pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0041378**
Facility Type	**Industrial**	APS ID	**960097**
Major / Minor	**Minor**	Authorization ID	**1215213**

NPDES PERMIT FACT SHEET ADDENDUM

Applicant and Facility Information

Applicant Name	**Prime Metals Acquisition LLC dba Prime Metals & Alloys**	Facility Name	**Prime Metals & Alloys Homer City Plant**
Applicant Address	101 Innovation Drive Homer City, PA 15748-7433	Facility Address	101 Innovation Drive Homer City, PA 15748-7433
Applicant Contact	Brian Knupp, Vice President	Facility Contact	Michelle Knupp
Applicant Phone	724-479-4155	Facility Phone	724-479-4361
Client ID	145602	Site ID	252030
SIC Code	3316	Municipality	Center Township
SIC Description	Manufacturing - Cold Finishing Of Steel Shapes	County	Indiana
Date Published in PA Bulletin	August 12, 2017	EPA Waived?	No
Comment Period End Date	September 26, 2017 (extend.)	If No, Reason	
Purpose of Application	Renewal of an NPDES permit for existing discharges of treated sanitary wastewater and new discharges of non-contact cooling water, groundwater, and storm water associated with industrial activities.		

Internal Review and Recommendations

The draft NPDES permit for Prime Metals & Alloys' (PMA) Homer City Plant was published in the *Pennsylvania Bulletin* on August 12, 2017. By email dated September 5, 2017, PMA, through its consultant, Hillcrest Group, requested a 15-day extension of the comment period. DEP approved the 15-day extension through September 26, 2017. By letter dated September 22, 2017, PMA submitted comments on the draft NPDES permit. On October 30, 2017, DEP met with representatives of PMA to discuss the draft permit. By letter dated December 5, 2018, PMA submitted additional comments and supporting information based on the October 30, 2017 meeting. DEP's responses to PMA's comments are provided below. PMA's comment letters are attached.

On March 2, 2017, PMA filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Code. The facility is still operational, but the permittee changed from Prime Metals & Alloys, Inc. to Prime Metals Acquisition LLC according to a permit transfer application dated September 25, 2017 and received by DEP on October 16, 2017. Prime Metals Acquisition LLC is currently doing business as Prime Metals & Alloys at the Homer City Plant. Since expired NPDES permits that have been administratively extended cannot be modified without being renewed, the NPDES transfer will be processed when the permit is renewed.

Comment 1 (9/22/2017): Part A. I.A. Page 2 – IMP 101: Flow, pH, Dissolved Oxygen and Total Residual Chlorine
The proposed sampling frequency is not necessary for environmental protection and very burdensome for future plant operations. The minimum sampling frequency for these parameters should be made consistent with the remaining parameter frequency, namely at most 2/month or preferably 1/month, as shown in the draft permit for the remaining parameters.

Comment 1 Follow-up (12/5/2018): Part A. I.A. Page 2 – IMP 101 – Sewage Treatment Plant: The proposed Flow, pH, Dissolved Oxygen and Total Residual Chlorine sampling frequency should be revised to be consistent with the remaining parameter(s) frequency, namely at most 2/month or preferably 1/month, as shown in the draft Permit for the remaining parameters.

Approve	Return	Deny	Signatures	Date
X			Ryan C Decker Ryan Decker, P.E. / Environmental Engineer	June 30, 2021
X			Michael E. Fifth Michael E. Fifth, P.E. / Environmental Engineer Manager	July 2, 2021

Internal Review and Recommendations

The existing Sewage Plant NPDES Discharge Permit does not require the increased frequency for these parameters as specified in the current DEP Table 6-3 Self-Monitoring Requirements for Sewage Discharges.

It is our understand that the Department will consider a less stringent sampling frequency and is amenable to a revising the monitoring frequency to "daily when discharging," which would relieve Prime Metals from sampling on days when there is no discharge. This revision does not provide any relief for Prime Metals and without it, the DMR raw data entry would just be noted as "ND".

DEP Response to Comment 1: TRC, D.O., and pH are among the most easily determinable parameters required to be reported by sewage dischargers and they are consequently useful indicators of treatment plant health and operational effectiveness. There are numerous manufacturers of inexpensive meters and field test kits that are compliant with approved EPA methods and may be used to comply with the daily sampling requirement. Note that it is not necessary for a certified operator to collect samples provided that EPA-approved methods are used for the sample analyses.

Daily monitoring for TRC, D.O., and pH is consistent with the self-monitoring requirements for sewage discharges given in Chapter 6, p.10, Table 6-3 of DEP's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits*. Table 6-3 specifies daily monitoring of TRC, D.O., and pH for all sewage plants with design flows between 0.0005 MGD and 25 MGD—a range that encompasses PMA's design sewage flow rates. Permits that are not consistent with that guidance are being updated to be consistent with its self-monitoring requirements.

There are no exceptional circumstances at the PMA facility that warrant deviation from daily sampling frequencies for TRC, D.O., and pH. Schools, mobile home parks, campgrounds, and other sites operating small-flow sewage treatment plants (some less regularly than PMA) are required to conduct daily sampling for those parameters. Those facilities can comply with daily sampling, so it is reasonable to expect that the PMA can comply with daily sampling.

Comment 2 (9/22/2017): Part A. I.B. Page 3 – IMP 201: CBOD5 and Oil and Grease
These parameters should be deleted. The most recent sampling data shows these parameters to be either "Non-Detect" in most cases or in very low concentrations. Also, given the types of bulk, solid metals stored outside, we do not expect these materials to contribute these parameters to stormwater.

Comment 2 Follow-up (12/5/2018): Part A. I.B. Page 3 – IMP 201 – Yard Stormwater: When the plant was initially constructed, a number of Subsource contributors were noted as "future". Accordingly, please be advised that a field review of all Outfalls and Subsource contributors was conducted. It has been verified that Subsource 201 Future Stormwater Piping, as identified in the current Application, was not installed and the Plant has no intention to do so. Rainfall from this roof area drains into a swale that does not have a land or piping collection and discharge point.

However, it was identified that roof downcomers located behind the Subsource 301 Induction Furnace #1 and 2 Cooling Tower is piped to an inlet box where it combines with the Subsource 301. This new source contributor is now identified as Subsource 201. The ability to sample the stormwater inlet box does not exist. As agreed to with the Department, Prime Metals re-sampled the downcomer drainage on the adjacent NW corner of the building for CBOD5 and Oil and Grease (see attached results). The lab determined values for both were deminimus.

Since this Subsource contributor only consists of uncontaminated roof runoff and in light of the above, no sampling requirements should be imposed on the newly identified Subsource 201. This position is consistent with the Department's willingness to delete sampling for IMP102 – Interior Building Stormwater drains (see page 3).

