



VIA ELECTRONIC MAIL

November 6, 2023

John Hopkins
Remedial Project Manager
U.S. Environmental Protection Agency, Region III
4 Penn Center
Mail Code – 3LD10
Philadelphia, PA 19103

**Subject: Quarterly Progress Report No. 28
Former Kop-Flex Facility Site, Hanover, Maryland
USEPA ID No. MDD043373935
Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA**

Dear John:

On behalf of EMERSUB 16, LLC, a subsidiary of Emerson Electric Co. (Emerson), WSP USA, Inc. (WSP) is submitting this quarterly progress report describing the activities conducted in the third quarter of calendar year 2023 (July 1st through September 30th) as part of the corrective measures implementation at the former Kop-Flex, Inc. facility property located at 7555 Harmans Road (Site) in Hanover, Maryland. The Site is identical to the area described as the “Facility” in the Administrative Order on Consent, Docket No. RCRA-03-2016-0170 CA (Consent Order). The report also describes the activities planned for the fourth quarter of calendar year 2023 (October 1st through December 31st).

This progress report is being submitted to the U.S. Environmental Protection Agency (EPA) pursuant to Section VI.C.3 of the Consent Order. Please note that, in addition to performing the work conducted under the Consent Order, EMERSUB 16 continues to perform the remedial activities specified in the October 2015 Response Action Plan (RAP) approved by the Maryland Department of the Environment (MDE) Voluntary Cleanup Program, and that EMERSUB 16 copies USEPA on all submittals required under that program.

If you have any questions, please do not hesitate to contact me at 703-709-6500.

Kind regards,

Robert E. Johnson
Vice President – Earth & Environment

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Encl.

cc: Mr. Stephen Clarke, EMERSUB 16 LLC
Ms. Richelle Hanson, Maryland Department of the Environment

WSP USA
Suite 300
13530 Dulles Technology Drive
Herndon, VA 20171

Tel.: +1 703 709-6500
Fax: +1 703 709-8505
wsp.com



CERTIFICATION

I certify that the information contained in or accompanying this quarterly progress report is true, accurate, and complete.

As to those portions of this quarterly progress report for which I cannot personally verify their accuracy, I certify under penalty of law that this quarterly report and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature:

A handwritten signature in blue ink, appearing to read 'Stephen L. Clarke', written over a horizontal line.

Name:

Stephen L. Clarke

Title:

President of EMERSUB 16, LLC

WSP USA
Suite 300
13530 Dulles Technology Drive
Herndon, VA 20171

Tel.: +1 703 709-8500
Fax: +1 703 709-8505
wsp.com



Quarterly Progress Report No. 28

Former Kop-Flex Facility Site

July 2023 through September 2023

Site Name: Former Kop-Flex Facility
Site Address: 7555 Harmans Road
Hanover, Maryland 21077

Consultant: WSP USA Inc.
Address: 13530 Dulles Technology Drive, Suite 300
Herndon, Virginia 20171
Phone No.: (703) 709-6500

Project Coordinator: Eric Johnson
Alternate: Lisa Kelly

1.0 ACTIVITIES COMPLETED DURING JULY 2023 – SEPTEMBER 2023 REPORTING PERIOD

1.1 HYDRAULIC CONTAINMENT SYSTEM OPERATION

- The hydraulic containment system (System) resumed operation on August 15, 2023, following the installation of the new router, which restored the remote connectivity to the System control panel, and completion of repairs to the boiler used to generate steam for the onsite regeneration of the treatment resin. During the remainder of the 3rd Quarter reporting period, the System operated for 36 of the 46 days, which equates to a 78% run-time efficiency. There was one unexpected, brief (approximately 3-day) shutdown due to a high level alarm in a floor sump inside the treatment building and several one-day shutdown periods due to (1) presumed electrical power outages at the property, (2) need to drain the neutralized boiler blowdown water from the frac tank to the sanitary sewer system, and (3) minor, repairable issues with the equipment used to adjust (*i.e.*, raise) the pH of the treated water. As during the previous reporting periods, there was no extraction of groundwater from shallow recovery well RW-3S during the 3rd quarter of 2023. Given the adequate hydraulic influence via pumping of RW-1S and RW-2S and minimal contaminant mass recovery from RW-3S, WSP plans to keep this well temporarily shut-down to further evaluate the cause(s) for the reduced well yield noted in the summer of 2022 and implement appropriate corrective action(s) to improve well performance.

The extraction of groundwater from deep recovery well RW-2D stopped on September 9, 2023, due to malfunctioning of the pressure transducer placed within the well casing. Based on the System design, the transducer provides continuous water level readings to the variable frequency drive, which controls the operation of the submersible pump in the well. Replacement of the pressure transducer in RW-2D was completed on September 29, 2023, which resulted in the resumption of groundwater pumping from the well.

