

Application Type Renewal  
Facility Type Industrial  
Major / Minor Major

**NPDES PERMIT FACT SHEET  
ADDENDUM**

Application No. PA0001627  
APS ID 774001  
Authorization ID 916425

**Applicant and Facility Information**

Applicant Name	<u>NRG Power Midwest LP</u>	Facility Name	<u>Cheswick Generating Station</u>
Applicant Address	<u>P.O. Box 65</u> <u>Cheswick, PA 15024</u>	Facility Address	<u>151 Porter Street</u> <u>Springdale, PA 15144-1452</u>
Applicant Contact	<u>Steve Frank</u>	Facility Contact	<u>Steve Frank</u>
Applicant Phone	<u>724-249-3610</u>	Facility Phone	<u>724-249-3610</u>
Client ID	<u>141195</u>	Site ID	<u>245779</u>
SIC Code	<u>4911</u>	Municipality	<u>Springdale Borough</u>
SIC Description	<u>Trans. &amp; Utilities - Electric Services</u>	County	<u>Allegheny</u>
Date Published in PA Bulletin	<u>January 13, 2018</u>	EPA Waived?	<u>No</u>
Comment Period End Date	<u>February 12, 2018*</u>	If No, Reason	<u>Major Facility</u>
Purpose of Application	<u>Application for a renewal of an NPDES permit for discharge of treated Industrial Waste.</u>		

\* Cheswick requested and was granted a 15-day extension

**Internal Review and Recommendations**

The Department of Environmental Protection (DEP) published a draft NPDES permit for the Cheswick Generating Station (Cheswick) on January 13, 2018. Written comments were received from the Sierra Club and Cheswick during the public comment period. A public hearing was requested and held on April 25, 2018 at Springdale Area Jr./Sr. High School. Notice of the public hearing was published in the PA bulletin on March 24, 2018 and allowed anyone unable to attend the hearing to submit public comments up to 10 days after the hearing date. Twenty-two (22) people spoke at the public hearing and written comments were submitted by an additional two people. This document will summarize the changes made for the final permit in response to comments received. DEP's responses to comments received during the public comment period and public hearing are presented in **Attachment A**.

**Monitoring Frequency at Outfall 002**

Cheswick has requested a performance-based reduction in monitoring frequency at Outfall 002, the discharge from the Monarch Mine Dewatering Plant (MMDP). DEP reviewed Cheswick's request using EPA's Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies (April 1996). A performance analysis was completed and is provided in **Table 1** below.

Long-Term Effluent Averages were calculated using the Average Monthly values reported on DMRs from May 2012 - April 2018. Note that a majority of the data was reported as non-detect. Where the ratio of the Long-Term Monthly Average (LTA) to the Monthly Average Limit (AML) is below 50%, the Interim Guidance states monitoring frequency may be reduced. As shown in Table 1, the LTA/AML ratio is less than 50% for Total Beryllium, Total Copper, Total Selenium, Total Silver and Total Thallium. DEP will provide a reduction in monitoring frequency from 1/week to 2/month for these pollutants, as well as for Free Cyanide and TRC, which are not subject to numeric effluent limits.

Neither Total Cadmium nor Hexavalent Chromium meet that threshold by the above calculations. For Cadmium, Cheswick reported a non-detect using a quantitation limit (QL) of 0.0002 mg/L on each of their DMRs, which is DEP's Target QL (TQL)

Approve	Return	Deny	Signatures	Date
X			Maria Schumack, P.E. / Environmental Engineer	July 11, 2018
X			Sean M. Furjanic, P.E. / Environmental Program Manager	July 11, 2018

**Internal Review and Recommendations**

for Cadmium. Since the TQL was consistently met and non-detect results are not addressed by the Interim Guidance, DEP will allow a reduction in monitoring frequency to 2/month for Cadmium.

The results for Hexavalent Chromium were also consistently reported as non-detect. Until January 2016, a QL of 0.005 mg/L was used by Cheswick. Beginning in February of 2016, results were reported with a more sensitive a QL of 0.002 mg/L. The Interim Guidance allows for the use of a minimum of 2 years of data; since Cheswick has consistently reported non-detects for Hexavalent Chromium, DEP will allow the Long-Term Monthly Average to be calculated using only the two most recent years. If a Long-Term Monthly Average of 0.002 mg/L is used to calculate the ratio, the result is 33%, which provides for reduced monitoring. DEP agrees to reduce monitoring to 2/month.

**Table 1 – Evaluation of Outfall 002 Pollutants for Reduced Monitoring Frequency**

Parameter	LTA (mg/L)	AML (mg/L)	(LTA / AML)
Osmotic Pressure	36.92	50	74%
Total Beryllium	<0.0005	0.01	5%
Total Cadmium	<0.0002	0.0003	67%
Hexavalent Chromium	<0.0039	0.006	64%
Total Copper	<0.0012	0.009	13%
Free Cyanide	<0.02	M&R	N/A
Total Selenium	<0.0022	0.005	43%
Total Silver	<0.0005	0.003	17%
Total Thallium	<0.0005	0.004	25%
TRC	<0.083	M&R	N/A

Monitoring frequencies for the parameters for which Little Deer Creek is impaired, including Total Aluminum, Total Iron, and Total Manganese, will remain at weekly monitoring. Total Suspended Solids (TSS), Osmotic Pressure, Total Dissolved Solids (TDS) and its constituents Sulfate, Bromide and Chloride will also remain at weekly monitoring.