DEP Response to Comment 2: When DEP prepared the draft permit, it had only two effluent samples for $CBOD_5$ and Oil and Grease: one set of samples showing high results and one set of samples showing low results. DEP could not conclude that $CBOD_5$ and Oil and Grease are absent from the effluent based on those results and therefore conservatively estimated that $CBOD_5$ and Oil and Grease may be present in elevated concentrations based on the high results previously reported.

Pursuant to PMA's December 2018 explanation about IMP 201, IMP 201 will be removed from the permit. Internal monitoring points are established to allow wastewaters that commingle with other wastewaters to be sampled and analyzed separately to demonstrate compliance with requirements that specifically apply to those wastewaters before they commingle with other sources. If IMP 201 is relocated to the roof downcomers behind the cooling tower, but PMA is unable to sample those downcomers as it claims, then identifying IMP 201 would serve no purpose in the permit.

Internal Review and Recommendations

DEP typically accepts an applicant's assertion that a storm water discharge is uncontaminated when a 'No Exposure Certification' is submitted whereby an applicant certifies on the NPDES permit application that a storm water discharge is not exposed to industrial activities—with corroborating analytical results to demonstrate that storm water is uncontaminated. Notwithstanding the analytical results from PMA's resampling, roof runoff is not necessarily uncontaminated because it could exhibit contamination from the mobilization of particulate deposited around roof exhaust vents. Absent a no exposure certification and considering PMA's contention that it is unable to sample IMP 201, semi-annual storm water monitoring requirements for TSS, copper, lead, and zinc will be moved from IMP 201 (now deleted) to Outfall 001. Based on the 2012 analytical results from PMA's resampling of other roof drains, CBOD5 and oil and grease monitoring will not be imposed at Outfall 001. The Outfall 001 effluent description will be updated to include roof drainage as a source.

Comment 3 (9/22/2017): Part A. I.C. Page 4 – IMP 301: Free Available Chlorine
This parameter should be deleted. Prime Metals at one time was pursuing the use of furnace cooling system water treatment chemicals but as previously communicated to the Department, we are no longer doing so. Keeping this parameter would impose unneeded administrative sampling burden and lab analytical costs for a parameter not present in the discharge.

We assume the FAC limit was imposed by applying the EPA 40 CFR Part 423 Steam Electric Guidelines limits to the discharge. We point out that this Federal ELG Category is not applicable to the Prime Metals plant operations. Also, from a practical standpoint, the types of cooling water discharges covered under this ELG have many orders of magnitude higher flow volumes and are typically applied to once through cooling systems, such as waterfront power plants that routinely use chlorine as a biocide.

Comment 3 (12/5/2018): Part A. I.C. Page 4 – IMP 301 – Furnace Cooling Tower: Please be advised that the blowdown for this Subsource is intermittent and the related description should be revised on the DMR page.

As previously shared, Prime Metals does not use any chorine or water treatment chemicals for this cooling tower. Accordingly, it is our understanding that the Department agrees to delete the FAC (Free Available Chlorine) parameter for this Subsource.

The proposed daily measurement frequency for Flow should be made consistent with the remaining parameter frequency, namely 2/month. It is our understanding that the Department will consider this revision based on Prime Metals providing additional information related to the deminimus nature of the IMP heat load. This information is provided below.

DEP Response to Comment 3: DEP is aware that 40 CFR Part 423 does not apply to PMA, but the limits from that regulation were imposed nonetheless for the reasons explained in the Fact Sheet, as follows:

> Section 423.11(j) defines blowdown as "the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices." This definition does not include language specific to the steam electric power generating industry, so the performance standards applicable to "blowdown" under the Steam Electric Power Generating Point Source Category and the rationale given by EPA for those limits in documentation supporting the Steam Electric Power Generating ELGs would be appropriate for blowdown discharged elsewhere.

DEP did not reference Part 423's once-through cooling water limits when imposing chlorine limits at IMP 301, but the limits for once-through cooling water in Part 423 are the same as those that apply to cooling tower blowdown under Part 423. Differences in cooling water volumes such as those that would exist between PMA and a steam electric power plant would not impact applicable chlorine concentration limits because the level of chlorination necessary to achieve adequate free/residual chlorine concentrations would scale based on each facility's cooling water volumes with less flow requiring less chlorine, but with similar residual concentrations.

DEP acknowledges that PMA does not add chlorine. However, it is not necessary for PMA to add chlorine to the cooling tower for chlorine to be present in the discharge. PMA reported on the application that municipal water will be used for non-contact cooling water makeup. Potable water from municipal suppliers contains residual chlorine and dischargers are liable for any chlorine-related impacts from such discharges (see DEP's fact sheet for "Planned and Unplanned Discharges of Chlorinated Water to Surface Waters", Doc. No. 3830-FS-DEP4861). In the absence of data on chlorine levels in the effluent, the Free Available Chlorine limits will remain at IMP 301, but the monitoring frequencies for flow

Internal Review and Recommendations

and Free Available Chlorine at IMP 301 will be reduced to 2/month.

Comment 4 (9/22/2017): Part A. I.D. and E. Pages 5 and 6 – Outfall 001: Temperature
This parameter should be deleted. We do not anticipate having problems meeting the proposed combined subsource(s) temperature limit of 110 degree F. However, it is very questionable if taking the temperature value will provide any useful information since it will be measuring the combined temperature of two unheated discharges (sewage and stormwater) and only one heated discharge (furnace cooling water). Furthermore, any heat content will be significantly lowered, if not brought back to an ambient reading by the cooling effect of the IMP 201 and 301 buried piping before it combines with IMP 101 (sewage) and the further continued cooling effect of the combined Outfall 001 piping.

Like the above discussion, the temperature measurement point if it were to be imposed is considered by Prime Metals to be the point at which the Outfall 001 pipe outlet left the Plant property.

It should also be noted that the total absolute heat content of IMP 301 is very small since it only involves 0.013 MGD maximum, or 9 GPM, which is insignificant when compared to the receiving water flow rate.

Comment 4 (12/5/2018): Part A. I.D. and E. Pages 5 and 6 – Outfall 001 – Sewage Treatment Plant Stormwater and Furnace Cooling Tower: Prime Metals believes the monitoring requirement for the Temperature parameter should be deleted. As agreed to with the Department, we have evaluated the heat load from the only Subsource with potential heat loading (IMP 301 Induction Furnace Cooling Tower). The tower does not normally discharge and only discharges in winter to prevent freezing or during infrequent maintenance periods. During these very infrequent discharge periods, the discharge rate will be 1 gallon ***per hour***, or less. In September 2018, with the Plant in full operation, the Plant measured the ambient air temperature as 20.8 degrees C and the tower basin temperature as 23.8 degrees C, yielding a 3 degrees C temperature increase across the tower. Given the infrequent discharge periods and very low flow rate, an increase in temperature above ambient at Outfall 001 from IMP 301 will not be measurable.

