
Diethylphthalate		000084-66-2	<5.3	5.3	03/14/2011	
2,4-Dimethylphenol		000105-67-9	<10.6	10.6	03/14/2011	
Dimethylphthalate		000131-11-3	<5.3	5.3	03/14/2011	
4,6-Dinitro-2-methylphenol		000534-52-1	<5.3	5.3	03/14/2011	
2,4-Dinitrophenol		000051-28-5	<21.3	21.3	03/14/2011	
2,6-Dinitrotoluene		000606-20-2	<2.1	2.1	03/14/2011	
2,4-Dinitrotoluene		000121-14-2	<2.1	2.1	03/14/2011	
Fluoranthene		000206-44-0	<2.1	2.1	03/14/2011	
Fluorene		000086-73-7	<2.1	2.1	03/14/2011	
Hexachlorobenzene		000118-74-1	<2.1	2.1	03/14/2011	
Hexachlorobutadiene		000087-68-3	<2.1	2.1	03/14/2011	
Hexachlorocyclopentadiene		000077-47-4	<2.1	2.1	03/14/2011	
Hexachloroethane		000067-72-1	<5.3	5.3	03/14/2011	
Indeno[1,2,3-cd]pyrene		000193-39-5	<2.1	2.1	03/14/2011	
Isophorone		000078-59-1	<2.1	2.1	03/14/2011	
N-Nitroso-di-n-propylamine		000621-64-7	<2.1	2.1	03/14/2011	
N-Nitrosodiphenylamine		000086-30-6	<5.3	5.3	03/14/2011	
Naphthalene		000091-20-3	<2.1	2.1	03/14/2011	
Nitrobenzene		000098-95-3	<2.1	2.1	03/14/2011	
2-Nitrophenol		000088-75-5	<2.1	2.1	03/14/2011	
4-Nitrophenol		000100-02-7	<21.3	21.3	03/14/2011	
Pentachlorophenol		000087-86-5	<10.6	10.6	03/14/2011	
Phenanthrene		000085-01-8	<2.1	2.1	03/14/2011	
Phenol		000108-95-2	<2.1	2.1	03/14/2011	
Pyrene		000129-00-0	<2.1	2.1	03/14/2011	

OhioEPA Division of Environmental Services

Laboratory Organic Analysis Data Report

Sample	129754				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected	03/07/2011 1:20 PM	03/08/2011 12:54 PM		**Station ID**	301338
Program	SEDO-DSW			**Customer ID**	11RD50307
Client	DSW_C			**External ID**	70412
OEPA Division	DSW				
Location	14 - Dayton Power and Light J.M. Stuart Station Outfall 013				

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 625	ug/L					
1,2,4-Trichlorobenzene		000120-82-1	<2.1	2.1	03/14/2011	
2,4,6-Trichlorophenol		000088-06-2	<5.3	5.3	03/14/2011	

Field Comments

Lab Comments

QC / Sample Comments

Approved By SROBERTS **On** 03/23/2011

OhioEPA Division of Environmental Services

Laboratory Organic Analysis Data Report

Sample	129757				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected			03/08/2011 1:20 PM	**Station ID**	301338
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70409
OEPA Division	DSW				
Location	13 - Dayton Power and Light J.M. Stuart Station Outfall 013				