**Parameter Removal from Outfall 002**

As discussed in the Fact Sheet for the draft permit, some of the QLs used by Cheswick for the permit application were not sensitive enough to rule out reasonable potential. Those parameters are Total Antimony, Total Arsenic, Total Lead, Benzo(a)Anthracene, Benzo(a)Pyrene, 3,4-Benzofluoranthene, Benzo(k)Fluoranthene, Chrysene, Dibenzo(a,h)Anthracene, Hexachlorobutadiene, Indeno(1,2,3-cd)Pyrene, n-Nitrosodiphenylamine, and Phenanthrene. As shown in the updated Toxics Screening Analysis (see **Attachment B**), those parameters are no longer parameters of concern based on updated sampling results submitted by Cheswick and will be removed.

**Flow Monitoring Outfalls 002 & 004**

Flow monitoring at Outfalls 002 and 004 was established as “Recorded” for Sample Type and “Continuous” for Sample Frequency in the draft permit. In the previous permit, flow monitoring requirements were “Measured” and 1/week for Sample Type and Frequency, respectively. Cheswick has indicated it does not currently have technology at either outfall to measure flow continuously. DEP has determined that it is not critical for these discharges to be monitored continuously; therefore, flow monitoring requirements will be updated to “Measured” for Sample Type and 1/day for Frequency.

**Parameter Removal from IMP 203/303**

As discussed in the Fact Sheet for the draft permit, the QL for Total Thallium used by Cheswick for the permit application was not sensitive enough to rule out reasonable potential. As shown in the updated Toxics Screening Analysis (see **Attachment B**), Thallium is no longer a parameter of concern based on updated sampling results submitted by Cheswick and will be removed.

**Internal Review and Recommendations**

**Parameter Removal from IMP 603**

As discussed in the Fact Sheet for the draft permit, the QL for Total Cadmium used by Cheswick for the permit application was not sensitive enough to rule out reasonable potential. As shown in the updated Toxics Screening Analysis (see **Attachment B**), Cadmium is no longer a parameter of concern for this discharge based on updated sampling results submitted by Cheswick and will be removed.

**Interim Compliance for Handling of Bottom Ash Transport Water**

The following has been added to the permit as a footnote in Part A of the permit: The permittee shall continue to minimize the discharge of bottom ash transport water through operation of the remote drag chain system and notify DEP of bypasses or shutdowns of the bottom ash transport water recycle system.

**Part C IV Heat Rejection Rate Limitations**

This permit condition was revised to clarify the location where temperature monitoring must be conducted by Cheswick in support of a continued 316(a) thermal variance.

**Part C VI Cooling Water Intake Structures**

The requirement to submit the permittee's choice of peer reviewers of the reports required by 40 CFR 122.21(r)(9) – (r)(12) has been removed because Cheswick has already fulfilled this requirement.

**Part C VII WQBELs Below Quantitation Limits**

This condition was removed because it no longer applies after the removal of permit limits for organics at multiple outfalls outlined above.

## **Attachment A – Comments and Responses**

### **INTRODUCTION**

DEP published notice of the availability of a draft NPDES permit for the Cheswick Generating Station (Cheswick) in the *Pennsylvania Bulletin* on January 13, 2018 [48 Pa.B. 575]. A 30-day comment period was provided, and interested parties were directed to submit comments to DEP. A public hearing was held on April 25, 2018 at Springdale Jr./Sr. High School in Springdale, PA. Additional written testimony was also accepted up to 10 days following the hearing. DEP received comments, questions, and testimony from 26 individuals and organizations during the comment period and public hearing. Official copies of the public hearing transcript are available for review at the DEP Southwest Regional Office.

The purpose of this document is to present DEP's responses to public comments. DEP received several comments relating to air and solid waste pollution at the facility, which are not addressed in this document. The comments pertaining to air and solid waste pollution have been referred to the Bureaus of Air Quality and Waste Management, respectively. Only those comments relating to the NPDES permit for discharges to surface waters are addressed in this document.

DEP has decided to issue the final NPDES Permit for a new five-year term. The permit becomes effective on August 1, 2018 and will expire on July 31, 2023.

### **LIST OF COMMENTERS**

The names of individuals who submitted comments to DEP are identified below, along with contact information if made available. DEP has recorded each comment in this document and identified the commenter(s) by number, corresponding to the list below.

- (1) Lane Johnson on behalf of the Sierra Club, Three Rivers Waterkeeper, Conservation Voters of Pennsylvania, PennEnvironment, PennFuture, Group Against Smog and Pollution, Clean Water Action, Environmental Integrity Project, and Natural Resources Defense Council
- (2) Kevin P. Panzino, Plant Manager, on behalf of Cheswick Generating Station
- (3) Steve Murphy, sendtosteve@gmail.com
- (4) Garret Wasserman, 1526 Vance Ave., Corapolis, PA 15108
- (5) Patrick Grenter, P.O. Box 606, Harrisburg, PA 17108
- (6) Wanda Guthrie, 5815 Hays St., Pittsburgh, PA 15206
- (7) James Harvey, 1497 Elm Ave., Glenshaw, PA 15116
- (8) Michele Fiengold, 6343 Crombie St., Pittsburgh, PA 15217
- (9) Michele Fetting, 113 West Chapel Ridge Road, Pittsburgh, PA 15238
- (10) Fred Kraybill, 7211 Thomas Blvd., Pittsburgh, PA 15208
- (11) Rob Walters, 425 N. Craig St., Suite 202, Pittsburgh, PA 15213
- (12) Stephen Riccardi, 1831 Murray Ave., Suite 219, Pittsburgh, PA 15217
- (13) Randy Francisco, 6101 Penn Ave., Suite 402, Pittsburgh, PA 15206
- (14) Casey Mednis, 972 Laclair St. Pittsburgh, PA 15218

- (15) Laura Jacko, 437 North Ave., Verona, PA 15147
- (16) Marti Blake, 301 Pittsburgh St., Springdale, PA 15144
- (17) Mike Sable, 105 Smokey Wood Dr., Pittsburgh, PA 15218
- (18) Shawn Dalton, 910 Blackadore Ave.
- (19) Beverly Anvsionwu, 3167 Kelvin St.
- (20) Kevin Panzino, 271 Kaufman Dr.
- (21) Melinda Gwinn, 3309 Waterford Dr.
- (22) Barb Szalai, 539 Grant St.
- (23) Julie Battle, 400 Washington St., Spingdale, PA 15144
- (24) Chris Horwitz, 2200 Beechwood Blvd.
- (25) Phoebe Reese
- (26) Justin Wasser

## COMMENTS AND RESPONSES

The number associated with each commenter is identified in parentheses following the comment. Comments are organized by topics.

