October 18, 2016

Via Electronic Mail

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Re: Comments of the Environmental Integrity Project, et al, Regarding Draft NPDES Permit No. PA0002208, Amendment No. 1, for the Shell Chemical Appalachia LLC Shell Chemical Appalachia Petrochemicals Complex in Potter and Center Townships, Beaver County

Dear Mr. Kriley and Mr. Decker:

The Environmental Integrity Project ("EIP"), Three Rivers Waterkeeper, Clean Water Action, PennEnvironment, Air Quality Collaborative, Allegheny County Clean Air Now, PennFuture, Sierra Club, Clean Air Council, Mountain Watershed Association, Ohio River Foundation, Prairie Rivers Network, Youghiogheny Riverkeeper, Fresh Water Accountability Project, Cracker Plant Impact Initiative, Beaver County Marcellus Awareness Committee, Women for a Healthy Environment, and ten individuals (together, "Commenters"[1]) hereby submit these comments regarding the Pennsylvania Department of Environmental Protection's ("DEP" or "Department") Draft Amendment 1 to National Pollutant Discharge Elimination System ("NPDES") Permit Number PA0002208 ("Draft Permit") for Shell Chemical Appalachia LLC's ("Shell") Shell Chemical Appalachia Petrochemicals Complex ("the Petrochemical Plant"), to be located at the site of a former zinc smelter and coal-fired power plant ("the site") in Potter and Center Townships, Beaver County.

Shell is constructing, as DEP admits, a "completely new facility conducting different industrial activities," from the previous zinc smelter on this site, and DEP acknowledges throughout the Draft Permit that Shell is seeking a permit amendment rather than a new permit in order to avoid compliance with more stringent regulations intended to reduce pollution and protect Pennsylvania's waters. DEP must reject this application for a major amendment to a permit for a demolished, unrelated facility and require Shell to obtain an individual NPDES Permit. To the extent that DEP fails to require a new permit, given the extensive existing

[1] Commenters and their addresses are listed in full at the end of these comments.

contamination from previous uses of the site as a coal-fired power plant and a zinc smelter and the potential for Shell's new operations at the site to introduce a large number of additional toxics and other pollutants from the Petrochemical Plant's processes into receiving waters, Commenters request extensive revisions to this Draft Permit by the DEP prior to issuance. Commenters' concerns include (among others):

- DEP should reject this application for a permit amendment and require Shell to apply for a new NPDES permit for its new facility;
- DEP and Shell cannot claim that this is a new facility with new discharges but then cherry pick instances when the facility will be considered existing in order to evade regulatory limits on pollution;
- Additional effluent limitations for the Petroleum Refining Category apply to Shell's discharges but were not included in the Draft Permit;
- DEP illegally exempted Shell from applicable TDS treatment requirements;
- DEP is deleting limits and monitoring requirements for existing pollution at the site at the end of an "Interim Period," but the Draft Permit fails to define the Interim Period or ensure that deletion of these requirements will be justified;
- DEP must impose more stringent limits and monitoring requirements for cooling town blowdown discharges;
- DEP must impose stronger limits and monitoring requirements at other outfalls;
- DEP failed to limit flow from any of the pipes allowed to release pollutants from this plant; and
- DEP's water-quality calculations were inaccurate for Outfall 001.

DEP must require Shell to apply for a new permit for this new facility. The eventual permit must address the many deficiencies raised by Commenters in order to protect public health, minimize pollution of the Ohio River, Rag Run, and Poorhouse Run, and ensure compliance with the Clean Streams Law and the federal Clean Water Act.

I. REQUEST FOR A MEETING WITH DEP AND EPA REGARDING THIS PERMIT.

EIP requests a meeting among DEP, the Environmental Protection Agency ("EPA"), and Commenters (representatives from EIP and a few of the other commenting organizations) as soon as possible to discuss the many deficiencies with this Draft Permit and the many concerns the environmental community has regarding this Draft Permit and this facility.

EIP had requested an informal question and answer session with DEP on September 22, 2016, but the DEP declined to grant EIP's request. Email from Lisa Graves-Marcucci, EIP, to Nora Alwine, Regional Coordinator, DEP Office of Environmental Justice (Sept. 22, 2016); Email from Nora Alwine, Regional Coordinator, DEP Office of Environmental Justice, to Lisa Graves-Marcucci, EIP (Oct. 7, 2016). DEP directed us to have citizens with concerns call the DEP instead. However, citizens have a number of outstanding questions regarding this facility and this permit, and EIP requests a meeting on behalf of Commenters to discuss technical and environmental safety concerns regarding this permit.