DEP Response to Comment 4: Outfall 001 receives an effluent source bearing a thermal heat load. Therefore, DEP reasonably identified heat as a pollutant of concern. However, based on the updated information on the IMP 301 Induction Furnace Cooling Tower provided by PMA in December 2018, the 110°F temperature limit and monitoring requirement will be removed from Outfall 001. If cooling tower operations change, then PMA must notify DEP.

Comment 5 (9/22/2017): Part A. I.D. and E. Pages 5 and 6 – Outfall 001:
Total Aluminum, Total Iron and Total Manganese
These parameters should be deleted. We did not object to these limits being imposed on IMP 201 (stormwater). However, it is not appropriate to impose these parameters initially and in-turn as future TMDL limits on the combined Outfall 001 discharge. These parameters were appropriately not considered for IMPs 101 and 301 (sewage and cooling water, respectively) and accordingly should not be imposed on an Outfall made up by these subsources.

Comment 5 (12/5/2018): Part A. I.D. and E. Pages 5 and 6 – Outfall 001: Prime Metals believes the monitoring requirement for Total Aluminum, Total Iron and Total manganese parameters should be deleted. As agreed with the Department, we have reviewed the sampling data submitted for these parameters and found the values for Total Aluminum, and Total Manganese to be significantly lower than the limits specified for this Outfall proposed for the latter time period to be covered by the Permit. The Subsource contributors for this Outfall are not process related (not involved with metals production) and are not expected to contribute Total Iron.

In our meeting with you, it was also noted that the proposed 24-hr composite sampling frequency for the metals parameters was excessive and not consistent with the other Outfall parameters. In summary, the monitoring requirement for the Total Aluminum, Total Iron and Total Manganese parameters for Outfall 001 should be deleted.

DEP Response to Comment 5: Requirements for aluminum, iron, and manganese are imposed pursuant to a final TMDL, as required by 40 CFR § 122.44(d)(1)(vii)(B). DEP imposed monitoring for those metals at IMP 201 because that was a known source for those pollutants with concentrations exceeding water quality criteria. That DEP did not identify IMP 101's and IMP 301's effluent sources as contributors to the impairment does not mean that those metals aren't present in those sources and that they will not contribute metals loading in the watershed. Even a negligible contributor will contribute load, which is why EPA assigned aggregate wasteload allocations to negligible contributors. Furthermore, TMDL limits are necessarily imposed (pursuant to § 122.44(d)(1)(vii)(B)) at the location where an effluent source bearing a TMDL pollutant discharges to waters of the Commonwealth—in this case, at Outfall 001.

Internal Review and Recommendations

Since 40 CFR § 122.44(d)(1)(vii)(B) requires the TMDL limits to be imposed and since Prime Metals states that the metals concentrations are already significantly lower than the specified limits, the schedule of compliance will be removed and the limits for aluminum, iron, and manganese will take effect immediately.

Comment 6 (9/22/2017): Part A. I.F. Page 7 – IMP 102:
Monitoring of this IMP (building gutter drains) should be deleted in its entirety. This subsource is composed of uncontaminated roof collector stormwater runoff and there are no materials stored to or near this stormwater path.

It should be noted that the draft Permit appropriately did not impose monitoring requirements on similar contributors, namely Outfalls 004 through 009 – Underdrains (groundwater from stormwater).

Comment 6 (12/5/2018): Part A. I.F. Page 7 – IMP 102 – Interior Building Stormwater Drains: This IMP consists solely of uncontaminated roof runoff and accordingly we request deleting the draft requirement to monitoring this IMP in its entirety. It is our understanding that the Department agrees with this request and will delete monitoring of this IMP.

DEP Response to Comment 6: IMP 102 was included in the permit because Prime Metals identified IMP 102 as an internal monitoring location in the permit application. DEP will not require that Prime Metals maintain IMP 102, so it will be removed from the final permit. Groundwater and storm water are not directly comparable. Soil can act as a filtering medium for a groundwater discharge (assuming there is no leaching of pollutants from buried contaminant sources) whereas storm water runoff receives no such filtering.

Comment 7 (9/22/2017): Part A. I.I Page 10 – IMP 402: Flow, pH, Oil and Grease
The proposed sampling frequency is not necessary for environmental protection and very burdensome for future plant operations. The minimum sampling frequency for these parameters should be 1/month or preferably 1/quarter. Please be advised that this subsource has a very low flow rate and in recent history due to evaporation has not resulted in a discharge from the subsource's in-line Oil Water separator.

Comment 7 (12/5/2018): Part A. I.I. Page 10 – IMP 402 – Air Compressor Oil-Water Separator: It is our understanding that the Department will reduce the sampling frequency for this IMP to at most 2/quarter. Due to the deminimus nature of this Subsource contributor, it is our understanding that [the] Department is also willing to further considering lessening the sampling frequency based on information related to the deminimus nature of the discharge.

An Oil / Water separator was installed on the furnace air compressor and only generates water during periods of high humidity and higher ambient temperatures (greater than 70% and great[er] than 75 degrees F outside temperature). These conditions do not exist most of the year and when they do occur, it produces water at a rate of 1 gallon per hour. This very low flow rate is close to un-discernible where it combines into Outfall 002. Accordingly, the sampling frequency should be reduced to 1/Quarter or totally deleted.

DEP Response to Comment 7: Discharge flows and/or the potential for pollution is significant enough to have warranted the installation of an oil/water separator. PMA also reported an oil and grease concentration of 97.8 mg/L at IMP 402, so DEP has reasonable concerns about the concentrations of oil and grease and the effectiveness of the oil/water separator.

The monitoring frequency will be reduced to 2/quarter with two samples taken during the same calendar month to calculate an average.

Comment 8 (12/5/2018): Part A. I.J. and K. Pages 11 and 12 – Outfall 002 – Stormwater and Air Compressor OWS:
Sampling of the Outfall is redundant with the monitoring requirements imposed on IMPs 202 and 302. Accordingly, the sampling requirements for these IMPs or those for Outfall 002 should be deleted.

This Outfall is for all practical purposes composed of stormwater. If the sampling requirements are kept for the Outfall, the sampling frequency for the parameters designated as 1/quarter should be reduced to 1/6 months.

DEP Response to Comment 8: IMPs 202 and 302 were included in the permit because Prime Metals identified IMPs 202 and 302 as internal monitoring locations in the permit application. Even though those IMPs allow for better characterization of storm water runoff from different areas of the site, DEP will not require Prime Metals to maintain IMPs 202 and 302. Therefore, they will be removed from the permit. Monitoring requirements for Outfall 002 will remain in the permit with some modifications.