- A total of approximately 2.28 million gallons of impacted groundwater were extracted and treated during the third quarter of 2023, with the combined average daily withdrawal rate during full-scale operation ranging from 55 gallons per minute (GPM) to 69 GPM. During the months that treated water was discharged to Stony Run, effluent samples were collected for chemical analysis in accordance with the requirements specified in the extended National Pollutant Discharge Elimination System (NPDES) Permit for the System. The analytical results for all monitoring parameters complied with the effluent limitations specified in the extended NPDES Permit. (Details on the NPDES permit renewal are provided below in Section 1.2).
- To monitor and evaluate concentrations of volatile organic compounds (VOCs) and 1,4-dioxane in the untreated (*i.e.*, extracted) and treated water, samples of both the System influent and effluent were collected and analyzed during the reporting period. An influent water sample was collected for analysis in late August 2023 while all recovery wells (excluding RW-3S) were in operation; monthly effluent samples were collected in August and September 2023. The total concentration of chlorinated VOCs



(CVOCs) and 1,4-dioxane in the influent sample was 410 micrograms per liter ($\mu\text{g/L}$), which is slightly higher than the results for sample collected during the 1st Quarter of 2023 but still less than the levels in the quarterly samples from the second half of 2022. The slight increase in contaminant levels in the extracted groundwater between the 1st Quarter and 3rd Quarter samples is believed to be related to the redistribution, or back diffusion, of CVOCs and 1,4-dioxane between the low and high permeability aquifer materials when the System was shut down from April to mid-August 2023. Higher CVOCs and 1,4-dioxane concentrations associated with the diffusion of contaminant mass from low permeability to high permeability layers during the shut-down period would be present during the first several weeks the System resumed operation. As of the end of September 2023, an estimated total of 483.5 pounds of CVOCs and 200.3 pounds of 1,4-dioxane have been recovered from the affected portion of the Lower Patapsco aquifer.

Analyses of the effluent samples indicated non-detect concentrations for the site related CVOCs. The 1,4-dioxane concentrations in the effluent samples ranged from non-detect (September 2023) to 6.0 $\mu\text{g/L}$ (August 2023). The analytical results for 1,4-dioxane were all below the site-specific cleanup level of 15 $\mu\text{g/L}$ and generally consistent with concentrations detected in previous samples of the treated groundwater.

1.2 NPDES PERMIT RENEWAL

- The MDE Industrial and General Permits Division provided preliminary drafts of the new NPDES permit for the discharge of treated water from the System on July 10, 2023, and July 18, 2023. A copy of the draft Summary Report and Fact Sheet that presents the technical basis for the conditions/requirements specified in the permit was also transmitted with the July 10th draft version of the permit.
- On July 24, 2023, WSP provided MDE with comments on the preliminary draft of the NPDES permit and supporting Summary Report and Fact Sheet via electronic mail. MDE provided responses to WSP's informal comments on the draft permit and supporting document on July 28, 2023.
- MDE issued written public notices of its tentative determination to renew the NPDES permit for the System in the August 22nd, 2023, and August 29th, 2023, editions of The Capital newspaper. The public comment period for the permit extended to September 21, 2023. The new NPDES permit was finalized by MDE the week of October 2, 2023, and will become effective on November 1, 2023. A copy of the final version of the renewed NPDES permit is included in Enclosure A.

2.0 PLANNED ONSITE ACTIVITIES FOR THE FOURTH QUARTER OF 2023

- Continue with the operation and as needed maintenance activities for the System, along with the collection and assessment of operational data to evaluate System performance. Upon the effective date of the new NPDES permit, the boiler blowdown water will be combined with the extracted groundwater in the flow equalization tank for treatment through the System.
- Conduct the required monthly effluent monitoring and reporting pursuant to the new NPDES Permit.
- Perform ex-situ chemical cleaning of the resin in early November 2023 to remove natural organic constituents and fine-grained particulates that have accumulated in the treatment media as part of normal System operation.
- In conjunction with temporary shut-down of the System for the resin cleaning event, conduct field activities to further assess the condition of shallow recovery well RW-3S and, based on evaluation of the investigation results, determine rehabilitation approaches to potentially improve well performance.
- Collect water level measurements from the monitoring and recovery wells and evaluate the data to assess the aquifer response to remedial pumping and capture of the VOC plumes in the shallow and deep zones of the Lower Patapsco aquifer at the Site.



- Conduct semi-annual sampling of the monitoring wells and recovery well discharge in late November or early December 2023 pursuant to the approved Groundwater Monitoring Plan.

3.0 KEY PERSONNEL/FACILITY CHANGES

There were no changes to the key personnel for the corrective action or onsite conditions related to the activities conducted by the facility owner/operator.

ENCLOSURE A – FINAL VERSION OF RENEWED NPDES PERMIT FOR SYSTEM
DISCHARGE



October 3, 2023

CERTIFIED MAIL

Amber Crouch, Senior Manager – Environmental Affairs
Emersub 16, LLC
8000 West Florissant Avenue
St. Louis, Missouri 63136

Re: State Discharge Permit No. 21-DP-3442, NPDES Permit No. MD0069094
(Facility Location: 7555 Harmans Rd., Hanover MD 21076)

Dear Amber Crouch:

Enclosed is the issued discharge permit referenced above with the effective date indicated on the cover page. The permittee is responsible for complying with all permit conditions. You are therefore advised to read the permit carefully and become thoroughly familiar with the requirements.

The U.S. Environmental Protection Agency (EPA) recently promulgated a final rule to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system (see 40 CFR 127.16). Under the final rule, any Discharge Monitoring Reports (DMRs) to be submitted must now be electronically reported to the Department.