II. BACKGROUND

A. Factual Background

1. The Permit and the Site

The Draft Permit is a major amendment to NPDES Permit PA0002208 that proposes to authorize discharges from the construction and operation of Shell's proposed Petrochemical Plant, a "petrochemical complex manufacturing ethylene and polyethylene," a brand new facility that Shell plans to construct at a site that formerly housed the Horsehead Corporation Monaca Zinc Smelter Plant, which was demolished in 2014/2015, as well as a former coal-fired power plant, the 110-megawatt George F. Wheaton plant. *See* Shell, NPDES Application for Permit Amendment for Proposed Petrochemical Complex, General Information Form, at 1 (Nov. 2015) (prepared by AECOM) [hereinafter "NPDES Application"], *and* DEP, NPDES Permit Fact Sheet, Individual Industrial Waste (IW) and IW Stormwater, Application PA0002208 A-1, Major Amendment, for the Shell Chemical Appalachia Petrochemicals Complex, at 1–2 (Aug. 19, 2016) [hereinafter "Fact Sheet"].

Shell sought an amendment to its existing NPDES Permit for the zinc smelter plant, but the amended "NPDES permit will authorize discharges from a completely new facility separate from the previous facility located at the site (the Horsehead Corporation Monaca Zinc Smelter Plant, which was demolished in 2014/2015)." Fact Sheet, at 1. Petrochemical Plant The site will also contain a cogeneration unit. *See, e.g.*, Fact Sheet, at 29.

The Draft Permit would authorize discharges from thirty different monitoring points, including fifteen Outfalls, labelled 001 through 015, two intermediate monitoring points that feed into Outfall 001 (IMP 101, the petrochemical plant wastewater treatment plant effluent where ELG compliance is established, and IMP 201, cooling tower blowdown from the cogeneration unit) and another intermediate monitoring point that feeds into Outfall 008. The Draft Permit also authorizes 14 additional outfalls and one intermediate monitoring point (labelled Outfalls 017–021, 114, 104, 204, 304, 404, 504, 604, 713, 813 and IMP 113), which were previously permitted storm water outfalls and will remain in the permit as currently permitted but which DEP states thta Shell may request to have removed in the future. Fact Sheet, at 2–3. *See* Fact Sheet, at 3, for a table summarizing and characterizing discharges authorized by the current permit and the Draft Permit.

2. Pollutants of Concern

Shell is proposing to discharge a variety of toxic pollutants from the Petrochemical Plant and seeks authorization for these discharges with this permit amendment application. Table 1 includes a handful of the many pollutants that Shell will discharge and some information on health and environmental concerns posed by those pollutants.

Table 1. Health and Safety Concerns Regarding Pollutants to be Discharged from Shell's Petrochemical Plant

POLLUTANT	KEY HEALTH AND SAFETY CONCERNS
Benzene	Cancerous health effect - benzene is a known human carcinogen for all routes of exposure based on convincing human and animal studies; linked to nonlymphocytic leukemia, chronic lymphocytic leukemia, hematologic neoplasms; myelodysplastic syndrome (MDS), Hodgkin's lymphoma, preleukemia and aplastic anemia. Experiential animal data add to the argument exposure to benzene increases the risk for hematopoietic, oral and nasal, liver, forestomach, preputial gland, lung, ovary, and mammary gland cancers as well Noncancer health effects - all routes of administration (oral, dermal, inhalation) result in adverse noncancer health effects including hematoxicity, with bone marrow as the principal target organ; progressive deterioration of hematopoietic function; decreases in absolute lymphocyte counts; neurotoxic effects after short term exposure in high concentrations; reproductive and developmental effects (data not conclusive to link to low exposure levels) https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/0276tr.pdf; https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0276_summary.pdf
Benzo(a)Anthracene	Reasonably anticipated to be a human carcinogen. Found to be genotoxic and carcinogenic in animal studies. https://pubchem.ncbi.nlm.nih.gov/compound/Benz_a_anthracene; http://onlinelibrary.wiley.com/doi/10.1002/3527600418.mb5655e0027/pdf
3,4-Benzofluoranthene	Benzo(b)fluoranthene is reasonably anticipated to be a human carcinogen. (NCI05) https://pubchem.ncbi.nlm.nih.gov/compound/9153#section=Top
Hexavalent chromium	Known human carcinogen "based on sufficient evidence of carcinogenicity from studies in humans." https://ntp.niehs.nih.gov/ntp/roc/content/profiles/chromiumhexavalentcompounds.pdf

B. Legal Background

The Clean Water Act, 33 U.S.C. § 1251, et seq. ("CWA") (1977), prohibits the discharge of a pollutant by any person into waters of the United States except as in compliance with the provisions of the Act in order to carry out its national goal of "eliminat[ing]" the discharge of pollutants into navigable waters by 1985. 33 U.S.C. § 1311(a), 1251(a). The Pennsylvania DEP is authorized to issue NPDES permits that permit the discharge of pollutants in accordance with the requirements of the Act and regulations promulgated by the United States Environmental Protection Agency ("EPA") in pursuance thereof. *Id.* § 1342.