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 624	**ug/L**					
Benzene		000071-43-2	<0.50	0.5	03/09/2011	
Bromobenzene		000108-86-1	<0.50	0.5	03/09/2011	
Bromochloromethane		000074-97-5	<0.50	0.5	03/09/2011	
Bromodichloromethane		000075-27-4	<0.50	0.5	03/09/2011	
Bromoform		000075-25-2	<0.50	0.5	03/09/2011	
Bromomethane		000074-83-9	<0.50	0.5	03/09/2011	
n-Butylbenzene		000104-51-8	<0.50	0.5	03/09/2011	
sec-Butylbenzene		000135-98-8	<0.50	0.5	03/09/2011	
tert-Butylbenzene		000098-06-6	<0.50	0.5	03/09/2011	
Carbon tetrachloride		000056-23-5	<0.50	0.5	03/09/2011	
Chlorobenzene		000108-90-7	<0.50	0.5	03/09/2011	
Chloroethane		000075-00-3	<0.50	0.5	03/09/2011	
Chloroform		000067-66-3	<0.50	0.5	03/09/2011	
Chloromethane		000074-87-3	<0.50	0.5	03/09/2011	
2-Chlorotoluene		000095-49-8	<0.50	0.5	03/09/2011	
4-Chlorotoluene		000106-43-4	<0.50	0.5	03/09/2011	
Dibromochloromethane		000124-48-1	<0.50	0.5	03/09/2011	
1,2-Dibromo-3-chloropropane		000096-12-8	<0.50	0.5	03/09/2011	
1,2-Dibromoethane		000106-93-4	<0.50	0.5	03/09/2011	
Dibromomethane		000074-95-3	<0.50	0.5	03/09/2011	
1,2-Dichlorobenzene		000095-50-1	<0.50	0.5	03/09/2011	
1,3-Dichlorobenzene		000541-73-1	<0.50	0.5	03/09/2011	
1,4-Dichlorobenzene		000106-46-7	<0.50	0.5	03/09/2011	
Dichlorodifluoromethane		000075-71-8	<0.50	0.5	03/09/2011	
1,1-Dichloroethane		000075-34-3	<0.50	0.5	03/09/2011	
1,2-Dichloroethane		000107-06-2	<0.50	0.5	03/09/2011	
1,1-Dichloroethene		000075-35-4	<0.50	0.5	03/09/2011	
cis-1,2-Dichloroethene		000156-59-2	<0.50	0.5	03/09/2011	
trans-1,2-Dichloroethene		000156-60-5	<0.50	0.5	03/09/2011	
1,2-Dichloropropane		000078-87-5	<0.50	0.5	03/09/2011	
1,3-Dichloropropane		000142-28-9	<0.50	0.5	03/09/2011	
2,2-Dichloropropane		000594-20-7	<0.50	0.5	03/09/2011	
1,1-Dichloropropene		000563-58-6	<0.50	0.5	03/09/2011	
cis-1,3-Dichloropropene		010061-01-5	<0.50	0.5	03/09/2011	
trans-1,3-Dichloropropene		010061-02-6	<0.50	0.5	03/09/2011	
Ethylbenzene		000100-41-4	<0.50	0.5	03/09/2011	
Hexachlorobutadiene		000087-68-3	<0.50	0.5	03/09/2011	
Isopropylbenzene		000098-82-8	<0.50	0.5	03/09/2011	
4-Isopropyltoluene		000099-87-6	<0.50	0.5	03/09/2011	
Methylene chloride		000075-09-2	<0.50	0.5	03/09/2011	
Naphthalene		000091-20-3	<0.50	0.5	03/09/2011	
n-Propylbenzene		000103-65-1	<0.50	0.5	03/09/2011	
Styrene		000100-42-5	<0.50	0.5	03/09/2011	
1,1,1,2-Tetrachloroethane		000630-20-6	<0.50	0.5	03/09/2011	
1,1,2,2-Tetrachloroethane		000079-34-5	<0.50	0.5	03/09/2011	
Tetrachloroethene		000127-18-4	<0.50	0.5	03/09/2011	
Toluene		000108-88-3	<0.50	0.5	03/09/2011	
1,2,3-Trichlorobenzene		000087-61-6	<0.50	0.5	03/09/2011	
1,2,4-Trichlorobenzene		000120-82-1	<0.50	0.5	03/09/2011	
1,1,1-Trichloroethane		000071-55-6	<0.50	0.5	03/09/2011	
1,1,2-Trichloroethane		000079-00-5	<0.50	0.5	03/09/2011	

OhioEPA Division of Environmental Services

Laboratory Organic Analysis Data Report

Sample	129757				
Date Received	03/09/2011 8:50 AM	**Matrix**	WW	**Collected by**	SPENCER, RANDY
	Begin	**End**		**Sample Type**	COMPLIANCE
Date Collected			03/08/2011 1:20 PM	**Station ID**	301338
Program	SEDO-DSW			**Customer ID**	11RDS0307
Client	DSW_C			**External ID**	70409
OEPA Division	DSW				
Location	13 - Dayton Power and Light J.M. Stuart Station Outfall 013				

EPA Method Parameter	Units	Cas Number	Result	RL	Analyzed	Qualifier
USEPA 624	**ug/L**					
Trichloroethene		000079-01-6	<0.50	0.5	03/09/2011	
Trichlorofluoromethane		000075-69-4	<0.50	0.5	03/09/2011	
1,2,3-Trichloropropane		000096-18-4	<0.50	0.5	03/09/2011	
1,2,4-Trimethylbenzene		000095-63-6	<0.50	0.5	03/09/2011	
1,3,5-Trimethylbenzene		000108-67-8	<0.50	0.5	03/09/2011	
Vinyl chloride		000075-01-4	<0.50	0.5	03/09/2011	
o-Xylene		000095-47-6	<0.50	0.5	03/09/2011	
Total m&p-xylenes		000108-38-3	<0.50	0.5	03/09/2011	

Field Comments 1st Day Grab

Lab Comments

QC / Sample Comments

Approved By SROBERTS **On** 03/23/2011