### Topic – Effluent Limitations

- 1. Comment:** Cheswick requests that, in addition to FGD wastewater, IMP 503 be also authorized to discharge treated wastewater from the remote submerged flight conveyor system that was installed in 2016. The inclusion of bottom ash transport water into the FGD wastewater treatment system will assist in maintaining process chemistry, allow for treatment during maintenance and/or as a part of system retirement. **(2)**

**Response:** Under EPA's Effluent Limitation Guideline (ELG), DEP may only authorize the discharge of bottom ash transport water after the compliance date when it is used in the FGD scrubber and meets the limitations at 40 CFR 423.12(b)(4) for FGD wastewater. The compliance date has been established as December 31, 2023, provided in Footnote 4 in Part A of the permit. DEP cannot authorize a discharge of bottom ash transport water directly to the FGD wastewater treatment plant.

- 2. Comment:** Because effluent limitations were established based on projected performance values established prior to operation of the FGD wastewater treatment plant (WWTP), the inclusion of some parameters was not based on a Reasonable Potential (RP) analysis. Now that the FGD WWTP has been in operation for a number of years additional monitoring data is available the RP analysis can be based on this new information. When new information is available that justify the relaxation, anti-backsliding requirements do not apply under 25 Pa Code § 92a.44. We request that total beryllium, total chromium, dissolved iron, and dissolved selenium be removed from the permit because the parameters are either not detected or are redundant and not necessary to demonstrate compliance. **(2)**

**Response:** The limitations in the current permit at IMP 503 are Best Professional Judgement (BPJ) Technology-Based Limitations (TBELs) and were not developed based on an RP analysis. The development of BPJ TBELs is independent of an RP analysis used to developed Water Quality-Based Effluent Limitations (WQBELs). The monitoring data show the FGD wastewater treatment system is capable of meeting those BPJ TBELs.

- 3. Comment:** The Final Permit Must Be Amended to Require Compliance with ELGs No Later Than November 1, 2020. **(1), (4), (5), (8), (12), (16), (17)**

**Response:** Cheswick submitted, and DEP accepted, justification for the compliance date of December 31, 2023. In addition, EPA reviewed the compliance date in the draft permit and found it to be acceptable.

- 4. Comment:** The language provided by NRG as interim compliance for the handling of bottom ash transport water should be included in the permit. **(2)**

**Response:** A footnote has been added to the permit as follows: The permittee shall continue to minimize the discharge of bottom ash transport water through operation of the remote drag chain system and notify DEP of bypasses or shutdowns of the bottom ash transport water recycle system.

- 5. Comment:** The Final Permit must Include TBELs for Bromide and Total Dissolved Solids. **(1), (5), (12), (14), (15)**

**Response:** EPA considered BAT for Bromide and TDS when the Stream Electric ELG amendment was developed. According to the Technical Development Document, evaporation was determined to be the feasible treatment for removing Bromide and TDS; however, it was determined this was not BAT for FGD wastewater. Furthermore, under 25 Pa. Code § 95.10, Cheswick is considered an existing facility and not subject to wastewater treatment requirements for TDS.

- 6. Comment:** The Design Flow of the MMDP was modified during construction work in 2016 to refurbish the plant. Based on the Water Quality Management (WQM) Permit No. 0270205 A-3 T-3 issued March 17, 2016, the Design Hydraulic Capacity of MMDP is 7.5 million gallons per day (MGD). As presented in the March 2016 Design Engineer's Report (WQM 0270205 A-2), the repaired and modified system is expected to typically operate at 2 MGD to manage the expected mine dewatering needs and leachate with a maximum design capacity of 7.5 MGD.

In 2017, the maximum flow reported on the Discharge Monitoring Reports was 4.67 MGD. Based on operations in 2017 after returning the system to service, NRG anticipated that the MMDP would only be operated with one of two mine dewatering pumps at a maximum rate of 5.5 MGD. Therefore, considering this physical change in operations, NRG request that water quality based effluent limitations (WQBELs) be based on and modeled on the Design flow rate of 7.5 MGD or the anticipated maximum flow rate of 5.5 MGD. **(2)**

**Response:** The limits have been carried over into the renewed permit because of anti-backsliding requirements. DMR data submitted after the modifications show that the MMDP is still able to meet the all of the limits established in the permit. The limits for TSS, pH, Total Beryllium, Total Cadmium, and Hexavalent Chromium are technology-based and independent of the design flow. The existing WQBELs are for Total Silver, Total Thallium, Total Copper, Pentachlorophenol and Total Selenium. DEP determined that the use of a design flow of 7.5 MGD would not provide any relaxation of the limits because of the lack of dilution available in Little Deer Creek.

