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DOCKET NO. D-1970-120-3

DELAWARE RIVER BASIN COMMISSION

**Cambridge-Lee Industries, LLC
Industrial Process and Non-Contact Cooling Water Discharge
Ontelaunee Township, Berks County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Liberty Environmental, Inc. on behalf of Cambridge-Lee Industries, LLC (Cambridge Lee or docket holder), on July 14, 2015 (Application) for renewal of industrial process water and non-contact cooling water (NCCW) discharges. The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0034304A-1 for the facility discharges on October 15, 2012.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact*. The Berks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on February 15, 2017.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew the approval of existing industrial process water discharges from the docket holder's copper pipe manufacturing facility. The facility will continue to discharge 0.0112 million gallons per day (mgd) of cooling tower blowdown and pretreatment system backwash from Plant No. 4 operations (Outfall No. 001), and 0.76 mgd of cooling tower blowdown and NCCW from Plant Nos. 2 & 3 operations (Outfall No. 002). This docket also continues a total dissolved solids (TDS) determination for Outfall No. 001 consisting of an average monthly effluent limit of 15,200 mg/l. No modifications to the existing facilities are proposed.

2. **Location.** The Cambridge Lee facility is located on Tube Drive, off of Pottsville Pike (US Route 61), in Ontelaunee Township, Berks County, Pennsylvania. The facility will continue to discharge industrial process water from two outfalls (Outfall Nos. 001 & 002) to the Schuylkill River at approximately River Mile 92.47 – 86.5 (Delaware River – Schuylkill River). Outfall No. 001 is approximately 1,000 feet upstream from Outfall No. 002.

The project outfalls are located in the Schuylkill River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001(blowdown & backwash)	40° 25' 18"	75° 56' 55"
002 (blowdown & NCCW)	40° 25' 14"	75° 56' 56"

3. **Area Served.** The docket holder's facility will continue to discharge industrial process water generated on-site by their copper tube manufacturing and processing activities in Plant Nos. 2, 3, and 4, located in Ontelaunee Township, Berks County, Pennsylvania.

For the purpose of defining the Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

4. **Physical features.**

a. **Design criteria.** The Cambridge Lee facility discharges NCCW, cooling tower blowdown and industrial wastewater pre-treatment system backwash from their copper piping manufacturing Plant Nos. 2, 3, and 4, whose operations include molten copper refining, copper log casting, copper billet production, and copper tube production. NCCW and cooling tower blowdown is discharged from Plant No. 2 & 3 operations at Outfall No. 002 at an average discharge rate of 0.76 mgd. Cooling tower blowdown and pre-treatment system backwash is discharged from Plant No. 4 operations at Outfall No. 001 at an average discharge rate of 0.0112 mgd. Sanitary wastewater and a small amount of cooling tower blowdown generated at Plant Nos. 2, 3 & 4 will continue to be sent to the Ontelaunee Township Municipal Authority (OTMA) sewer system for conveyance to the Leesport Borough Authority WWTP for treatment and discharge to the Schuylkill River at River Mile River Mile 92.47 – 90.45 (Delaware River – Schuylkill River).

b. **Facilities.** The existing facilities and water uses/discharges are described as follows:

Plant Nos. 2 & 3:

Plant Nos. 2 and 3 are supplied with cooling tower make-up water, NCCW, and industrial process water from Reading Area Water Authority (RAWA) and one (1) surface water

intake located on the Schuylkill River, owned and operated by the docket holder. Plant No. 2 includes a bailing press discharging approximately 0.0834 mgd of NCCW, a reverberatory furnace discharging approximately 0.6621 mgd of NCCW, a shaft furnace discharging approximately 0.03385 mgd of NCCW, a casting machine that evaporates approximately 0.0994 mgd (no discharge), and two (2) cooling towers that evaporate approximately 0.655 mgd per tower, and discharge approximately 0.004 mgd of blowdown. All discharges from Plant No. 2 are to existing Outfall No. 002.

Plant No. 3 includes a quench water tank that evaporates approximately 0.06 mgd (no discharge), and a cooling tower that evaporates approximately 0.08275 mgd, and send approximately 0.002 mgd of blowdown to the OTMA sewer system.

Plant Nos. 2 and 3 send sanitary wastewater generated at the plants to the OTMA sewer system for conveyance to the Leesport Borough Authority WWTP for treatment and discharge to the Schuylkill River. No modifications to the discharges from Plant Nos. 3 and 4 are proposed. The average discharge rate from Outfall 002 is 0.76 mgd.

Plant No. 4:

Plant No. 4 is supplied with cooling tower make-up water and NCCW from OTMA public water supply. Plant No. 4 includes 14 cooling towers and three (3) industrial wastewater pre-treatment processes, including water softening, mixed media filter, and reverse osmosis. Outfall No. 001 discharges Plant No. 4 cooling tower blowdown and industrial wastewater pre-treatment systems backwash at a combined average discharge rate of 0.0112 mgd. Industrial process wastewater from the pre-treatment systems is sent to the OTMA sewer system for conveyance to the Leesport Borough Authority WWTP for treatment and discharge to the Schuylkill River, along with sanitary wastewater generated at Plant No. 4.