Internal Review and Recommendations

As shown in the Fact Sheet, Outfall 002 exhibited elevated concentrations of total suspended solids, (250 mg/L), iron (22 mg/L), aluminum (0.91 mg/L). However, since Outfall 002 is composed primarily of storm water and Outfall 002's storm water is the most likely source for elevated metals concentrations, DEP will remove the TMDL WQBELs for aluminum, iron, and manganese (including the schedule for TMDL limits) from Outfall 002 and reduce the monitoring frequency for Flow, pH, TSS, aluminum, iron, and manganese from 1/quarter to 1/6 months. TMDL parameters at Outfall 002 will require controls pursuant to the storm water benchmark values and corrective action plan requirements in the permit's storm water condition. As a result of those changes, PMA will first have an opportunity to reduce TMDL metals by improving its storm water best management practices. If PMA reports consecutive exceedances of the benchmark values and the corrective action plans required by the permit's storm water condition do not result in effluent concentration reductions of TMDL parameters, then DEP will consider imposing effluent limits as part of a future permitting action.

Comment 9 (9/22/2017): Part A. I.L. and M. Pages 13 and 14 – Outfall 003: Total Residual Chlorine and Free Available Chlorine
These parameters should be deleted. As previously noted, Prime Metals at one time was pursuing the use of furnace cooling system water treatment chemicals but as previously communicated to the Department, we are no longer doing so. Keeping these parameters would impose unneeded administrative sampling burden and lab analytical costs for a parameter not present in the discharge.

Comment 9 (12/5/2018): Part A. I.L. and M. Pages 13 and 14 – Outfall 003 – Furnace Cooling Tower: Please be advised that the Mold Machines #1 through #2 CT originally considered as future sources for this Outfall have not been installed and should be removed from the Outfall description on the DMR page. Also, it was verified that the CT for Small Induction Furnaces #1 and #2 was installed as a contributor to this Outfall.

As previously shared, Prime Metals does not use any chlorine or water treatment chemicals for this cooling tower. Accordingly, it is our understanding that the Department agrees to delete the FAC (Free Available Chlorine) and TRC (Total Residual Chlorine) parameters for this Outfall.

DEP Response to Comment 9: As explained in DEP Response to Comment 3, it is not necessary for PMA to add chlorine to the cooling tower for chlorine to be present in the discharge. PMA reported on the application that municipal water will be used for non-contact cooling water makeup. Potable water from municipal suppliers contains residual chlorine and dischargers are liable for any chlorine-related impacts from such discharges (see DEP's fact sheet for "Planned and Unplanned Discharges of Chlorinated Water to Surface Waters", Doc. No. 3830-FS-DEP4861). In the absence of data on chlorine levels in the effluent, the Free Available Chlorine limits will remain at Outfall 003, but the monitoring frequencies for Free Available Chlorine and TRC will be reduced to 2/month.

Comment 10: Flow and temperature requirements at Outfall 003

(9/22/2017) Part A. I.L. and M. Pages 13 and 14 – Outfall 003 Flow
The proposed sampling frequency is not necessary for environmental protection and very burdensome for future plant operations. The minimum sampling frequency for this parameter should be made consistent with the remaining parameter frequency, namely at most 1/week or preferably 2/month, as shown in the draft Permit for the remaining parameters (except temperature).

(9/22/2017) Part A. I.L. and M. Pages 13 and 15 – Outfall 003: Temperature, Flow
The proposed continuous sampling frequency is not necessary for environmental protection and very burdensome for future plant operations. Like IMP 301, the sampling method for this parameter should be "measured."

(9/22/2017) Part A. I.M. and M. Pages 14 and 15 – Outfall 003: Monthly Temperature
This parameter should be deleted. The rationale used by the Department is understood but is not appropriate for this discharge since it is far removed from the point where it enters the receiving water (approximately 500 feet removed and flowpath is through a dry ditch). The anticipated flow volume is 0.031 MGD maximum, or 21.5 GPM maximum. Accordingly, it is expected that the receiving water will either not receive a thermal discharge due to evaporation and ground infiltration or receive a discharge that is at ambient temperature.

Like the above discussion, the temperature measurement point if it were to be imposed is considered by Prime Metals to be the point at which the actual discharge would enter the receiving water.

Internal Review and Recommendations

(12/5/2018) Part A. I.L. and M. Pages 13 and 14 – Outfall 003 – Furnace Cooling Tower: The proposed daily measurement frequency for Flow should be made consistent with the remaining parameter frequency, namely 2/month. It is our understanding that the Department will consider this revision based on Prime Metals providing additional information related to the deminimus nature of the IMP heat load. This information is provided below:

In our meeting with you, it was also noted that the proposed 24-hr composite sampling frequency for TSS, Total Aluminum, Total Iron and Total Manganese is excessive and not consistent with the other Outfall parameters. It is not practical and may not be feasible for a composite sampler since we have determined that the Outfall flow rate is approximately 1 gallon per minute. The sampling frequency should be revised to a "Grab" sample.

The TSS and three (3) metals comment also applies to Part A. I.L. and M. Pages 13 through 15 – Outfall 003 as well.

(12/5/2018) Part A. I.L. and M. Pages 13 through 15 – Outfall 003, and Part A. I.M. Pages 14 and 15 – Outfall 003

Monthly and Seasonably Variable Temperature

The Monthly and Seasonably Variable Temperature monitoring requirements should be deleted. It is our understanding that the Department will consider this comment based on Prime Metals providing additional information related to the deminimus nature of the Outfall heat load, as provided below.

It must be noted that the cooling tower associated with this Outfall is very small as compared to much, much larger towers associated with power plants or basic steel or iron production. As agreed to with the Department, we have evaluated the heat load from the Small Induction Furnace which is the only source with potential heat loading to Outfall 003. The furnace cooling tower discharges at a rate of 1 gallon per minute year round. In September 2018, with the Plant in full operation, the Plant measured the ambient air temperature as 20.8 degrees C, the tower basin temperature at 31.5 degrees C and the Outfall at 21.7 degrees C, yield close to a 10 degrees C temperature drop across the Outfall flowpath before it entered the receiving water on the south property line. As previously expressed to the Department, this outcome is expected since the flowpath from the Plant to the outfall is open air dirt ditch approximately 400 feet long. It is expected that during dry weather conditions no water will reach the receiving water due to infiltration. In summary, we expected little to no heat load on the receiving water under all season and ambient air conditions and believe that no temperature monitoring requirements should be applied to this Outfall.

DEP Response to Comment 10: DEP considers temperature limits to be appropriate for Outfall 003 to the extent that Outfall 003's discharges reach unnamed tributary 44227 to Two Lick Creek.