7. **Comment:** Because of unanticipated maintenance activities, sampling was initiated the week of February 18<sup>th</sup> to support the Department's reasonable potential (RP) analysis to evaluate the need for WQBELs using DEP's Toxics Screening Analysis for Antimony, Arsenic, Lead, Benzo (k) Fluoranthene, Chrysene, Dibenzo (a,h) Anthracene, Hexachlorobutadiene, Indeno (1,2,3-cd) Pyrene, n-Nitrosodiphenylamine, and Phenanthrene. The results of these analyses will be provided upon receipt from NRG's laboratory. **(2)**

**Response:** The analytical results of sampling conducted February 22 & 27, 2018 and March 7, 2018 were submitted to DEP on March 6 & 16, 2018. All of the results were non-detect with QLs that were at or below the Target QL for each parameter. As such, the above parameters are no longer considered to be parameters of concern (see **Attachment B**). As discussed in the fact sheet, these parameters will be removed from the final permit.

8. **Comment:** On January 29 and February 6, 2018, samples were collected to support the Department's RP analysis for IMP 203/303 to evaluate the need for WQBELs using DEP's Toxics Screening Analysis for cadmium and thallium. Neither parameter was detected in samples at concentrations greater than the detection limits 0.2 microgram per liter ( $\mu\text{g/L}$ ). The results of these analysis are included in Attachment 1. Based on this additional information, NRG requested that the Department re-evaluate the need for monitoring cadmium and thallium. **(2)**

**Response:** Since the Target QL was achieved, Thallium is no longer a parameter of concern (see **Attachment B**). As discussed in the fact sheet, the monitoring requirement for Thallium will be removed from the final permit. Cadmium did not have a monitoring requirement in the draft permit.

9. **Comment:** On October 30, November 8 and November 20, 2017, cadmium was not detected in samples at concentrations greater than the detection limit of 0.2  $\mu\text{g/L}$ . The revised results of these analyses are included in Attachment 1. Based on this additional information, NRG requested that the Department re-evaluate the need for monitoring cadmium. **(2)**

**Response:** Since the Target QL was achieved, Cadmium is no longer a parameter of concern (see **Attachment B**). As discussed in the fact sheet, the monitoring requirement for Cadmium will be removed from the final permit.

10. **Comment:** Overriding and entering a Partial Mix Factor (PMF) for the AFC of 0.1 and CFC, THH, CRL of 0.1 is not warranted for each Internal Monitoring Point for Outfall 003.....a PMF of 1.0 should be entered into the model for these IMPs, and the PENTOXSD software should be used to calculate assimilative capacity for the Allegheny River. With respect to river input values and based on data submitted with the February 2012 Thermal Variance Supplement Report, a qualitative assessment of the river profiles determined that river depths averaged 45 feet in the mid-channel and decreased to approximately 10 feet in approaches to the shoreline. Therefore, the Allegheny River width is approximately 930 feet and depth is approximately 22 feet. Median flow in this stretch of the Allegheny River adjacent to the Station is approximately 13,700 cubic feet per second (cfs), with the Q7-10 flow having been determined as approximately 2,900 cfs (post-construction of the Allegheny River). **(2)**

**Response:** After the submission of analytical data meeting the Target QLs, Total Boron at IMP 503 is the only remaining WQBEL and will be the only parameter under consideration for this comment. DEP manually entered partial mix factors (PMFs) into PENTOXSD because it is not reasonable to give one facility all of the assimilative capacity of the river. Using PMFs of 1% and 10% is DEP's conservative assumption to ensure the protection of



aquatic life and human health. As a part of the Toxics Reduction Evaluation (TRE) outlined in Part C II, the permittee has the option to collect site-specific data, including mixing, to refine the WQBEL. If as a result of these studies it is determined that a limit for Total Boron is not necessary, Cheswick may apply for a permit amendment to have the limits for Total Boron removed from the permit. Q7-10 flow is the design flow used to calculate limits for toxics, and stream geometry is estimated at that design flow. Q7-10 was calculated using data from USGS Gage 03049500 on the Allegheny River at Natrona, PA.

**11. Comment:** The Final Permit must Include Interim Requirements for Boron WQBELs. **(1), (4)**

**Response:** Cheswick is required to complete a TRE during the interim period. Part C II.B.2 of the permit specifies submission dates for the components of the TRE, which includes progress reports to be submitted every three months.

**12. Comment:** Outfall 004 consists of intake screen backwash. The makeup water for the screen is from the Allegheny River. pH limitations and monitoring for this type of outfall are unnecessary. NRG requested that monitoring be removed from Outfall 004. **(2)**

**Response:** pH limitations or monitoring are not established for Outfall 004.

**13. Comment:** NRG requested that the average monthly limits (AMLs) for Total Aluminum and Total Manganese be set at water quality criteria; 0.75 mg/L and 1.0 mg/L respectively or eliminated because reasonable potential for these constituents does not exist and mistaken interpretations of the law were made in issuing these limitations. The originally developed Maximum Daily Limits should also be adjusted as well. **(2)**

**Response:** The limits will remain in the permit because of anti-backsliding requirements; MMDP has demonstrated the ability to meet the current effluent limits for Total Aluminum and Total Manganese.

**14. Comment:** The Department notes that Little Deer Creek is also impaired for TDS, siltation and turbidity and the Monitoring for TDS and its constituents "(Chloride, Bromide, and Sulfide)" will be included in the permit. We believe "Sulfide" should be Sulfate and was perhaps a typographical error. **(2)**

**Response:** Thank you for identifying this error. It has been corrected for the final permit.

**15. Comment:** The Department identified the limit for the temperature variance at a Heat Rejection Rate of 2.69 X 109 BTU/hr. This appears to be a typographical error. The existing Heat Rejection Rate is set at 2.96 X 109 BTU/hr which is consistent with the draft NPDES permit for Outfall 002. **(2)**

**Response:** Thank you for identifying this error. The limit is applicable at Outfall 003 and this has been corrected for the final permit.