Thus Maryland Department of the Environment (MDE) now requires use of NetDMR for filing your required NPDES DMRs. NetDMR is a freely available Web based tool that allows NPDES permittees to electronically sign and submit their DMRs to EPA via a secure internet connection. NetDMR is designed to improve data quality, reduce reporting liabilities, save paper, and provide cost savings. It allows participants to discontinue mailing in hard copy forms under 40 CFR 122.41 and 403.12. For more information go to the EPA website (<https://netdmr.epa.gov>), visit the MDE NetDMR website (<https://mdewwp.page.link/MDNetDMR>), or call the MDE Water and Science Administration, Compliance Program, at [410-537-3520](tel:410-537-3520) and ask to speak to a NetDMR coordinator. A brochure regarding NetDMR and how to register has been enclosed.

As indicated in Condition II.A.2 of your permit, before you can submit official DMRs using NetDMR you must attend a training Webinar and successfully set-up and submit test monitoring results electronically. If you do not attend the required training in a timely manner, you will be at risk of violating the new U.S. EPA NPDES electronic reporting rule.

Unless otherwise specified, these guidelines established under Federal Register, Part 136 - "Guidelines Establishing Test Procedures for Analysis of Pollutants" are to be used for the analyses required by this permit. The most current version of 40 C.F.R. Part 136 can be found online at the Federal eCFR website (<https://mdewwp.page.link/40CFR136>).

Please direct all future correspondence regarding permit compliance to the following address:

Attention: Discharge Monitoring Reports
Water and Science Administration – Compliance Program
Maryland Department of the Environment
1800 Washington Boulevard, Suite 425
Baltimore, Maryland 21230-1708

If you have any other questions, please do not hesitate to contact Jonathan Rice, Chief of Industrial and General Permits Division, at 410-537-3323 or at jonathan.rice@maryland.gov.

Sincerely,



D. Lee Currey, Director
Water and Science Administration

Enclosures

Cc: WSA Compliance Program, Central Division (Anne Arundel County)



Maryland
Department of
the Environment

Wes Moore, Governor
Aruna Miller, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary

STATE DISCHARGE PERMIT NUMBER	21-DP-3442
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NPDES PERMIT NUMBER	MD0069094
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APPROVAL DATE	Oct 3, 2023
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EFFECTIVE DATE	November 1, 2023
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EXPIRATION DATE	October 31, 2028
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REAPPLICATION DATE	October 31, 2027
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MODIFICATION DATE:	N/A
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Pursuant to the provisions of Title 9 of the Environment Article, Annotated Code of Maryland, and regulations promulgated thereunder, and the provisions of the Clean Water Act, 33 U.S.C. § 1251 et seq. and implementing regulations 40 CFR Parts 122, 123, 124, and 125, the Department of the Environment, hereinafter referred to as the "Department," hereby authorizes

Emersub 16, LLC (c/o Emerson Electric Company)
8000 West Florissant Ave.
St. Louis, Missouri 63136

TO DISCHARGE FROM

A groundwater remediation system

LOCATED AT

7555 Harmans Road, Hanover, Anne Arundel County, Maryland 21076

VIA OUTFALL

001, as identified and described below

TO

Stony Run, a designated Use I water body under COMAR 26.08.02.02 protected for water contact recreation, fishing, aquatic life and wildlife in accordance with the following special and general conditions and map(s) made a part hereof.

I. SPECIAL CONDITIONSA. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge remediated groundwater, boiler blowdown, and resin regeneration wastewater (generated using potable water) via Outfall 001 (Maryland Coordinates 1396.6 E and 540.9 N).

Discharges authorized from this outfall shall be limited and monitored by the permittee at a sampling tap on the effluent pipe from the treatment building as specified in the table below.

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report	gpd					1/Month	Measured	
Total Volatile Organics						100	µg/L	1/Month	Grab	(1)
1,4-Dioxane					Report	Report	µg/L	1/Month	Grab	(1)
Total Suspended Solids		6	lbs/day		30	45	mg/L	1/Month	Grab	
Total Suspended Solids (annual load)	Report (monthly load)	840 (annual max)	lbs/year					1/Month	Calculated	(2) (3) (4)
Biochemical Oxygen Demand (BOD ₅)					30	45	mg/L	1/Quarter	Grab	
pH				6.5		8.5	s.u.	1/Month	Grab	
Dissolved Oxygen				5.0				1/Month	Grab	
Copper, Total					9	13	µg/L	1/Month	Grab	
Zinc, Total					120	120	µg/L	1/Month	Grab	
Nickel, Total					52	470	µg/L	1/Month	Grab	
Lead, Total					2.5	65	µg/L	1/Month	Grab	

I. SPECIAL CONDITIONSA. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Total Residual Chlorine					11	19	µg/L	1/Month	Grab	(5)

There shall be no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour from the point of discharge.

The permittee shall alert the Department when its annual average flow exceeds 150,000 gallons per day (gpd). The permittee shall evaluate any change in annual average flow each year and, in accordance with Special Condition I.H, notify the Department by May 1 if the annual average flow is expected to exceed this level. This requirement is not a flow limit.

