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DOCKET NO. D-1970-072-6

DELAWARE RIVER BASIN COMMISSION

**Global Advanced Metals USA, Inc.
Industrial Wastewater Treatment Plant
Colebrookdale Township, Berks County and Douglass Township,
Montgomery County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Global Advanced Metals USA, Inc. (GAM or docket holder), on November 1, 2016 (Application) for a modification of the DRBC approval of the docket holder's existing industrial wastewater treatment plant (IWTP) and its discharge. The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0011266 for the IWTP discharge on April 20, 2016.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact*. The Berks and Montgomery County Planning Commissions have been notified of pending action. A public hearing on this project was held by the DRBC on May 16, 2018.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to modify the DRBC approval of the docket holder's existing 0.222 million gallons per day (mgd) IWTP and its discharge of treated industrial process water, non-contact cooling water (NCCW), lagoon underdrain water, steam condensate, and reverse osmosis (RO) reject water. The modification is to the previously approved total dissolved solids (TDS) determination, and consists of 1) a decrease in the TDS effluent limits for Outfall 001 from 9,620 mg/l to 9,270 mg/l (average monthly) and from 15,000 mg/l to 14,463 mg/l (daily maximum) and 2) an increase in the TDS effluent limits for Outfall 002 from 750 mg/l to 1,500 mg/l (average monthly) and from 1,170 mg/l to 2,300 mg/l (daily maximum). The resultant overall allowable average monthly and daily maximum TDS effluent load (in pounds per day, or lbs/day) from the combined outfalls will be reduced from 14,590 lbs/day to 14,521

lbs/day (average monthly) and from 22,750 lbs/day to 22,631 lbs/day (daily maximum). No modifications to the existing IWTP are proposed. The IWTP will remain at 0.222 mgd.

2. **Location.** The docket holder's Boyertown tantalum manufacturing facility and IWTP is located on Swamp Creek Road on the border of Colebrookdale Township, Berks County, and Douglass Township, Montgomery County, Pennsylvania. The IWTP will continue to discharge via 2 outfalls (Outfall Nos. 001 and 002) to Swamp Creek, which is tributary to Perkiomen Creek, which is tributary to the Schuylkill River, at River Mile 92.47 – 32.3 – 12.9 – 12.6 (Delaware River – Schuylkill River – Perkiomen Creek – Swamp Creek).

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

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 20' 39"	75° 37' 01"
002	40° 20' 40"	75° 37' 01"

3. **Area Served.** The docket holder's IWTP will continue to receive industrial wastewater and cooling water flows from the tantalum manufacturing operations at the docket holder's Boyertown facility located in Colebrookdale Township, Berks County, and Douglass Township, Montgomery 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 docket holder's 0.222 mgd IWTP is designed to remove fluoride, metals, and suspended solids generated by the manufacture of tantalum, as well as metallurgical products of tantalum, niobium and their alloys. Tantalum is a soft, ductile, grey-blue metal that has a high melting point, is highly resistant to chemical attack, and has a high electrical capacitance. These physical properties make it ideal for numerous applications, particularly in the electronics and aerospace industries. The treated wastewater discharge from the IWTP treatment processes comingles with NCCW, steam condensate, lagoon underdrain water, and stormwater prior to discharge from existing Outfall No. 001. Effluent limits for Outfall No. 001 contained in NPDES Permit No. PA0011266 are based on a discharge rate of 0.1763 mgd. The facility also discharges NCCW, steam condensate, RO reject water, and stormwater from Outfall No. 002. Effluent limits for Outfall No. 002 contained in the NPDES Permit are based on a discharge rate of 0.0712 mgd.

b. Facilities. The existing IWTP treatment processes consist of wastewater collection, chemical treatment with lime, and separation of precipitated solids using clarification and filter presses. Effluent from the treatment system is discharged to existing on-site lagoons (Lagoon Nos. 005 and 006), which also receive NCCW, steam condensate, underdrain water from other on-site lagoons, and stormwater. Lagoon Nos. 005 and 006 provide hydraulic equalization, storage, and pH adjustment, prior to discharge to Swamp Creek via Outfall No. 001.

NCCW, steam condensate, RO reject water, and stormwater are captured and stored in existing Lagoon Nos. 001 and 002. The commingled flow is discharged from Lagoon Nos. 001 and 002 to Swamp Creek via Outfall No. 002.