25 Pa. Code § 96.4(g) requires mathematical modeling for compliance with fish and aquatic life water quality criteria (including temperature criteria) to be conducted at Q_{7-10} flow, which is the actual or estimated lowest 7 consecutive-day average flow that occurs once in 10 years for a stream with unregulated flow, or the estimated minimum flow for a stream with regulated flow. 25 Pa. Code § 96.3(f) states that:

> When the minimum flow of a stream segment is determined or estimated to be zero, applicable water quality criteria shall be achieved at least 99% of the time at the first downstream point where the stream is capable of supporting existing or designated uses.

As PMA states, Outfall 003 discharges to a dry ditch. Since the Q_{7-10} flow of the ditch is zero (apart from any flow from Outfall 003's discharges), DEP modeled the discharge from Outfall 003 at the nearest downstream point where the stream is capable of supporting existing and designated uses consistent with § 96.3(f). That point was determined to be unnamed tributary 44227 to Two Lick Creek, located southeast of the PMA building, at the point where the ditch meets the unnamed tributary. The Q_{7-10} of the tributary was estimated to be 0.0299 cfs or about 13.42 gpm. The average and maximum flows from Outfall 003 are 8.33 gpm and 21.5 gpm, which constitute a significant portion of the tributary's Q_{7-10} flow or alternatively exceed the Q_{7-10} flow of the stream, which would make the stream effluent dominated. Based on those estimations, discharges from Outfall 003 could have a significant impact on the receiving stream.

In response to PMA's comments, DEP has re-evaluated Outfall 003's temperature WQBELs using a revised discharge flow of 1 gpm (0.00144 MGD) presuming that the cooling tower is the sole contributor of thermal loading with that continuous discharge being the source most likely to affect 24-hour average stream temperatures. Based on the revised analysis, some monthly and semi-monthly temperature WQBELs apply as summarized in the table below.

Internal Review and Recommendations

Temperature Criteria, Ambient Stream Temperatures, and WQBELs for Outfall 003

Limiting Period	Temperature (°F)			
	CWF Criterion	Ambient Stream (Default)	Ambient Stream (Site-Specific)	Maximum Daily Limit
January 1 – 31	38	34	32.4	110.0
February 1 – 29	38	35	34.7	110.0
March 1 – 31	42	39	41.1	110.0
April 1 – 15	48	46	47.4	110.0
April 16 – 30	52	52	53.5	110.0
May 1 – 15	54	55	57.6	110.0
May 16 – 31	58	59	62.3	110.0
June 1 – 15	60	63	65.1	106.4
June 16 – 30	64	67	66.5	107.8
July 1 – 31	66	71	69.4	93.2
August 1 – 15	66	70	69.1	88.9
August 16 – 31	66	70	69.8	89.6
September 1 – 15	64	66	68.1	83.9
September 16 – 30	60	60	61.9	77.7
October 1 – 15	54	55	57.4	74.5
October 16 – 31	50	51	51.3	68.4
November 1 – 15	46	46	45.5	68.0
November 16 – 30	42	40	38.9	108.6
December 1 – 31	40	35	38.7	81.9

Since the temperature evaluation was performed at the point where the ditch intercepts unnamed tributary 44227 to Two Lick Creek, compliance with the temperature limits must be determined at that location. If Outfall 003's discharges infiltrate before reaching the unnamed tributary as PMA suggests, then PMA would report temperature results in eDMR using a No Discharge Indicator ("NODI") Code. Sampling at the end of the ditch where the ditch empties into unnamed tributary 44227 only applies for WQBELs including the temperature limits in the table above, TRC limits, and the aluminum, iron, and manganese TMDL WQBELs. All other limits at Outfall 003 are technology-based limits that must be achieved where the pipe from the facility discharges into the ditch.

Compliance Schedule and Monitoring Frequencies

Pursuant to PMA's expectation that no water will reach the unnamed tributary due to infiltration, the compliance schedule for temperature limits will be removed. The temperature of wet weather discharges may be mitigated by storm water and/or groundwater contributions. The monitoring frequencies for temperature will be changed to 1/month consistent with the reduced (but nonetheless existing) potential for impacts resulting from the use of a lower flow rate for temperature WQBELs. The monitoring frequency for flow will be changed to 2/month and the sample type for TSS, aluminum, iron, and manganese will be changed to 'Grab'.

Comment 11 (9/22/2017): Part A. I.N. through S. Pages 16 through 21 – Outfalls 004 through 009: Please be advised that the Stone Underdrains originally considered as future Outfalls 004 through 009 have not been installed and should be deleted as DMR pages.

DEP Response to Comment 11: Outfalls 004 through 009 will be removed from the permit. If PMA proposes to install any of those outfalls in the future, then the permit must be modified to include them before they are installed.

Comment 12 (9/22/2017): Part A. I.T. and U Pages 22 and 23 – Outfall 010, and Part A.I.V and W Pages 24 and 25 – Outfall 011:
Monitoring of these Outfalls (building roof drains) should be deleted in their entirety. These sources are composed of uncontaminated roof collector stormwater runoff and there are no materials stored adjacent to or near these stormwater paths.

Internal Review and Recommendations

It should be noted that the draft permit appropriately did not impose monitoring requirement on similar contributors, namely Outfalls 004 through 009 – Underdrains (groundwater from stormwater).

Comment 12 (12/5/2018): Part A. I.T. and U Pages 22 and 23 – Outfall 010, and Part A.I.V and W Pages 24 and 25 – Outfall 011 – Building Roof Drain Runoff: The discharges consist of un-contaminated yard stormwater runoff. Consistent with Department Policy for monitoring un-contaminated stormwater runoff, the sampling frequency specified for Flow, pH, TSS, Total Aluminum, Total Iron and Total Manganese should be revised to 1/6 months. This would also be consistent with the sampling frequency for remaining parameters listed for these Outfalls and what was proposed for IMP 302.

DEP Response to Comment 12: Prime Metals did not identify storm water discharges from Outfalls 010 and 011 as uncontaminated outfalls in the NPDES permit application. The procedure for identifying a storm water discharge as an uncontaminated storm water discharge involves the completion of a No Exposure Certification checklist. Prime Metals did not certify that storm water discharges are not exposed to industrial activities, so DEP imposed requirements presuming that those discharges are exposed to industrial activities. Additionally, regardless of whether DEP received a No Exposure Certification for Outfalls 010 and 011, analytical results do not support PMA's claim that discharges are not exposed given the elevated concentrations of TSS (140 mg/L), aluminum (4.96 mg/L), and iron (11.69 mg/L).