- (1) “Total Volatile Organics” or “TVO” is defined as the sum of the concentrations of the individual organic parameters identified in Table 1 of EPA Test Method 624.1 (found on Page 26 at <https://mdewwp.page.link/EPA624-1>) plus the concentration of 1,4-Dioxane. The minimum detection limit for 1,4-dioxane must not exceed 50 µg/L (measurable via EPA Method 624.1, EPA Method 1624, or any other method approved by 40 CFR §136.3, so long as the MDL is ≤ 50 µg/L). The permittee shall also report the concentration of each individual parameter on the Discharge Monitoring Reports.
- (2) Limits are in conformance with the Chesapeake Bay Total Maximum Daily Load (TMDL) for Nitrogen, Phosphorus and Sediment issued December 29, 2010 by the United States Environmental Protection Agency and the *Total Maximum Daily Load of Sediment in the Patapsco River Lower North Branch Watershed, Baltimore City, and Baltimore, Howard, Carroll, and Anne Arundel Counties, Maryland*, approved by the United States Environmental Protection Agency on September 30, 2011.
- (3) The permittee shall report the monthly load for total suspended solids, total phosphorus, and total nitrogen under the "monthly average" column. The monthly load shall be calculated by the following equation:

$$\text{Load (lbs/month)} = (\text{Monthly Average Concentration of parameter in mg/L}) \times (\text{Total flow for the month in millions of gallons}) \times 8.34$$

- (4) The "annual max" limit, to be reported in terms of lbs/year, is an annual maximum loading rate, a calculated parameter to be reported monthly as the sum of the monthly loading rates from January through December of the current calendar year. For example, the value reported for this parameter on the discharge monitoring report for March will be the sum of the monthly loads for January, February, and March. The first exceedance of the annual maximum permit limit shall be counted and reported as daily exceedances beginning from the first exceedance, determined to the nearest day, through December 31st.

I. SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

- (5) The minimum quantification level for total residual chlorine is 0.10 mg/l. The permittee shall report all results below the minimum of 0.10 mg/L as “NODI B” in NetDMR. All results below 0.10 mg/l shall be considered in compliance.

I. SPECIAL CONDITIONS

B. DEFINITIONS

1. “Annual Maximum Loading Rate (in pounds/year)” means the highest allowable total load of a parameter calculated for a calendar year. It is calculated as the sum of the individual Total Monthly Loading Rates from January through December of the current calendar year.
2. “Biochemical Oxygen Demand (BOD)” means the amount of dissolved oxygen required to biologically break down organic material and oxidize inorganic material in an unfiltered environmental sample during a standard BOD₅ test without the use of a nitrification inhibitor.
3. “Bypass” means the intentional diversion of wastes from any portion of a treatment facility.
4. “Clean Water Act” means the Federal Water Pollution Control Act Amendments of 1972,” 33 U.S.C. 1251, 86 Stat. 866, as amended by the “Clean Water Act of 1977,” 91 Stat. 1566, and all other amendments to that act.
5. “CFR” means the Code of Federal Regulations.
6. “COMAR” means the Code of Maryland Regulations.
7. “Daily determination of concentration” means an analysis performed on an effluent sample representative of flow for that calendar day, with concentration expressed in mg/l or other appropriate unit of measurement.
8. “Daily maximum effluent concentration” means the highest reading of any daily determination of concentration.
9. “Daily maximum effluent limitation by mass loading” means the highest allowable daily determination of discharge of a constituent by mass loading during a 24-hour period.
10. “Department” means the Maryland Department of the Environment (MDE).
11. “Estimated flow” means a calculated volume or discharge rate based on a technical evaluation of sources contributing to the discharge, including but not limited to pump capabilities, water meters and batch discharge volumes.
12. “Grab sample” means an individual sample collected over a period of time not exceeding 15 minutes. Grab samples collected for pH and total residual chlorine must be analyzed within 15 minutes from the time of collection.
13. “Measured flow” means any method of liquid volume measurement for which accuracy has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.
14. “Minimum value” means the lowest value measured during a 24-hour period.
15. “Monthly, quarterly, semi-annual, or annual average effluent concentration” means the value calculated by computing the arithmetic mean of all daily determinations of concentration made during any respective calendar-month, 3-month, 6-month, or 12-month period.

16. “National Pollutant Discharge Elimination System (NPDES)” means the national system for issuing permits established under §402 of the Clean Water Act (1972).
17. “NetDMR” means a nationally-available electronic reporting tool, initially designed by states and later adapted for national use by EPA, which can be used by NPDES-regulated facilities to submit discharge monitoring reports (DMRs) electronically to EPA through a secure Internet application over the National Environmental Information Exchange Network (NEIEN). EPA can then share this information with authorized states, tribes, and territories.
18. “Oil and Grease” refers to test results obtained by using EPA Method 1664 (or any EPA approved revisions to this method) for Clean Water Act monitoring programs.
19. “Outfall” means the location where effluent is discharged into receiving waters.
20. “Permittee” means an individual or organization holding a discharge permit issued by the Department.
21. “Recorded” (i.e., recorded flow, pH, temperature, etc.), means any method of providing a permanent, continuous record including but not limited to circular and strip charts.
22. “Sampling Point” means the effluent sampling location in the outfall line(s) downstream from the last addition point or as otherwise specified.
23. “Total Maximum Daily Load (TMDL)” means the maximum amount of a pollutant a waterbody can receive and still meet water quality standards, calculated using the formula $(TMDL = \Sigma WLA + \Sigma LA + MOS)$ where WLA is the sum of wasteload allocations (point sources), LA is the sum of load allocations (nonpoint sources and background), and MOS is the margin of safety.
24. “Total Residual Chlorine (TRC)” means the total amount of chlorine present in a sample. This is the sum of the free chlorine residual and the combined available chlorine residual.
25. “Total monthly loading rate (in pounds/month)” means the total load of a parameter calculated for each calendar month using the formula (monthly average concentration in mg/l x (total monthly flow in millions of gallons) x 8.34).
26. “Total Suspended Solids (TSS)” means the residue from an effluent sample retained on a filter measured in accordance with [ASTM D5907-09](#), *Standard Methods for Filterable and Nonfilterable Matter in Water* (2009), or other approved methods.
27. “Upset” means an exceptional incident where unintentional and temporary noncompliance with technology-based permit effluent limitations occurs due to factors beyond the reasonable control of the permittee. An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
28. “Year-to-date Cumulative load (in pounds)” means the sum of individual total monthly loads for a parameter calculated from January through the current reporting month in a calendar year.