**Topic – Monitoring Frequency**

**16. Comment:** The Draft Permit imposes monitoring requirements for all parameters identified for Outfall 002 that require "1/week" measurement frequencies. Because the effluent quality has remained relatively consistent over the last 10 years (and indeed during the life of the facility), and because the effluent quality is expected to remain consistent, once per week sampling is neither necessary nor appropriate. The Draft Permit should be revised to reduce the monitoring frequency for Outfall 002 from "1/week" to "twice/month." **(2)**

**Response:** DMR data for Outfall 002 indicate that in general, effluent variability is low, with no effluent violations. DEP has evaluated this request in accordance with interim EPA guidance and has agreed to reduce monitoring frequencies for TRC, Beryllium, Cadmium, Thallium, Silver, Selenium, Free Cyanide, Copper and Hexavalent Chromium to 2/month. The effluent data for Osmotic Pressure did not meet the requirements in the interim guidance to allow a reduction in sample frequency. Sampling frequency for Aluminum, Iron, Manganese, TSS, and TDS and its constituents will remain 1/week due to the stream impairment and TMDL for AMD parameters.



- 17. Comment:** The minimum frequency of once per month for stormwater at Outfall 005 is burdensome for Cheswick and inconsistent with Department guidelines. NRG requested that the frequency be once per 6 months, which will allow for sampling of Outfalls 010 and 011 during the same event. **(2)**

**Response:** The minimum frequency of 1/month is not a change from the current permit. In addition, the reported concentration values for TSS have been highly variable, warranting the more frequent monitoring.

- 18. Comment:** Because IMP 803 received flows from IMPs 203, 303, 403, 503, and 603 that are already monitored for pH and flow, Cheswick requests that IMP 803 be removed from the NPDES permit. The redundant monitoring for flow and pH serves no purpose. **(2)**

**Response:** Monitoring flow and pH at IMP 803 aids in discharge characterization when once-through cooling water is not being discharged.

- 19. Comment:** The very least you should require that the plant perform daily monitoring of the amount of toxins it discharges into our waterways. **(18)**

**Response:** The monitoring frequencies are consistent with DEP's Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits. DEP believes that the monitoring requirements imposed in the permit enable both the permittee and DEP to ensure that the discharges from the facility are compliant with the law and protective of human health and the environment.

#### **Topic – Water Quality**

- 20. Comment:** The Cheswick Plant released 387 pounds of Lead in 2015. **(6), (9), (12), (16), (18)**

**Response:** DEP's analysis indicates that there is no reasonable potential for Cheswick's discharge to violate state water quality standards for Lead (which are concentration-based rather than mass-based (lbs)). Internal Monitoring Point (IMP) 503, containing effluent from the Flue Gas Desulfurization (FGD) wastewater treatment plant, is the primary source of Lead from the plant. Cheswick has consistently met the TBELs imposed at that IMP.

- 21. Comment:** The Final Permit Must Remove the Illegal 316(a) Variance and Impose Thermal Effluent Limits in Accordance with Water Quality Standards. **(1), (5), (8), (11)**

**Response:** Cheswick conducted and submitted the Thermal Study required in its permit to continue the 316(a) thermal variance. There have been no documented effects to aquatic life in the Allegheny River caused by the thermal discharge at Cheswick. Cheswick will be required to conduct additional studies during the permit term to ensure the 316(a) variance is still appropriate.

- 22. Comment:** The "Existing Use" of Little Deer Creek does not appear to be a Trout Stocking Fishery. However, the "Designated Use" is identified as a Trout Stocking Fishery. Deer Creek's Existing Use, which is located farther downstream, is identified as a Trout Stocking Fishery. **(2)**

**Response:** DEP acknowledges this comment. Both Existing and Designated Uses are protected.

- 23. Comment:** The permit should control discharge of toxic pollutants, such as Lead and Mercury. **(3), (5), (7), (8), (10), (11), (12), (14), (16), (18), (19), (23)**

**Response:** An RP analysis (see Fact Sheet) showed there is no RP for Cheswick's discharge to violate water quality standards for all pollutants except Boron, for which a water quality-based effluent limit has been established.

**Topic - Generating Station and Monarch Mine Dewatering Plant (MMDP)**

- 24. Comment:** The landfill is referred to as the Cheswick Ash Disposal Site. The mine water and leachate treatment plant is referred to as the Monarch Mine Dewatering Plant (MMDP). **(2)**

**Response:** Thank you for the clarification.

- 25. Comment:** In December 2012, GenOn merged with NRG. The owner and operator is NRG Power Midwest LP and is a wholly owned subsidiary of GenOn Energy Inc., which is itself a wholly owned subsidiary of NRG Energy, Inc. The merger in 2012 did not result in an ownership change, just a name change. GenOn is expected to divest from NRG Energy later in 2018. **(2)**

**Response:** Thank you for the clarification. An application for a minor amendment to the permit must be submitted in the event there is another name change. If there is an ownership change, an application for a transfer of the permit must be submitted.