Notwithstanding the preceding, DEP will remove the TMDL WQBELs for aluminum, iron, and manganese (including the schedule for TMDL limits) from Outfalls 010 and 011 and reduce the monitoring frequency for Flow, pH, TSS, aluminum, iron, and manganese from 1/quarter to 1/6 months. TMDL parameters at Outfalls 010 and 011 will require controls pursuant to the storm water benchmark values and corrective action plan requirements in the permit's storm water condition. As a result of those changes, PMA will first have an opportunity to reduce TMDL metals by improving its storm water best management practices. If PMA reports consecutive exceedances of the benchmark values and the corrective action plans required by the permit's storm water condition do not result in effluent concentration reductions of TMDL parameters, then DEP will consider imposing effluent limits as part of a future permitting action.

Storm water and groundwater are not directly comparable. The characteristics of storm water runoff from PMA's facility depends on activities conducted by PMA and the presence of pollutant sources in the area draining to each outfall. Groundwater, if impacted by PMA's activities via infiltrated storm water from PMA's facility, will be filtered by soils, which is why DEP did not impose any requirements on the groundwater discharges.

Comment 13 (9/22/2017): Part A. I.X and Y Pages 26 and 27 – Outfall 012, and Part A. I.Z and AA Pages 28 and 29 – Outfall 013

Flow, pH, Total Suspended Solids, Total Aluminum, Total Iron and Total Manganese
The proposed sampling frequency is not necessary for environmental protection and very burdensome for future plant operations. The minimum sampling frequency for these parameters should be 1/6 months to be consistent with the frequency imposed for other stormwater outfalls.

Comment 13 (12/5/2018): Part A. I.X and Y Pages 26 and 27 – Outfall 012 – Pour Pit Groundwater and Roof Drainage, and Part A. I.Z and AA Pages 28 and 29 – Outfall 013 – Furnace Area Sump Groundwater and Roof Drainage

The discharges consist of un-contaminated groundwater and yard stormwater runoff. Consistent with Department Policy for monitoring un-contaminated stormwater runoff, the sampling frequency specified for Flow, pH, TSS, Total Aluminum, Total Iron and Total Manganese should be revised to 1/6 months. This would also be consistent with the sampling frequency specified for remaining parameters listed for these Outfalls and what was proposed for IMP 302.

DEP Response to Comment 13: Discharges from Outfalls 012 and Outfall 013 exhibited significant concentrations of TMDL metals. Specifically, iron concentrations were over 300 mg/L (compared to a water quality criterion of 1.5 mg/L) and manganese concentrations were over 5 mg/L (compared to a water quality criterion of 1.0 mg/L). Discharges at those levels would contribute to the impairment of the receiving streams. Notwithstanding the exorbitant effluent concentrations, DEP will modify the permit requirements for Outfalls 012 and 013 so that they are align with those for Outfalls 010 and 011. TMDL WQBELs for aluminum, iron, and manganese (including the schedule for TMDL limits) will be removed from Outfalls 012 and 013 and the monitoring frequency for Flow, pH, TSS, aluminum, iron, and manganese will be reduced from 1/quarter to 1/6 months. TMDL parameters at Outfalls 012 and 013 will require controls pursuant to the storm water benchmark values and corrective action plan requirements in the permit's storm water condition. As a result of the changes, PMA will have an opportunity to reduce TMDL metals by improving its storm water best management practices. If PMA reports consecutive exceedances of the benchmark values and the

Internal Review and Recommendations

corrective action plans required by the permit's storm water condition do not result in effluent concentration reductions of TMDL parameters, then DEP will consider imposing effluent limits as part of a future permitting action.

Comment 14 (9/22/2017): Part A. I.BB and CC. Pages 30 and 31 – Outfall 014:
Monitoring of this Outfall (building roof drains) should be deleted in its entirety. The source is composed of uncontaminated roof collector stormwater runoff and there are not materials stored adjacent to or near this stormwater path.

It should be noted that the draft Permit appropriately did not impose monitoring requirements on similar contributors, namely Outfalls 004 through 009 – Underdrains (groundwater from stormwater).

Comment 14 (12/5/2018): Part A. I.BB and CC. Pages 30 and 31 – Outfall 014 – Yard and Roof Stormwater: The discharges consist of un-contaminated yard stormwater and direct runoff. Consistent with Department Policy for monitoring un-contaminated stormwater runoff, the sampling frequency specified for Flow, pH, TSS, Total Aluminum, Total Iron and Total Manganese should be revised to 1/6 months. This would be consistent with the sampling frequency specified for remaining parameters listed for these Outfalls and what was proposed for IMP 302.

DEP Response to Comment 14: See DEP's Responses to Comments 12 and 13. Monitoring frequencies for TMDL parameters will be reduced from 1/quarter to 1/6 months. Storm water pollution control will be required by the permit's storm water condition and benchmark values.

Comment 15 (12/5/2018): Part A. Page 32 – Supplemental Information: It was noted that the effluent limitations for Outfalls 001 and 003 were determined using effluent discharge rates of 0.018 MGD and 0.031 MGD, respectively.

Outfall 001

The maximum value given by Prime Metals in the Application for Outfall 001 was 0.018 MGD based on a permitted Sewage Plant flow of 0.005 MGD (IMP 101) and an estimated flow of 0.013 MGD for the Induction Furnace Cooling Tower (IMP 301). As noted previously in this comment set, it was noted that Prime Metals evaluated the cooling tower source contributor and found that IMP 301 Induction Furnace Cooling Tower does not normally discharge and only discharges in winter to prevent freezing or during infrequent maintenance periods.

During these very infrequent discharge periods, the discharge rate will be 1 gallon ***per hour***, or less. Accordingly, the tower maximum flow rate should be revised to:

Induction Furnace #1 and #2 blowdown – 1 GPH
Max daily flow = 1 GPH x 24 hr/day = 24 GPD, negligible

Similarly, the maximum flow value for determining effluent limitations for Outfall 001 should be only the Sewage Plant maximum flow of 0.005 MGD.

Outfall 003

The maximum value given by Prime Metals in the Application for Outfall 003 was 0.031 MGD based on an estimated Mold Machine and Induction Furnace Cooling Towers flow of 0.017 MGD and an estimated flow of 0.014 MGD from the AOD Furnace groundwater collection sump. As noted previously in this comment set, it was noted that Prime Metals evaluated the cooling tower source contributors and noted that the Mold Machine cooling tower was not installed and also that the Induction Furnace Cooling Tower only discharges at a rate of 1 gallon per minute hour [sic]. Accordingly, the tower maximum flow rate should be revised to:

Induction Furnace blowdown – 1 GPM
Max daily flow = 1 GPM x 60 minutes/hr x 24 hr/day = 1,440 GPD = 0.0014 MGD

Similarly, the maximum flow value for determining effluent limitations for Outfall 003 should be (0.014 + 0.0014) MGD = 0.0154 MGD.