The project facilities not located in the 100-year floodplain.

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 and process water supply is provided by Boyertown Borough's surface water sources. The withdrawals were approved by DRBC Docket No. D-1980-074 CP-1 on November 7, 1980.

d. Effluent Requirements. EFFLUENT TABLES A-1 and A-2 below contain effluent requirements for DRBC parameters that must be met as a condition of this approval (See DECISION Condition C.I.d.). NPDES Permit No. PA0011266 was issued by the PADEP on April 25, 2016 and includes final effluent limitations for the project discharge to surface waters classified by the PADEP as trout stocking and migratory fishery (TSF/MF). The following average monthly effluent limits and monitoring requirements for Outfall No. 001, based on a discharge rate of 0.1763 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 No. 001

OUTFALL 001 (Swamp Creek)		
PARAMETER	LIMIT	MONITORING
Flow	Monitor & Report	As required by NPDES permit
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	20 mg/l	As required by NPDES Permit
CBOD (5-Day at 20° C)	Monitor & Report	As required by NPDES Permit
Ammonia-Nitrogen	6.8 mg/l	As required by NPDES Permit
Total Dissolved Solids*	9,270 mg/l (Average Monthly) 14,463 mg/l (Daily Maximum) 13,631 lbs/day (Average Monthly)	As required by NPDES Permit

OUTFALL 001 (Swamp Creek)		
PARAMETER	LIMIT	MONITORING
	21,265 lbs/day (Daily Maximum)	

* See DECISION Condition C.II.s. of this docket.

The following average monthly effluent limits and monitoring requirements for Outfall No. 002, based on a discharge rate of 0.0712 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-2: DRBC Parameters Included in NPDES Permit for Outfall No. 002

OUTFALL 002 (Swamp Creek)		
PARAMETER	LIMIT	MONITORING
Flow	Monitor & Report	As required by NPDES permit
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	20 mg/l	As required by NPDES Permit
CBOD (5-Day at 20° C)	Monitor & Report	As required by NPDES Permit
Ammonia-Nitrogen	4.0 mg/l	As required by NPDES Permit
Temperature	110 °F (Instantaneous Maximum)	As required by NPDES Permit
Total Dissolved Solids*	1,500 mg/l (Average Monthly) 2,300 mg/l (Daily Maximum)	As required by NPDES Permit

* See DECISION Condition C.II.s. of this docket.

NPDES Permit No. PA0011266 requires weekly TDS monitoring for Outfall Nos. 001 and 002. In addition to annually submitting DRBC's Annual Effluent Monitoring Report form for Outfall Nos. 001 and 002 to the DRBC per DECISION Condition C.II.d. of this docket, the docket holder is required to annually report the results of the weekly effluent flow, TDS load (in lbs/day), and TDS concentration (in mg/l) monitoring at Outfall Nos. 001 and 002.

B. FINDINGS

The docket holder submitted an Application to modify their approval of a DRBC TDS determination. The modification consists of 1) a decrease in the TDS effluent limits for Outfall 001 from 9,620 mg/l to 9,270 mg/l (average monthly) and from 15,000 mg/l to 14,463 mg/l (daily maximum) and 2) an increase in the TDS effluent limits for Outfall 002 from 750 mg/l to 1,500 mg/l (average monthly) and 1,170 mg/l to 2,300 mg/l (daily maximum). The resultant overall allowable TDS load from the combined outfalls will be reduced from 14,590 lbs/day to 14,521 lbs/day (average monthly) and from 22,750 lbs/day to 22,631 lbs/day (daily maximum). No modifications to the existing IWTP treatment facilities are proposed.

Total Dissolved Solids (TDS) Determination

Section 3.10.4.D.2 of the Commission's *Water Quality Regulations (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.

By letter dated November 14, 2002, the Executive Director of the DRBC issued a determination, subject to PADEP concurrence, that reads “[t]he permittee shall discharge its TDS loading in proportion to the streamflow of the Swamp Creek in such a manner that the concentration of TDS will not exceed 1,500 mg/l after complete mixing at all times”. The Executive Director noted that during Q₇₋₁₀ flows, the national secondary drinking water limit of 500 mg/l would be met 3.9 miles downstream of the discharge, and that the nearest public drinking water intake was located approximately 25 river miles downstream. In addition, monitoring during the July 2002 drought conditions concluded that there was no statistical difference in the aquatic community between the sampling locations that were upstream and downstream of the docket holder's outfalls.