Elevated effluent TDS discharge at Outfall No. 001 is the result of Plant No. 4 operations including backwashing the pre-treatment systems and blowing down recycled cooling water from the cooling towers. See the FINDINGS section for the TDS determination.

Prior facilities and processes for the WWTP have been described in DRBC Docket Nos. D-1970-120-1 and D-1970-120-1, approved on September 29, 1970 and September 12, 2012, respectively.

The project facilities are outside the 100-year flood hazard area.

Wasted sludge will continue to be hauled off-site by a licensed hauler for disposal at a state approved facility.

c. **Water withdrawals.** The potable water supply and a portion of the industrial process water used by the docket holder's facilities is provided by groundwater wells owned and operated by Leesport Borough. The groundwater withdrawal is described in detail in DRBC Docket No. D-2001-012 CP-2, which was approved by the DRBC on June 11, 2014. The remaining portion of the industrial process water and cooling tower make-up is provided by a surface water intake located on the Schuylkill River, which is owned and operated by the docket holder. The surface water withdrawal is described in detail in DRBC Docket No. D-2012-025-1, which was approved by the DRBC on March 6, 2013. Sanitary wastewater and a portion of the cooling tower blowdown and industrial process wastewater generated at the site is discharged to the OTMA sewer system for conveyance to the Leesport Borough Authority WWTP for treatment and discharge to the Schuylkill River. The Leesport Borough Authority WWTP was approved by the DRBC via Docket No. D-2001-021 CP-1 on December 18, 2001.

d. **NPDES Permit / DRBC Docket.** The NPDES Permit No.PA0034304A-1 for this facility was approved by PADEP on October 15, 2012, and includes final effluent limitations for the project discharges to surface waters classified by the PADEP as Warm Water Fishery (WWF). The following average monthly effluent limits for existing Outfall No. 001, based on an average discharge rate of 0.0112 mgd, are among those listed in the NPDES permit and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-1: DRBC Parameters Included in NPDES permit for Outfall 001

OUTFALL 001 (Schuylkill River)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids (TSS)	30 mg/l	As required by NPDES permit
Total Dissolved Solids*	15,200 mg/l	As required by NPDES permit

* See FINDINGS section and Condition II.p. in DECISION section

EFFLUENT TABLE A-2: DRBC Parameters Not Included in NPDES permit for Outfall 001

OUTFALL 001 (Schuylkill River)		
PARAMETER	LIMIT	MONITORING
BOD (5-Day at 20° C)	Monitor & Report	Monthly
Temperature	110 ° F (Max)	Continuous

The following average monthly effluent limits for existing Outfall No. 002, based on an average discharge rate of 0.76 mgd, are among those listed in the NPDES permit and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-3: DRBC Parameters Included in NPDES permit for Outfall 002

OUTFALL 002 (Schuylkill River)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	30 mg/l	As required by NPDES permit
Total Dissolved Solids*	1,000 mg/l	As required by NPDES permit

* See Condition II.p. in Decision section

EFFLUENT TABLE A-4: DRBC Parameters Not Included in NPDES permit for Outfall 002

OUTFALL 002 (Schuylkill River)		
PARAMETER	LIMIT	MONITORING
BOD (5-Day at 20° C)	Monitor and Report	Monthly
Temperature	110 ° F (Max)	Continuous

B. FINDINGS

The docket holder submitted an Application to renew the approval of existing industrial process water discharges from their copper pipe manufacturing facility. The facility will continue to discharge 0.0112 of cooling tower blowdown and pretreatment system backwash from Plant No. 4 operations via Outfall No. 001, and 0.76 mgd of cooling tower blowdown and NCCW from Plant Nos. 2 & 3 operations via Outfall No. 002. This docket also continues a TDS determination for Outfall No. 001 consisting of average monthly effluent limits of 15,200 mg/l.

TDS Effluent Limit Determination

Section 3.10.4.D.2 of the WQR states:

“Total dissolved solids shall not exceed 1000 mg/l, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers.”

The Commission’s basin-wide in-stream TDS criteria is that the receiving stream’s resultant TDS concentration be less than 133% of the background (WQR Section 3.10.3.B.1.b.) and the receiving stream’s resultant TDS concentration be less than 500 mg/l (WQR Section 3.10.3.B. 2.). The discharge is required to comply with the more stringent of the above in-stream criteria. The 133% of the background TDS requirement is for the protection of aquatic life. The 500 mg/l TDS requirement is to protect the use of the receiving stream as a drinking water source. The EPA’s Safe Drinking Water Act secondary standard for TDS is 500 mg/l.