- 26. Comment:** The wastewater description should include both Treated Mine Water and Leachate from the Cheswick Ash Disposal Site. Also note that leachate from the Kissick Ash Disposal Site that is not owned by GenOn is injected into the Harwick Mine Complex for treatment at the MMDP. **(2)**

**Response:** Thank you for the clarification.

- 27. Comment:** Flow to the pipeline associated with the unauthorized discharge was permanently terminated in August 2017 to prevent reoccurrence. **(2)**

**Response:** Thank you for the information.

- 28. Comment:** Condition 13 of the 2014 Consent Order and Agreement (COA) state that water elevation in the Harwick Mine Complex at the MMDP Intake Pump be maintained at or less than a monthly average of 720 ft msl. The wording in the WQM Part II Permit No. 0270205 A-2 T-3 that was issued on May 16, 2014 was modified in a minor revision by the Department that occurred on or about May 29, 2014 and received by Cheswick on May 30, 2104. The description on Page 19 of the fact sheet should be modified to reflect that GenON will maintain the mine pool at or less than a monthly average of 720 ft msl. **(2)**

**Response:** Thank you for the information.

- 29. Comment:** Condition 5 of the 2011 COA allows emergency injections of leachate into the Harwick Mine Complex that would exceed the storage capacity during emergency conditions. "Emergency conditions" means a power failure or equipment malfunction that precludes pumping to or treatment of the leachate at the MMDP. This condition was included as a part of WQM Part II Permit No. 0270205 A-4 T-3 issued on March 17, 2016 with the WQM permit amendment application dated February 27, 2015 and its supporting documentation and addendums dated March 2, 2916 and March 15, 2016, which were made a part of this amendment. The description on Page 19 of the fact sheet should be modified to reflect that GenOn is authorized to discharge leachate from the Cheswick Ash Disposal Site to the mine pool during Emergency Conditions. **(2)**

**Response:** DEP acknowledges the comment. As authorized by the 2011 COA, emergency injections of leachate into the Harwick Mine Complex are authorized.

- 30. Comment:** NRG also requested authorization to allow emergency injection into the mine pool of mine pool water that is present in wastewater treatment equipment during emergencies. The emergency injection would occur via the same mine shaft that is used to extract mine pool water. The type of emergencies would generally include repair to components of the clarifier that would otherwise be submerged and other upsets requiring the clarifier to be partially drained. The ability to empty the MMDP to facilitate repairs would allow for a more expedited return to service. **(2)**

**Response:** A request for authorization to allow emergency injection into the mine pool of mine pool water that is present in wastewater treatment equipment during emergencies should be submitted via a WQM permit amendment.

- 31. Comment:** The Department stated that through an agreement with Duquesne Light, a small flow of leachate from the Kissick Landfill and leachate from the closed emergency fly ash pond is also treated in the ponds. Note that only leachate from the off-site closed emergency fly ash pond is conveyed into these ponds. The leachate from the off-site Kissick Landfill near the Cheswick Ash Disposal Site is conveyed directly through a borehole into the Harwick Mine Complex. By maintaining the mine pool level, MMDP is used to treat and discharge the leachate from the Duquesne Light Company owned Kissick Landfill at Outfall 002. **(2)**

**Response:** Thank you for the clarification.

- 32. Comment:** The description should be updated to state; IMP 603 receives wastewater from the north and south Miscellaneous Waste Ponds. The ponds receive flow from ash sumps, miscellaneous low-volume wastes, floor drains, flow from stormwater catch basins/trench drains on the south side of coal pile, and non-chemical metal cleaning wastes. **(2)**

**Response:** The permit has been updated.

### **Topic – Cooling Water Intake Structure**

- 33. Comment:** An Extension for the Submission of Required Entrainment and Impingement Information is inappropriate. **(1)**

**Response:** Cheswick is still in the process of preparing reports required by 40 CFR 122.21(r). Several of these reports must be peer reviewed before they are finalized. In order to accommodate the peer review process to be completed, DEP is allowing NRG an extension of time to submit that information.

- 34. Comment:** Closed Cycle Cooling is Best Technology Available (BTA) for Cheswick. **(1), (8), (11)**

**Response:** A final BTA determination will be made in the next permit cycle. At this time DEP does not have the required information that will be submitted by Cheswick to determine what BTA should be.

- 35. Comment:** At a Minimum, The Final Permit Must Include Interim Requirements Reflecting BTA for Impingement and Entrainment Mortality Reduction. **(1), (8)**

**Response:** DEP considers the condition at Part C VI.B of the permit to be interim BTA.

In addition to the above comments, DEP also received the following comment via email from 248 recipients:

**Comment:** Please protect our water and my health from the Cheswick coal plant's pollution.

The Cheswick Power Station is directly upstream of at least six public drinking water intakes, serving over half a million people. In 2016 it was identified as the 4th highest discharger of lead into waterways of any power plant in the nation (1).

The Pennsylvania Department of Environmental Protection should update the draft permit to immediately protect the Allegheny River from coal pollution. The Allegheny is the source of Pittsburgh's drinking water supply, and all available standards must be brought to bear to eliminate toxic pollutants discharging from the Cheswick power plant.

Specifically, the Draft Permit should require compliance with federal effluent limitation guidelines as soon as possible, end a thermal variance from the previous permit term, require the installation a closed-cycle cooling system, assess technology-based standards for dangerous pollutants discharged from the plant, and include interim compliance requirements for certain boron limits.

Thank you.

(1) Pittsburgh Post-Gazette, 8/11/16, "Report flags Cheswick power plant for its lead discharges"

**Response:** See responses to Comment Nos. 3, 11, 20, 23, and 34. DEP believes that the terms and conditions of the final permit are compliant with law and protective of human health and the environment.