C. TOXIC POLLUTANT REPORTING

The permittee shall notify the Department as soon as it is known or suspected that any toxic pollutants which are not specifically limited by this permit have been discharged in excess of notification levels specified in 40 CFR Part 122.42(a).

D. REMOVED SUBSTANCES

1. Within 30 days after notification the permittee shall provide the Department with information on the disposal of any removed substances defined under General Condition B.7 in section II of this permit. Requested information may include but may not be limited to:
 - a. A map clearly showing all areas used for disposal of removed substances.
 - b. A description of physical, chemical, and biological characteristics of any removed substances as well as their quantities and methods of disposal.
 - c. The identity of any contractor or subcontractor, their mailing address and information specified in a and b above, if disposal is handled by persons other than the permittee.
2. The Department's notification may also require the permittee to provide the above information prior to use of new or additional disposal areas, contractors, or subcontractors.

E. ANALYTICAL LABORATORY

Within 30 days after the effective date of this permit, the permittee shall submit to the Department the name and address of the analytical laboratory (including the permittee's own laboratory) used to perform the monitoring required by this permit.

If the laboratory changes during the effective period of this permit, the permittee shall notify the Department of the new laboratory within 30 days after the change.

F. WASTEWATER OPERATOR CERTIFICATION

As of the effective date of this permit, the permittee's facility shall be operated by an industrial wastewater operator duly certified by the Maryland Board of Waterworks and Waste Systems Operators. The certification shall be for the operation of a Class 7 industrial wastewater works.

G. FLOW MONITORING

In lieu of providing measured flow (defined under Special Conditions in section B above) at Outfall 001, the permittee may estimate flows and submit the following information when submitting the initial discharge monitoring report and/or upon any change in methodology:

1. A description of the methodology used to estimate flow at each outfall where flow measurement equipment is not present.

2. Documentation appropriate to the methodology utilized which provides information to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations must also be provided.
3. A description of factors (e.g., batch discharges, intermittent operation, etc.) which caused flow at the outfall to fluctuate significantly from the previously provided estimate.

H. FLOW BASIS FOR ANNUAL DISCHARGE PERMIT FEE

The Department will calculate permit fees annually and invoice the permittee based on annual average discharge flow. Permit fees are payable to the Department in advance by July 1 of each fiscal year (July 1 through June 30).

The permittee shall provide notification of any flow revision to the Department's Industrial and General Permits Division by May 1 of each year to update the annual average discharge flow value used for the next billing period, if the flow volume used to calculate the most recent annual permit fee (or application fee if the permit was renewed within the past year) differs significantly from either of the following flow determinations:

1. Average flow data reported on the permittee's discharge monitoring reports for the current fiscal year, or
2. Estimated flow volume for the next billing period based on recent changes at the facility.

The flow revision notification shall include a summary of flow data reported on discharge monitoring reports for the previous year and any other supporting documentation to be used as the basis for the revised flow determination.

I. REAPPLICATION FOR A PERMIT

Unless the Department grants permission for a later date the permittee shall submit a permit renewal application no later than 12 months prior to the expiration date of the current permit or notify the Department of their intent to cease discharging by the permit's expiration date. In the event that a timely and sufficient reapplication has been submitted and through no fault of the permittee the Department is unable to issue a new permit before the expiration date, the terms and conditions of this permit are automatically continued and remain in full force and effect.

J. PERMIT REOPENER FOR TOTAL MAXIMUM DAILY LOAD (TMDL)

This permit may be reopened as a major modification to implement any applicable requirements associated with a Total Maximum Daily Load (TMDL) issued or approved for Patapsco River Lower North Branch watershed (basin code 02.13.09.06).

This permit is consistent with the terms and conditions of the Chesapeake Bay Total Maximum Daily Load (TMDL) for Sediments, Nitrogen and Phosphorus established December 29, 2010 (76 Fed. Reg.549, January 5, 2011). Based on facility operations and/or discharge characteristics this permit limits discharges of total suspended solids to prevent water quality degradation of receiving waters and ultimately the Chesapeake Bay, but does not impose limits for total nitrogen and total phosphorus.

To ensure the Chesapeake Bay and its tributaries are protected from discharges of sediments, nitrogen and phosphorus this permit may be reopened as a major modification to implement any future requirements associated with the Chesapeake Bay TMDL. At that time the permittee may become subject to a Department-issued General Permit for the discharge of such pollutants.

K. BIOMONITORING PROGRAM – [Reserved]

L. TOXICITY REDUCTION EVALUATION

A Toxicity Reduction Evaluation (TRE) is an investigation conducted to identify the causative agents of effluent toxicity, isolate the source(s), determine the effectiveness of control options, implement necessary control measures and confirm the reduction in toxicity. The permittee shall conduct a TRE when a review of toxicity test data by the Department indicates unacceptable, acute, or chronic effluent toxicity.