The DRBC docket renewal application submitted in 2004 for Docket No. D-1970-072-3 included an analysis to support requested adjustments to the requirements contained in the existing Commission approval for TDS. That analysis was acceptable to DRBC staff at that time. Q₇₋₁₀ flow for Swamp Creek was estimated to be 1.4 mgd (2.12 cfs) and background TDS at Q₇₋₁₀ flow was estimated to be 190 mg/l (September 11, 2002 TDS Questionnaire). Docket No. D-1970-072-3 (approved on December 12, 2006) included a TDS determination consisting of a TDS effluent limit of 10,210 mg/l for Outfall No. 001. Docket No. D-1970-072-3 also included a TDS effluent limit for Outfall No. 002 of 650 mg/l.

Docket No. D-1970-072-4 (approved on May 5, 2010) continued approval of a TDS determination, consisting of TDS effluent limits of 9,620 mg/l (average monthly) and 15,000 mg/l (daily maximum) for Outfall No. 001. Docket No. D-1970-072-4 also included TDS effluent limits for Outfall No. 002 of 750 mg/l (average monthly) and 1,170 mg/l (daily maximum). This docket also required the docket holder to perform biological assessments of Swamp Creek at multiple sites to determine whether or not the docket holder's discharge was

having an adverse effect on the aquatic community. The submitted assessments supported the 2002 conclusion that no correlation could be determined from the results that indicate the discharge is having an adverse effect on the aquatic community as a result of the high TDS discharge. Docket No. D-1970-072-5 (approved on September 16, 2015) continued the same TDS determination approved by Docket No. D-1970-072-4.

The request for a modification to the TDS determination submitted with the Application for this docket (D-1970-072-6) states that an increase in TDS from Outfall No. 002 during winter months occurred in 2011, 2014, and 2015, leading to several exceedances of the average monthly and daily maximum TDS effluent limits for Outfall No. 002. The docket holder stated that the elevated TDS levels and exceedances at Outfall No. 002 were the result of road salts (calcium chloride) being applied to paved areas in winter months to reduce the buildup of snow and ice, to protect plant personnel. A review of Outfall No. 002 effluent data confirms the TDS effluent concentration exceedances occurred during the winter months.

TDS Determination Modification

Under the current docket approval (Docket No. D-1970-072-5), at the Outfall No. 001 discharge rate of 0.1763 mgd and the average monthly concentration effluent limit of 9,620 mg/l, the equivalent average monthly allowable load is 14,145 lbs/day. At discharge rate of 0.1763 mgd and the daily maximum concentration effluent limit of 15,000 mg/l, the equivalent daily maximum allowable load is 22,055 lbs/day.

At the Outfall No. 002 discharge rate of 0.0712 mgd and the average monthly concentration effluent limit of 750 mg/l, the equivalent average monthly allowable load is 445 lbs/day. At discharge rate of 0.0712 mgd and the daily maximum concentration effluent limit of 1,170 mg/l, the equivalent daily maximum allowable load is 695 lbs/day.

Under the current docket approval, the total equivalent average monthly allowable load for Outfall Nos. 001 and 002 is 14,590 lbs/day, and the total equivalent maximum allowable load for Outfall Nos. 001 and 002 is 22,750 lbs/day.

The existing TDS determination is summarized in TABLE B-1:

TABLE B-1

Existing TDS Determination			
Outfall No. 001	Flow	Concentration	Load
Average Monthly	0.1763 mgd	9,620 mg/l	14,145 lbs/day
Daily Maximum	0.1763 mgd	15,000 mg/l	22,055 lbs/day
Outfall No. 002	Flow	Concentration	Load
Average Monthly	0.0712 mgd	750 mg/l	445 lbs/day
Daily Maximum	0.0712 mgd	1,170 mg/l	695 lbs/day

Existing TDS Determination			
Total	Flow	Concentration	Load
Average Monthly	0.2475 mgd	Not applicable	14,590 lbs/day
Daily Maximum	0.2475 mgd	Not applicable	22,750 lbs/day

Under the proposed TDS effluent limit modifications, at the Outfall No. 001 discharge rate of 0.1763 mgd and the proposed average monthly concentration effluent limit of 9,270 mg/l, the equivalent average monthly allowable load is 13,631 lbs/day. At discharge rate of 0.1763 mgd and the proposed daily maximum concentration effluent limit of 14,463 mg/l, the equivalent daily maximum allowable load is 21,265 lbs/day.