## Attachment B – Toxics Screening Analysis

### Outfall 002

#### TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility: **Cheswick**  
 Analysis Hardness (mg/L): **100**

NPDES Permit No.: **PA0001627**  
 Discharge Flow (MGD): **12.4**

Outfall: **002**  
 Analysis pH (SU): **7**

Parameter	Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Total Dissolved Solids	1630000	500000	Yes		Monitor
Chloride		250000			Monitor
Bromide	900	N/A	No		Monitor
Sulfate	638000	250000	Yes		Monitor
Fluoride		2000			
Total Aluminum	< 50	750	No		
Total Antimony	< 1	5.6	No (Value < QL)	5.631	
Total Arsenic	< 1	10	No (Value < QL)	10.056	
Total Barium	8.2	2400	No		
Total Beryllium	< 0.5	N/A	No (Value < QL)		
Total Boron	1030	1600	No		
Total Cadmium	< 0.1	0.271	No (Value < QL)		
Total Chromium		N/A			
Hexavalent Chromium	< 2	10.4	No		
Total Cobalt	< 2	19	No		
Total Copper	< 5	9.3	No		
Total Cyanide	7	N/A	No		
Total Iron	687	1500	No		
Dissolved Iron	< 10	300	No (Value < QL)		
Total Lead	< 1	3.2	No (Value < QL)	3.199	
Total Manganese	109	1000	No		
Total Mercury	< 0.005	0.05	No (Value < QL)		
Total Molybdenum	66	N/A	No		
Total Nickel	< 5	52.2	No		
Total Phenols (Phenolics)	< 10	5	Yes		
Total Selenium	2.3	5.0	No		
Total Silver	< 2	3.8	No		
Total Thallium	< 0.1	0.24	No (Value < QL)		
Total Zinc	9.5	119.8	No		
Acrolein	< 2	3	No (Value < QL)		
Acrylamide		0.07			
Acrylonitrile	< 0.5	0.051	No (Value < QL)		
Benzene	< 0.2	1.2	No (Value < QL)		
Bromoform	< 0.2	4.3	No (Value < QL)		
Carbon Tetrachloride	0.2	15	No		
Chlorobenzene	< 0.2	130	No (Value < QL)		
Chlorodibromomethane	< 0.4	0.4	No (Value < QL)		
Chloroethane	< 0.2	N/A	No (Value < QL)		
2-Chloroethyl Vinyl Ether	< 0.5	3500	No (Value < QL)		
Chloroform	< 0.2	5.7	No (Value < QL)		
Dichlorobromomethane	< 0.2	0.55	No (Value < QL)		
1,1-Dichloroethane	< 0.2	N/A	No (Value < QL)		
1,2-Dichloroethane	< 0.2	0.38	No (Value < QL)		
1,1-Dichloroethylene	< 0.2	33	No (Value < QL)		
1,2-Dichloropropane	< 0.2	2200	No (Value < QL)		
1,3-Dichloropropylene	< 0.2	0.34	No (Value < QL)		
Ethylbenzene	< 0.2	530	No (Value < QL)		
Methyl Bromide	< 0.5	47	No (Value < QL)		
Methyl Chloride	< 0.2	5500	No (Value < QL)		

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Methylene Chloride	<	0.2	4.6	No (Value < QL)	
1,1,2,2-Tetrachloroethane	<	0.2	0.17	No (Value < QL)	
Tetrachloroethylene	<	0.2	0.69	No (Value < QL)	
Toluene	<	0.2	330	No (Value < QL)	
1,2-trans-Dichloroethylene	<	0.5	140	No (Value < QL)	
1,1,1-Trichloroethane	<	0.2	610	No (Value < QL)	
1,1,2-Trichloroethane	<	0.5	0.59	No (Value < QL)	
Trichloroethylene	<	0.2	2.5	No (Value < QL)	
Vinyl Chloride	<	0.2	0.025	No (Value < QL)	
2-Chlorophenol	<	4.7	81	No (Value < QL)	
2,4-Dichlorophenol	<	4.7	77	No (Value < QL)	
2,4-Dimethylphenol	<	4.7	130	No (Value < QL)	
4,6-Dinitro-o-Cresol	<	4.7	13	No (Value < QL)	
2,4-Dinitrophenol	<	4.7	69	No (Value < QL)	
2-Nitrophenol	<	4.7	1600	No (Value < QL)	
4-Nitrophenol	<	4.7	470	No (Value < QL)	
p-Chloro-m-Cresol	<	4.7	30	No (Value < QL)	
Pentachlorophenol	<	0.28	0.27	No (Value < QL)	
Phenol	<	4.7	10400	No (Value < QL)	
2,4,6-Trichlorophenol	<	4.7	1.4	No (Value < QL)	
Acenaphthene	<	4.7	17	No	
Acenaphthylene	<	4.7	N/A	No	
Anthracene	<	4.7	8300	No	
Benzidine	<	4.7	0.000086	No (Value < QL)	
Benzo(a)Anthracene	<	0.2	0.0038	No (Value < QL)	0.004
Benzo(a)Pyrene	<	0.2	0.0038	No (Value < QL)	0.004
3,4-Benzofluoranthene	<	0.2	0.0038	No (Value < QL)	0.004
Benzo(ghi)Perylene	<	0.2	N/A	No (Value < QL)	
Benzo(k)Fluoranthene	<	0.2	0.0038	No (Value < QL)	0.004
Bis(2-Chloroethoxy)Methane	<	4.7	N/A	No (Value < QL)	
Bis(2-Chloroethyl)Ether	<	4.7	0.03	No (Value < QL)	
Bis(2-Chloroisopropyl)Ether	<	4.7	1400	No (Value < QL)	
Bis(2-Ethylhexyl)Phthalate	<	1.9	1.2	No (Value < QL)	
4-Bromophenyl Phenyl Ether	<	4.7	54	No (Value < QL)	
Butyl Benzyl Phthalate	<	4.7	35	No (Value < QL)	
2-Chloronaphthalene	<	4.7	1000	No (Value < QL)	
4-Chlorophenyl Phenyl Ether	<	4.7	N/A	No (Value < QL)	
Chrysene	<	0.2	0.0038	No (Value < QL)	0.004
Dibenzo(a,h)Anthracene	<	0.2	0.0038	No (Value < QL)	0.004
1,2-Dichlorobenzene	<	4.7	160	No	
1,3-Dichlorobenzene	<	4.7	69	No	
1,4-Dichlorobenzene	<	4.7	150	No	
3,3-Dichlorobenzidine	<	4.7	0.021	No (Value < QL)	
Diethyl Phthalate	<	4.7	800	No (Value < QL)	
Dimethyl Phthalate	<	4.7	500	No (Value < QL)	
Di-n-Butyl Phthalate	<	4.7	21	No (Value < QL)	
2,4-Dinitrotoluene	<	4.7	0.05	No (Value < QL)	
2,6-Dinitrotoluene	<	4.7	0.05	No (Value < QL)	
1,4-Dioxane	<	4.7	N/A	No	
Di-n-Octyl Phthalate	<	4.7	N/A	No (Value < QL)	
1,2-Diphenylhydrazine	<	4.7	0.036	No (Value < QL)	
Fluoranthene	<	4.7	40	No	
Fluorene	<	4.7	1100	No	
Hexachlorobenzene	<	4.7	0.00028	No (Value < QL)	
Hexachlorobutadiene	<	0.2	0.44	No (Value < QL)	0.464
Hexachlorocyclopentadiene	<	4.7	1	No (Value < QL)	
Hexachloroethane	<	4.7	1.4	No (Value < QL)	
Indeno(1,2,3-cd)Pyrene	<	0.2	0.0038	No (Value < QL)	0.004
Isophorone	<	4.7	35	No (Value < QL)	
Naphthalene	<	4.7	43	No	
Nitrobenzene	<	4.7	17	No (Value < QL)	
n-Nitrosodimethylamine	<	4.7	0.00069	No (Value < QL)	
n-Nitrosodi-n-Propylamine	<	4.7	0.005	No (Value < QL)	
n-Nitrosodiphenylamine	<	0.2	3.3	No (Value < QL)	3.481
Phenanthrene	<	0.2	1	No (Value < QL)	1.006
Pyrene	<	4.7	830	No	
1,2,4-Trichlorobenzene	<	4.7	26	No	