1. Within 90 days following notification by the Department that a TRE is required the permittee shall submit a study plan and schedule for conducting the TRE. The permittee shall conduct the TRE in a manner consistent with the plan and schedule submitted to the Department.
2. The plan should follow the framework set forth in *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, April 1989).
3. Beginning 60 days following the date of the Department's acceptance of a TRE study plan and every 60 days thereafter the permittee shall submit progress reports including all relevant test data to the Department. The permittee shall continue to submit progress reports every 60 days until the toxicity reduction confirmation is completed.

All TRE-related materials shall be submitted electronically to the Department if the permittee has already been approved for the NetDMR tool. The material shall be attached as a separate single file and labeled as "TRE" in the NetDMR tool. Otherwise, the permittee shall submit all pertinent physical documents to:

Attention: Whole Effluent Toxicity Coordinator
Compliance Program
Water and Science Administration
Maryland Department of the Environment
Montgomery Park Business Center
1800 Washington Boulevard, Suite 420
Baltimore, MD 21230-1708

The permittee shall notify the Department at the above address or via email at mde.biomonitoring@maryland.gov immediately upon electronic submission of TRE material through NetDMR tool.

4. Within 60 days following completion of the toxicity identification (source isolation) phase of the TRE the permittee shall submit a plan and schedule to the Department for implementing measures necessary to eliminate acute toxicity and/or reduce chronic toxicity to acceptable levels. Implementation of the measures identified shall begin immediately upon submission of this plan.

5. Within 60 days after completing the implementation of control measures to eliminate or reduce toxicity the permittee shall submit a study plan to the Department for approval, to confirm the elimination or reduction of toxicity using biomonitoring.
6. If for any reason the implemented measures do not result in compliance with the Department's toxicity limitations the permittee shall continue the TRE.

M. MIXING ZONES AND POLLUTION PREVENTION – [Reserved]

N. PROTECTION OF WATER QUALITY

It is a violation of this permit to discharge any substance not otherwise listed under this permit's "Effluent Limitations and Monitoring Requirements" at levels which would cause or contribute to any exceedance of the numerical water quality standards set forth in COMAR 26.08.02.03, unless the level and substance were disclosed in writing in the permit application prior to issuance of the permit. If a discharge regulated by this permit causes or contributes to an exceedance of water quality standards in COMAR 26.08.02.03, including but not limited to general water quality standards, or if the discharge includes a pollutant not disclosed or addressed in the public record for the permit determination; the Department is authorized to modify, suspend or revoke this permit or take enforcement action to address unlawful discharges.

O. USE OF SUFFICIENTLY SENSITIVE TEST METHODS

In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit. A method is considered "sufficiently sensitive" when either: (1) the method minimum level (ML) is at or below the level of the effluent limit established in this permit for the measured pollutant or pollutant parameter; or (2) the method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The ML is not the minimum level of detection, but rather the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence. For the purposes of this permit, the detection limit is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).

P. NON-EROSIVE DISCHARGE

The permittee must convey the discharge from Outfall 001 to Stony Run in a manner that will not result in soil erosion (including bottom scour of the stream itself) or entrainment of other contaminants from the drainage path.

Q. CHEMICAL ADDITIVES

1. The permittee is advised to obtain and review aquatic toxicity data (from the manufacturer or vendor) on any water treatment product or detergent that will discharge to waters of the State.
2. The permittee is authorized to use ChemAqua 16890 (or an equivalent additive) in the boiler which contributes wastewater to effluent discharged under this permit. If any approved chemical is found to be the cause of toxicity in the discharge, its use will be prohibited.
3. If the name of any chemical additive product changes (but not the composition), the permittee shall submit to the Department (Industrial and General Discharge Permits Division) the new name when use of the product starts, as well as Safety Data Sheets or other information demonstrating the unchanged composition.
4. Prior to commencing the use of any new product in water sources discharging to Outfall 001, the permittee must obtain written approval from the Department. In order to request approval, the permittee shall submit to the Department (Industrial and General Discharge Permits Division) a Safety Data Sheet complete with aquatic toxicity data and manufacturer's information on the chemical composition of the product, a description of the proposed use of the product, identification of any products the new product will replace (if applicable), and an estimation of the concentrations anticipated to exist in the effluent. Based on this information, the Department may approve or deny use of the new chemical or require additional biomonitoring of the wastewater if aquatic toxicity may occur.

R. STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY – [Reserved]

II. GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

Samples and measurements taken as required herein shall be taken at such times as to be representative of the quantity and quality of the discharges during the specified monitoring periods.