At the Outfall No. 002 discharge rate of 0.0712 mgd and the proposed average monthly concentration effluent limit of 1,500 mg/l, the equivalent average monthly allowable load is 890 lbs/day. At discharge rate of 0.0712 mgd and the proposed daily maximum concentration effluent limit of 2,300 mg/l, the equivalent daily maximum allowable load is 1,366 lbs/day.

The total proposed equivalent average monthly allowable load for Outfall Nos. 001 and 002 is 14,521 lbs/day. The total proposed equivalent maximum concentration allowable load for Outfall Nos. 001 and 002 is 22,631 lbs/day.

The proposed TDS determination is summarized in TABLE B-2:

TABLE B-2

Proposed TDS Determination			
Outfall No. 001	Flow	Concentration	Load
Average Monthly	0.1763 mgd	9,270 mg/l	13,631 lbs/day
Daily Maximum	0.1763 mgd	14,463 mg/l	21,265 lbs/day
Outfall No. 002	Flow	Concentration	Load
Average Monthly	0.0712 mgd	1,500 mg/l	890 lbs/day
Daily Maximum	0.0712 mgd	2,300 mg/l	1,366 lbs/day
Total	Flow	Concentration	Load
Average Monthly	0.2475 mgd	Not applicable	14,521 lbs/day
Daily Maximum	0.2475 mgd	Not applicable	22,631 lbs/day

Since the total allowable TDS effluent loads is reduced under the proposed TDS determination modification, the modification to the TDS effluent limits for Outfall Nos. 001 and 002 is acceptable. See EFFLUENT TABLES A-1, A-2, and A-3 in Section A.4.d. of this docket.

The docket holder is required to continue to perform ecological studies (macro-invertebrate study) that include three sampling locations on Swamp Creek (referred to as Site 1, 2, and 3) in accordance with PADEP Instream Comprehensive Evaluation (ICE) methods in

2018 and 2020, and are due in April 2019 and 2021, respectively (See DECISION Condition II.j.). Sampling shall occur once per year in the late Summer/early Fall when flows in Swamp Creek are low. During the macroinvertebrate sampling, the docket holder shall also monitor for conductivity and osmotic pressure in-stream. The docket holder is also required to submit this assessment to the Pennsylvania Fish and Boat Commission (PFBC).

Other

The nearest surface water intake of record for public water supply downstream of the project discharge is on the Perkiomen Creek operated by Aqua Pennsylvania, located approximately 25 miles downstream of the project outfall.

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-1970-072-6 below, the project described in Docket D-1970-072-5 is terminated and replaced by Docket No. D-1970-072-6 to the extent that it is not included in Docket No. D-1970-072-5.

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.

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 TABLES 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 (AEMR) Form** located at this web address: <http://www.state.nj.us/drbc/programs/project/pr/info.html>. In addition to the AEMR, the docket holder is required to annually report the results of the weekly effluent flow, TDS load (in lbs/day), and TDS concentration (in mg/l) monitoring at Outfall Nos. 001 and 002. 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. An ecological study shall be performed for Sites 1, 2, and 3 on Swamp Creek in accordance with the FINDINGS Section of this docket in the late Summer/early Fall of 2018 and 2020. The results of the study shall be submitted to the DRBC, PFBC, and PADEP by April 1, 2019 and April 1, 2021, respectively

k. 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).

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. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges 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, 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 docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 CFR 401.43).

o. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

p. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

q. 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.

r. 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.

s. 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.

t. Nothing in this docket constitutes a defense to any penalty action for past conduct of the docket holder or ongoing activity not authorized by this approval. In particular, renewal of this docket does not resolve violations – whether in the past or continuing – of provisions of the Delaware River Basin Compact (“Compact”) or any rule, regulation, order or approval duly issued by the Commission or the Executive Director pursuant to the Compact. The Commission reserves its right to take appropriate enforcement action against the docket holder, including but not limited to recovery of financial penalties consistent with Section 14.17 of the Compact, for any and all such prior or continuing violations.

u. 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: April 30, 2021