**Internal Monitoring Points 203/303**  
**TOXICS SCREENING ANALYSIS**  
**WATER QUALITY POLLUTANTS OF CONCERN**  
**VERSION 2.4**

Facility: **Cheswick**  
 Analysis Hardness (mg/L): **87**

NPDES Permit No.: **PA0001627**  
 Discharge Flow (MGD):

Outfall: **303**  
 Analysis pH (SU): **7**

Parameter	Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Total Dissolved Solids	180000	500000	No		
Chloride		250000			
Bromide	100	N/A	No		
Sulfate	55000	250000	No		
Fluoride		2000			
Total Aluminum	636	750	No		
Total Antimony	< 10	5.6	Yes	360.45	No Limits/Monitoring
Total Arsenic	< 10	10	Yes	643.67	No Limits/Monitoring
Total Barium	47.4	2400	No		
Total Beryllium	< 0.5	N/A	No (Value < QL)		
Total Boron	133	1600	No		
Total Cadmium	< 1	0.244	Yes	13.12	No Limits/Monitoring
Total Chromium		N/A			
Hexavalent Chromium	< 2	10.4	No		
Total Cobalt	< 2	19	No		
Total Copper	< 5	8.3	No		
Total Cyanide	< 5	N/A	No (Value < QL)		
Total Iron	1000	1500	No		
Dissolved Iron	28	300	No		
Total Lead	< 10	2.7	Yes	115.21	No Limits/Monitoring
Total Manganese	247	1000	No		
Total Mercury	< 0.1	0.05	No (Value < QL)		
Total Molybdenum	< 10	N/A	No		
Total Nickel	< 5	46.4	No		
Total Phenols (Phenolics)	< 10	5	Yes	321.139	No Limits/Monitoring
Total Selenium	< 10	5.0	Yes		
Total Silver	< 2	3.0	No		
Total Thallium	< 0.2	0.24	No (Value < QL)	15.44	
Total Zinc	10	106.5	No		



**Internal Monitoring Point 603**

**TOXICS SCREENING ANALYSIS  
 WATER QUALITY POLLUTANTS OF CONCERN  
 VERSION 2.4**

Facility: **Cheswick**  
 Analysis Hardness (mg/L): **87**

NPDES Permit No.: **PA0001627**  
 Discharge Flow (MGD): **3.22**

Outfall: **603**  
 Analysis pH (SU): **7**

Parameter	Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Total Dissolved Solids		500000			
Chloride		250000			
Bromide	100	N/A	No		
Sulfate	106000	250000	No		
Fluoride		2000			
Total Aluminum	330	750	No		
Total Antimony	< 10	5.6	Yes	315.99	No Limits/Monitoring
Total Arsenic	10	10	Yes	564.27	No Limits/Monitoring
Total Barium	72.1	2400	No		
Total Beryllium	0.5	N/A	No		
Total Boron	469	1600	No		
Total Cadmium	< 0.2	0.244	No (Value < QL)	8.85	
Total Chromium		N/A			
Hexavalent Chromium	< 2	10.4	No		
Total Cobalt	3	19	No		
Total Copper	< 5	8.3	No		
Total Cyanide	< 5	N/A	No (Value < QL)		
Total Iron	71.8	1500	No		
Dissolved Iron	315	300	Yes	16928.06	No Limits/Monitoring
Total Lead	< 10	2.7	Yes	153.41	No Limits/Monitoring
Total Manganese	1670	1000	Yes	24598	No Limits/Monitoring
Total Mercury	< 0.1	0.05	No (Value < QL)		
Total Molybdenum	13	N/A	No		
Total Nickel	8	46.4	No		
Total Phenols (Phenolics)	< 10	5	Yes		
Total Selenium	< 10	5.0	Yes	281.52	No Limits/Monitoring
Total Silver	< 2	3.0	No		
Total Thallium	< 0.2	0.24	No (Value < QL)		
Total Zinc	35.4	106.5	No		