DEP Response to Comment 15: Outfall 001 is modeled again using the sewage flow rate of 0.005 MGD. A re-evaluation is also warranted due to changes to the ammonia-nitrogen criteria in 25 Pa. Code Chapter 93 that were finalized in early 2021.

Internal Review and Recommendations

Based on the revised analysis using DEP's WQM 7.0 modeling program, no WQBELs apply for ammonia-nitrogen

With respect to Outfall 003, refer to DEP's Response to Comment 10.

Comment 16 (12/5/2018): Part C. III Page 49 – Requirements For Total Residual Chlorine (TRC)

As previously noted in this comment set, Prime Metals does not use chlorine as a water treatment chemical for the Outfall 003 cooling tower. Accordingly, this section should be deleted in its entirety.

DEP Response to Comment 16: See DEP's Responses to Comments 3 and 9.

Comment 17 (12/5/2018): Part C.IV Pages 49 and 50 – Schedule of Compliance For Temperature Limitations At Outfall 003 As previously noted in this comment set, Prime Metals we expect little to no heat load on the Outfall 003 receiving water under all seasonal and ambient air conditions and believe that no temperature monitoring requirements should be applied to this Outfall. Accordingly, this section should be deleted in its entirety.

DEP Response to Comment 17: See DEP's Response to Comment 10.

Comment 18 (12/5/2018): Part C. IV F.6 Page 56 – Requirements Applicable To Stormwater Outfalls: The Action levels specified in the Table that were given for Total Iron and Total Manganese are significantly lower than the discharge limits given in the draft Permit (3.0 and 2.0 mg/l, respectively) and should be increased to those higher values.

DEP Response to Comment 18: The benchmark values for Total Iron and Total Manganese will be updated to 3.0 mg/L and 2.0 mg/L. The 3.0 mg/L and 2.0 mg/L limits are maximum values that are appropriate for the acute effects resulting from intermittent storm water discharges.

Comment 19 (12/5/2018): Site Plan Outfall and IMP Subsource Field Survey and Revisions

Prime Metals has conducted a field survey and review of the Outfalls and related Subsource contributors shown on the Site Plan Map submitted in the Application. That Plan showed the various Outfalls and Source contributors that were known or at that time intended as Future. Following the review, the following Site Plan Map revisions were determined and are now shown on the attached revised Site Plan Map:

Outfall 001

Subsource 201 – Stormwater – SW Yard Drainage

It was determined that Subsource Future Stormwater Piping, as identified in the current Application, was not installed and the Plant has no intention to do so. Rainfall from this roof area drains into a swale that does not have a land or piping collection and discharge point.

However, it was identified that roof downcomers located behind the Subsource 301 Induction Furnace #1 and 2 Cooling Tower is piped to an inlet box where it combines with Subsource 301. This new source contributor is now identified as Subsource 201.

Outfall 002 – Stormwater Pond Overflow

Subsource 302 – Stormwater – NE Yard Drainage Swale

Subsource 302 Stormwater NE Yard Drainage Swale was constructed but not shown on the Site Plan Map. It is now called out on the revised Plan.

Outfall 003

Internal Review and Recommendations

The Plan called out Mold Machine #1 and #2 Cooling Tower, which was not installed. This reference has been deleted on the revised Plan. Also, it was verified that the CT for Small Induction Furnaces #1 and #2 was installed as a contributor to this Outfall and is now called out on the Plan.

Outfalls 004 through 009

The Site Plan notes these Outfalls originating from six (6) Future Stone Underdrains which were not installed. These references have been deleted on the revised Plan.

Outfall 010

The Site Plan notes an existing 10-inch CMP pipe and intended replacement with an 18-inch HDPE pipe. The CMP pipe replacement did not occur and this reference has been deleted on the revised Plan.

Outfall 011

The Site Plan notes a Future 15 inch HDPE pipe which was not installed. This reference has been deleted on the revised Plan.

Outfall 014

The Site Plan notes an existing 12-inch Terra Cotta pipe and intended replacement with an 18 inch HDPE pipe. The Terra Cotta pipe replacement did not occur and this reference has been deleted on the revised Plan.

DEP Response to Comment 19: DEP acknowledges these modifications. The effluent types are updated as necessary in the permit.

Other Changes

The NPDES permit will be updated to be consistent with DEP's current standard permit language. The compliance schedule for TMDL limits at Outfall 003 will be updated to include more detailed requirements and a reduced timeframe for implementation (two years from three years) consistent with 25 Pa. Code § 92a.51(a)'s requirement that compliance with final limits be achieved "as soon as practicable". The draft permit's schedule of compliance pre-dated substantial changes to DEP's schedule of compliance permit requirements, which were redeveloped with input from the U.S. Environmental Protection Agency. The schedule is modified to be consistent with current policies. The schedule of compliance for TRC limits also will be reduced to two years. Notwithstanding the opportunity for PMA to collect site-specific data to modify the TRC WQBELs, elevated TRC concentrations can be addressed in short order with the installation of dechlorination systems.

Conditions pertaining to the treatment of sewage are added to Part C of the permit including prohibitions on the types of wastewaters that can be directed to the sewage treatment plant; solids management and reporting requirements; and abandonment requirements following any Act 537 planning changes that result in the treatment of sewage from this facility at another planned facility (e.g., a publicly owned treatment works).

Due to the amount of time that has passed since the permit was first drafted in 2017 and due to the substantial changes made to the permit in response to comments, the revised draft permit will be published for a second 30-day comment period.

Outfall: 003
Facility: Prime Metals & Alloys Homer City Plant
Permit Number: PA0041378 **PMF** 1.00
Stream Name: UNT 44227 to Two Lick Creek
Analyst/Engineer: Ryan Decker
Stream Q7-10 (cfs): 0.0299

	Facility Flows				Stream Flows		
	Intake (Stream) (MGD)	Intake (External) (MGD)	Consumptive Loss (MGD)	Discharge Flow (MGD)	Upstream Stream Flow (cfs)	Adjusted Stream Flow (cfs)	Downstream Stream Flow (cfs)
Jan 1-31	0	0.00144	0	0.00144	0.10	0.10	0.10
Feb 1-29	0	0.00144	0	0.00144	0.10	0.10	0.11
Mar 1-31	0	0.00144	0	0.00144	0.21	0.21	0.21
Apr 1-15	0	0.00144	0	0.00144	0.28	0.28	0.28
Apr 16-30	0	0.00144	0	0.00144	0.28	0.28	0.28
May 1-15	0	0.00144	0	0.00144	0.15	0.15	0.15
May 16-30	0	0.00144	0	0.00144	0.15	0.15	0.15
Jun 1-15	0	0.00144	0	0.00144	0.09	0.09	0.09
Jun 16-30	0	0.00144	0	0.00144	0.09	0.09	0.09
Jul 1-31	0	0.00144	0	0.00144	0.05	0.05	0.05
Aug 1-15	0	0.00144	0	0.00144	0.04	0.04	0.04
Aug 16-31	0	0.00144	0	0.00144	0.04	0.04	0.04
Sep 1-15	0	0.00144	0	0.00144	0.03	0.03	0.04
Sep 16-30	0	0.00144	0	0.00144	0.03	0.03	0.04
Oct 1-15	0	0.00144	0	0.00144	0.04	0.04	0.04
Oct 16-31	0	0.00144	0	0.00144	0.04	0.04	0.04
Nov 1-15	0	0.00144	0	0.00144	0.05	0.05	0.05
Nov 16-30	0	0.00144	0	0.00144	0.05	0.05	0.05
Dec 1-31	0	0.00144	0	0.00144	0.07	0.07	0.07