2. REPORTING-MONITORING RESULTS SUBMITTED QUARTERLY

Monitoring results obtained during each calendar quarter shall be summarized and submitted electronically using NetDMR. For each effluent characteristic monitored at a frequency of less than once per month the results obtained during the reporting period shall be summarized on a single report for each quarter. More frequently monitored effluent characteristics and effluent characteristics limited as a monthly average shall be reported on a separate report for

each calendar month of the reporting period. Results shall be submitted to the Department via NetDMR no later than the 28th of the month following the end of the reporting period. Specific requirements regarding submittal of data and reports using NetDMR are described below:

- a. NetDMR is a U.S. EPA tool allowing regulated Clean Water Act permittees to submit monitoring reports electronically via a secure Internet application. The permittee must apply for access to NetDMR at www.epa.gov/netdmr and register for a NetDMR Webinar. Before the permittee can submit official DMRs using NetDMR the permittee must attend a training Webinar and successfully set-up and submit test monitoring results electronically.
- b. The permittee may be eligible for a temporary waiver by MDE from NPDES electronic reporting requirements if the permittee has no current internet access and is physically located in a geographic area (i.e., zip code) that is identified as under-served for broadband internet access in the most recent National Broadband Map from the Federal Communications Commission (FCC); or if the permittee can demonstrate that such electronic reporting of the monitoring data and reports would pose an unreasonable burden or expense to the NPDES-permitted facility. Waiver requests must be submitted in writing to the Department for written approval at least 120 days prior to the date the permittee would be required under this permit to begin using NetDMR. This demonstration shall be valid for one (1) year from the date of the Department approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department unless the permittee submits a renewed waiver request and such request is approved by the Department.

3. SAMPLING AND ANALYSIS METHODS

The analytical and sampling methods used shall conform to procedures for the analysis of pollutants as identified in Title 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants" unless otherwise specified.

4. DATA RECORDING REQUIREMENTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. the exact place, date, and time of sampling or measurement;
- b. the person(s) who performed the sampling or measurement;
- c. the dates and times the analyses were performed;
- d. the person(s) who performed the analyses;
- e. the analytical techniques or methods used; and
- f. the results of all required analyses.

5. MONITORING EQUIPMENT MAINTENANCE

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation to insure accuracy of measurements.

6. ADDITIONAL MONITORING BY PERMITTEE

If the permittee monitors any pollutant, using approved analytical methods as specified above, at the locations designated herein more frequently than required by this permit, the results of such monitoring, including the increased frequency, shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report form (EPA No. 3320-1).

7. RECORDS RETENTION

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and original recordings from continuous monitoring instrumentation shall be retained for a minimum of three years. This period shall be automatically extended during the course of litigation, or when requested by the Department.

B. MANAGEMENT REQUIREMENTS

1. CHANGE IN DISCHARGE

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the terms and conditions of this permit. The permittee shall report any anticipated facility expansions, production increases, or process modifications which will result in new, different or an increased discharge of pollutants by submitting a new application at least 180 days prior to the commencement of the changed discharge except that if the change only affects a listed pollutant and will not violate the effluent limitations specified in this permit, by providing written notice to the Department. Following such notice, the permit may be modified by the Department to include new effluent limitations on those pollutants.

2. NONCOMPLIANCE WITH EFFLUENT LIMITATIONS

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum or daily minimum effluent limitation specified in this permit, the permittee shall notify the Inspection and Compliance Program by telephone at (410) 537-3510 within 24 hours of becoming aware of the noncompliance. Within five calendar days, the permittee shall provide the Department with the following information in writing:

- a. a description of the non-complying discharge including its impact upon the receiving waters;
- b. cause of noncompliance;
- c. anticipated time the condition of noncompliance is expected to continue or if such condition has been corrected, the duration of the period of noncompliance;
- d. steps taken by the permittee to reduce and eliminate the non-complying discharge;
- e. steps to be taken by the permittee to prevent recurrence of the condition of noncompliance; and
- f. a description of the accelerated or additional monitoring by the permittee to determine the nature and impact of the noncomplying discharge.

3. FACILITIES OPERATION

All treatment, control and monitoring facilities, or systems installed or used by the permittee, are to be maintained in good working order and operated efficiently.

4. ADVERSE IMPACT

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State or to human health resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. BYPASSING

Any bypass of treatment facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited unless:

- a. the bypass is unavoidable to prevent a loss of life, personal injury or substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources;
- b. there are no feasible alternatives;
- c. notification is received by the Department within 24 hours (if orally notified, then followed by a written submission within five calendar days of the permittee's becoming aware of the bypass). Where the need for a bypass is known (or should have been known) in advance, this notification shall be submitted to the Department for approval at least ten calendar days before the date of bypass or at the earliest possible date if the period of advance knowledge is less than ten calendar days; and
- d. the bypass is allowed under conditions determined by the Department to be necessary to minimize adverse effects.

6. CONDITIONS NECESSARY FOR DEMONSTRATION OF AN UPSET

An upset shall constitute an affirmative defense to an action brought for noncompliance with technology-based effluent limitations only if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

- a. an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. the permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;
- c. the permittee submitted a 24-hour notification of upset in accordance with the reporting requirements of General Condition II.B.2 above;
- d. the permittee submitted, within five (5) calendar days of becoming aware of the upset, documentation to support and justify the upset; and
- e. the permittee complied with any remedial measures required to minimize adverse impact.

7. REMOVED SUBSTANCES

Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters, or facility operations may require additional permits. In addition to adhering to all other applicable requirements, wastes shall be disposed of in a manner to prevent any removed substances or runoff from such substances from entering or from being placed in a location where they may enter the waters of the State.

8. POWER FAILURE

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

- a. provide an alternative power source sufficient to operate the wastewater collection and treatment facilities or,
- b. halt, reduce or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater collection and treatment facilities.