High TDS discharging at Outfall No. 001 is the result of Plant No. 4 operations; including backwashing the pre-treatment systems and blowing down recycled cooling water from the cooling towers. Plant No. 4 operations require relatively clean water for optimum performance, and therefore supply water at Plant No. 4 is pre-treated by the mixed media filter, the reverse osmosis system, and the water softener system. The mixed media filter backwash and the reverse osmosis reject water contain concentrated TDS. Water used for cooling by the cooling towers is recycled and evaporated, creating concentrated TDS in the blowdown. A small amount of TDS is generated by the Plant No. 4 water softener system; however, the majority of the facility systems do not generate TDS, they only remove and concentrate TDS from the water used at the facility. Although the resultant wastewater streams are higher in TDS concentration than the TDS concentration in the supply water used in operations, the relative load of TDS being discharged at the facility is not much greater than the load in the supply water coming in to the facility. With the exception of the small amount of TDS added from the water softener system, the TDS load into the plant equals the TDS load out of the plant. The docket holder requested renewal of the TDS effluent concentration limits of 15,200 mg/l for Outfall No. 001 and 1,000 mg/l for Outfall No. 002.

Using “Low-Flow Statistics for Pennsylvania Streams”, an internet tool developed by the USGS for the PADEP, the Q_{7-10} flow in the Schuylkill River is estimated as 155 cfs (100 mgd) at a location approximately 0.7 miles downstream of Outfall No. 002 (Cross Keys Bridge). DRBC staff considered this flow as the best representative of Q_{7-10} flow at the facility outfalls. DRBC estimates Schuylkill River in-stream TDS concentration based on available data compiled from two (2) sources: 1) the United States Geological Survey (USGS) National Water Information System (NWIS) and 2) the US EPA’s STORET database. Based on the available data, the estimated background TDS concentration in the Schuylkill River upstream of the Outfall No. 001 is 370 mg/l. 133% of 370 mg/l is 492 mg/l; therefore, the DRBC in-stream requirement of 133% of background is the more stringent of the two (2) Commission in-stream requirements.

Based on the estimated background TDS concentration in the Schuylkill River of 370 mg/l, the Q_{7-10} flow of the Schuylkill River of 100 mgd, Outfall No. 001 discharging 0.0112 mgd at a TDS concentration of 15,200 mg/l, and Outfall No. 002 discharging 0.76 mgd at a TDS concentration of 1,000 mg/l, the TDS in the Schuylkill River would be raised to 376.4 mg/l during Q_{7-10} flows. If there was a discharge from the docket holder’s facility under these conditions, the facility’s discharges would raise background TDS to 101.7 %.

Although the Outfall No. 001 discharge exceeds DRBC’s basin-wide TDS effluent limit of 1,000 mg/l, DRBC staff determined the discharge to be compatible with the Commission’s designated water uses and water quality objectives in conformance with DRBC Water Quality Regulations since the in-stream concentrations in the Schuylkill River are not expected to exceed the US EPA’s Safe Drinking Water Act’s secondary standard for TDS is 500 mg/l nor exceed the Commission’s criteria of 133% of background as a result of the IWTP discharge. Therefore, the

15,200 mg/l effluent limit for Outfall 001 approved in Docket No. D-1970-120-2 is continued via this docket.

Near the project site, the Schuylkill River has an estimated seven-day low flow with a recurrence interval of ten years (Q_{7-10}) of 100 mgd (155 cfs). The ratio of this low flow to the average design process water discharge from the facility (0.7712 mgd) is 130 to 1.

The nearest surface water intake of record for public water supply downstream of the project discharge is operated by the Borough of Pottstown on the Schuylkill River, located approximately 30 miles downstream of the project outfalls.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the Commission's WQR.

C. DECISION

I. Effective on the approval date for Docket No. D-1970-120-3 below, the project described in Docket D-1970-120-2 is terminated and replaced by Docket No. D-1970-120-3 to the extent that it is not included in Docket No. D-1970-120-2.

II. The project and appurtenant facilities as described in the Section A "Physical features" of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its NPDES permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's.

b. The facility and operational records shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the Commission's *WQR* and *Flood Plain Regulations (FPR)*.

d. The docket holder shall comply with the requirements contained in the EFFLUENT TABLE in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email aemr@drbc.state.nj.us on the **Annual Effluent Monitoring Report Form** located at this web address: <http://www.state.nj.us/drbc/programs/project/pr/info.html>. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

e. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

f. If at any time the receiving treatment facilities prove unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

g. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

h. The docket holder is permitted to treat and discharge wastewaters as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION Section.

i. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

j. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

k. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

l. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

m. Unless the docket holder requests an extension that is approved by the Commission in advance, in accordance with paragraph 11 of the Commission's Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket renewal application on the appropriate DRBC application form at least 12 months in advance of the docket expiration date set forth below. The docket holder will be subject to late charges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

n. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

o. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

p. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

q. The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.

BY THE COMMISSION

DATE APPROVED:

EXPIRATION DATE: August 31, 2021

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