Version 2.0 -- 07/01/2005 Reference: Implementation Guidance for Temperature Criteria, DEP-ID: 391-2000-017
NOTE: The user can only edit fields that are blue.
NOTE: MGD x 1.547 = cfs.

Facility: **Prime Metals & Alloys Homer City Plant**
Permit Number: PA0041378
Stream: Two Lick Creek

	WWF Criteria (ºF)	CWF Criteria (ºF)	TSF Criteria (ºF)	316 Criteria (ºF)	Q7-10 Multipliers (Used in Analysis)	Q7-10 Multipliers (Default - Info Only)
Jan 1-31	40	38	40	0	3.2	3.2
Feb 1-29	40	38	40	0	3.5	3.5
Mar 1-31	46	42	46	0	7	7
Apr 1-15	52	48	52	0	9.3	9.3
Apr 16-30	58	52	58	0	9.3	9.3
May 1-15	64	54	64	0	5.1	5.1
May 16-31	72	58	68	0	5.1	5.1
Jun 1-15	80	60	70	0	3	3
Jun 16-30	84	64	72	0	3	3
Jul 1-31	87	66	74	0	1.7	1.7
Aug 1-15	87	66	80	0	1.4	1.4
Aug 16-31	87	66	87	0	1.4	1.4
Sep 1-15	84	64	84	0	1.1	1.1
Sep 16-30	78	60	78	0	1.1	1.1
Oct 1-15	72	54	72	0	1.2	1.2
Oct 16-31	66	50	66	0	1.2	1.2
Nov 1-15	58	46	58	0	1.6	1.6
Nov 16-30	50	42	50	0	1.6	1.6
Dec 1-31	42	40	42	0	2.4	2.4

Notes:
WWF = Warm water fishes
CWF = Cold water fishes
TSF = Trout stocking

Outfall: **003**
Facility: **Prime Metals & Alloys Homer City Plant**
Permit Number: PA0041378 **PMF**
Stream: Two Lick Creek 1.00

	CWF Ambient Stream Temperature (ºF) (Default)	Ambient Stream Temperature (ºF) (Site-specific data)	Target Maximum Stream Temp.[1] (ºF)	**CWF** Daily WLA[2] (Million BTUs/day)	**CWF** Daily WLA[3] (ºF)	at Discharge Flow (MGD)
Jan 1-31	34	32.4	38	N/A -- Case 2	110.0	0.00144
Feb 1-29	35	34.7	38	N/A -- Case 2	110.0	0.00144
Mar 1-31	39	41.1	42.1	N/A -- Case 2	110.0	0.00144
Apr 1-15	46	47.4	48.4	N/A -- Case 2	110.0	0.00144
Apr 16-30	52	53.5	54.5	N/A -- Case 2	110.0	0.00144
May 1-15	55	57.6	58.6	N/A -- Case 2	110.0	0.00144
May 16-31	59	62.3	63.3	N/A -- Case 2	110.0	0.00144
Jun 1-15	63	65.1	66.1	N/A -- Case 2	106.4	0.00144
Jun 16-30	67	66.5	67.5	N/A -- Case 2	107.8	0.00144
Jul 1-31	71	69.4	70.4	N/A -- Case 2	93.2	0.00144
Aug 1-15	70	69.1	70.1	N/A -- Case 2	88.9	0.00144
Aug 16-31	70	69.8	70.8	N/A -- Case 2	89.6	0.00144
Sep 1-15	66	68.1	69.1	N/A -- Case 2	83.9	0.00144
Sep 16-30	60	61.9	62.9	N/A -- Case 2	77.7	0.00144
Oct 1-15	55	57.4	58.4	N/A -- Case 2	74.5	0.00144
Oct 16-31	51	51.3	52.3	N/A -- Case 2	68.4	0.00144
Nov 1-15	46	45.5	46.5	N/A -- Case 2	68.0	0.00144
Nov 16-30	40	38.9	42	N/A -- Case 2	108.6	0.00144
Dec 1-31	35	38.7	40	N/A -- Case 2	81.9	0.00144

[1] This is the maximum of the WWF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for WWF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1ºF above ambient stream temperature is allocated.

[2] The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.

[3] The WLA expressed in ºF is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110ºF are displayed as 110ºF.

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18D	44073	TWO LICK CREEK	8.800	1030.00	95.70	0.00260	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.073	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	25.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Outfall 001	PA0041378	0.0050	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.38	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18D	44073	TWO LICK CREEK	7.800	1016.00	97.30	0.00260	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.073	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	25.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☑
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18D	44073	TWO LICK CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
8.800	6.99	0.00	6.99	.0077	0.00260	.742	43.47	58.57	0.22	0.282	24.99	7.00
Q1-10 Flow												
8.800	4.47	0.00	4.47	.0077	0.00260	NA	NA	NA	0.17	0.362	24.99	7.00
Q30-10 Flow												
8.800	9.50	0.00	9.50	.0077	0.00260	NA	NA	NA	0.26	0.237	25.00	7.00

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18D	44073	TWO LICK CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
8.800	Outfall 001	11.08	50	11.08	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
8.800	Outfall 001	1.37	25	1.37	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
8.80	Outfall 001	25	25	25	25	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18D	44073	TWO LICK CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
8.800	0.005	24.994	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
43.467	0.742	58.572	0.217
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.03	0.016	0.03	1.028
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.374	6.030	Tsivoglou	5
Reach Travel Time (days)			
0.282			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.028	2.02	0.03	7.54
0.056	2.02	0.03	7.54
0.085	2.02	0.03	7.54
0.113	2.02	0.02	7.54
0.141	2.02	0.02	7.54
0.169	2.02	0.02	7.54
0.197	2.02	0.02	7.54
0.225	2.02	0.02	7.54
0.254	2.02	0.02	7.54
0.282	2.01	0.02	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18D	44073	TWO LICK CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
8.800	Outfall 001	PA0041378	0.005	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3