C. RESPONSIBILITIES

1. RIGHT OF ENTRY

The permittee shall permit the Secretary of the Department, the Regional Administrator for the Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials to:

- a. enter upon the permittee's premises where an effluent source is located or where any records are required to be kept under the terms and conditions of this permit;
- b. access and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;
- c. inspect, at reasonable times, any monitoring equipment or monitoring method required in this permit;
- d. inspect, at reasonable times, any collection, treatment, pollution management, or discharge facilities required under this permit; and
- e. sample, at reasonable times, any discharge of pollutants.

2. TRANSFER OF OWNERSHIP OR CONTROL OF FACILITIES

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the permit may be transferred to another person if:

- a. the permittee notifies the Department in writing, of the proposed transfer;
- b. a written agreement, indicating the specific date of proposed transfer of permit coverage and acknowledging responsibilities of current and new permittees for

compliance with the liability for the terms and conditions of this permit, is submitted to the Department; and

- c. neither the current permittee nor the new permittee receive notification from the Department, within 30 calendar days, of intent to modify, revoke, reissue or terminate the existing permit.

3. REAPPLICATION FOR A PERMIT –[Reserved]

4. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Section 308 of the Clean Water Act, 33 U.S.C. § 1318, all submitted data shall be available for public inspection at the offices of the Department and the Regional Administrator of the Environmental Protection Agency.

5. PERMIT MODIFICATION

A permit may be modified by the Department upon written request of the permittee and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in 40 CFR § 122.62 and 122.63.

6. PERMIT MODIFICATION, SUSPENSION, OR REVOCATION

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked and reissued in whole or in part during its term, in accordance with the provisions set forth in COMAR 26.08.04.10, for causes including, but not limited to, the following:

- a. violation of any terms or conditions of this permit;
- b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- d. a determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.
- e. upon a final, unreviewable determination that the permittee lacks, or is in violation, of any federal, state, or local approval necessary to conduct the activities by this permit.

7. TOXIC POLLUTANTS

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such toxic effluent standard or prohibition) is established by the U.S. Environmental Protection Agency, or pursuant to Section 9-314 of the Environment Article, Annotated Code of Maryland, for a toxic pollutant which is present in the discharges authorized herein and such standard is more stringent than any limitation upon such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified. Any effluent standard established in this case for a pollutant which is injurious to human health is effective and enforceable by the time set forth in the promulgated standard, even absent permit modification.

8. OIL AND HAZARDOUS SUBSTANCES PROHIBITED

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibility, liability, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act (33 U.S.C. § 1321), or under the Annotated Code of Maryland.

9. CIVIL AND CRIMINAL LIABILITY

Except as provided in permit conditions on "bypassing," "upset," and "power failure," nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from civil or criminal responsibilities and/or penalties for noncompliance with Title 9 of the Environment Article, Annotated Code of Maryland or any federal, local, or other State law or regulation.

10. PROPERTY RIGHTS/COMPLIANCE WITH OTHER REQUIREMENTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State or local laws or regulations.

11. SEVERABILITY

The provisions of this permit are severable. If any provisions of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstances is held invalid, its application to other circumstances shall not be affected.

12. WATER CONSTRUCTION AND OBSTRUCTION

This permit does not authorize the construction or placing of physical structures, facilities, or debris, or the undertaking of related activities in any waters of the State.

13. COMPLIANCE WITH WATER POLLUTION ABATEMENT STATUTES

The permittee shall comply at all times with the provisions of the Environment Article, Title 7, Subtitle 2 and Title 9, Subtitle 3 of the Annotated Code of Maryland and the Clean Water Act, 33 U.S.C. § 1251 et seq.

14. ACTION ON VIOLATIONS

The issue or reissue of this permit does not constitute a decision by the State not to proceed in administrative, civil, or criminal action for any violations of State law or regulations occurring before the issue or reissue of this permit, nor a waiver of the State's right to do so.

15. CIVIL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to civil penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Permittee shall be subject to civil penalty set forth in 33 U.S.C. § 1319 (d) of the Clean Water Act as adjusted for inflation according to 40 CFR, §19.4.

16. CRIMINAL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to criminal penalties for violations of State water pollution control laws set forth in Section 9-343 of the Environment Article, Annotated Code of Maryland, the Permittee shall be subjected to criminal penalty set forth in 33 U.S.C. § 1319 (c).

17. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

18. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Director shall be signed and certified as required by 40 CFR 122.22.

19. REOPENER CLAUSE FOR PERMITS

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301, 304, and 307 of the Clean Water Act [33 USCS §§ 1311, 1314, 1317] if the effluent standard or limitation so issued or approved:

- a. contains different conditions or is otherwise more stringent than any effluent limitation in this permit or
- b. controls any pollutant not limited in this permit. This permit, as modified or reissued under this paragraph, shall also contain any other requirements of the Act then applicable.

D. AUTHORITY TO ISSUE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

On September 5, 1974, the Administrator of the U.S. Environmental Protection Agency approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters pursuant to Section 402 of the Clean Water Act, 33 U.S.C. Section 1342.

Pursuant to the aforementioned approval, this discharge permit is both a State of Maryland discharge permit and a NPDES permit.

This permit and the authorization to discharge shall expire at midnight on the expiration date. The permittee shall not discharge after that date unless a new application has been submitted to the Department in accordance with the renewal application provisions of this permit.



D. Lee Currey, Director
Water and Science Administration