When issuing an NPDES permit, DEP must impose the most stringent of applicable effluent limitations. DEP must, at a minimum, set technology-based effluent limits ("TBELs") that reflect the ability of available technologies to reduce or eliminate pollution discharges. *See* 33 U.S.C. §§ 1311, 1342(a)(1). If a discharge could cause or contribute to a violation of water quality standards in the receiving water, PADEP must include water quality-based effluent limitations ("WQBELs") in the NPDES permit to prevent the exceedance. 33 U.S.C. § 1312(a); 40 C.F.R. § 122.44(d)(1)(i).

EPA is required to promulgate Effluent Limitations Guidelines ("ELGs") to control discharges of pollutants into the waters of the U.S. from industrial point sources and to help implement the Clean Water Act's TBEL requirements. 33 U.S.C. §§ 1311(b), 1314(b). When setting TBELs, states look to federal ELGs first. *See Natural Res. Def. Council v. EPA*, 859 F.2d 156, 183 (D.C. Cir. 1988). Where EPA has not promulgated ELGs for a particular category of discharger, or where the existing ELGs do not address all waste streams or pollutants discharged by a facility, states must use their best professional judgment ("BPJ") and set TBELs based on the "best technology economically achievable" ("BAT") for each pollutant. *Id.* at 183; 33 U.S.C. § 1311(b)(2)(A); 40 C.F.R. § 122.44. When setting TBELs on a case-by-case basis, states must consider the same factors EPA must consider when promulgating ELGs. *See* 33 U.S.C. § 1342(a)(1); 40 C.F.R. § 125.3. As the D.C. Circuit explained, "[w]hen issuing permits according to its BPJ, EPA is *required* to adhere to the technology-based standards set out in § 1311(b). States issuing permits pursuant to § 1342(b) stand in the shoes of the agency, and thus must similarly pay heed to § 1311(b)'s technology-based standards when exercising their BPJ." *Natural Res. Def. Council*, 859 F.2d at 183.

Thus, PADEP must consider various factors, including "available" control technologies, the production process in use and the possibility of changing processes, the non-water quality impacts of controlling pollution, the age of equipment, and the costs of pollution control. 33 U.S.C. § 1314(b)(2)(B); 40 C.F.R. 125.3(d)(3). In addition, BAT-based limits "*shall require the elimination of discharges of all pollutants* if the Administrator finds, on the basis of information available to him . . . that such elimination is technologically and economically achievable." 33 U.S.C. § 1311(b)(2)(A) (emphasis added).

DEP's fact sheet states that the federal ELGs for the Organic Chemicals, Plastics and Synthetic Fibers Category apply to Shell's Petrochemical Plant. Fact Sheet, at 22. The Petrochemical Plant produces ethylene from its ethylene cracker unit (SIC code 2869) at a production rate of 1.65 million tons per year, which is subject to Subpart F, "Commodity Organic Chemicals," (40 C.F.R. §§ 414.64, 414.91), and polyethylene from its polyethylene units 1, 2, and 3 (SIC code 2821), which are subject to Subpart D, "Thermoplastic Resins." *See id*. The ELGs for the Organic Chemicals, Plastics, and Synthetic Fibers Category were promulgated in 1987 and have not been updated by EPA since 1993. *See* EPA, "Organic Chemicals, Plastics and Synthetic Fibers Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards," 58 Fed. Reg. 36,872, codified at 40 C.F.R. Pt. 414 (July 9, 1993).

C. Commenters

Commenters are organizations concerned with protecting Pennsylvania's environment and/or waterways, individuals who live, work, or recreate near the proposed Petrochemical Plant, and/or those who otherwise have an interest in this ensuring that the Petrochemical Complex is properly permitted and is in strict compliance with applicable laws and regulations. The full list of names and addresses of Commenters is provided at the end of this document.

III. OBJECTIONS

A. Shell's Petrochemical Plant is a new plant with new discharges and must be required to apply for a new NPDES permit.

Shell's Petrochemical Plant is a "completely new facility conducting different industrial activities" than the zinc smelting plant that was formerly located at this site but which has been "demolished." Fact Sheet, at 31–32. DEP acknowledges in that Shell is seeking to permit its new activities through an amendment to the NPDES permit for the now-non-existent Monaca Zinc Smelter in order to avoid more stringent effluent limitations, yet failed to reject this application. DEP must reject this permit application and require Shell to reapply for a new permit for its Petrochemical Plant in order to comply with the CWA and, as a matter of principle, to avoid extending to Shell the benefits of being subject to potentially weaker permit limits and less stringent permit application requirements that are associated with a permit amendment process as compared with a new permit application process.

1. DEP cannot allow Shell to call its Petrochemical Plant a "new facility" for some purposes and an "existing facility" for other purposes when doing so only serves to allow Shell to evade permit application requirements or more stringent effluent limitations.

Shell claimed its Petrochemical Plant was a "new facility" with new discharges for some purposes and an existing facility with existing discharges for other purposes, both of which enabled Shell to omit information that would have otherwise been required. For example, Shell failed to provide data including production data for its processes, laboratory information, whole effluent toxicity information, and Preparedness, Prevention and Contingency Plan (PPC) information, stating that required information was "Not Applicable – New Facility." *See* NPDES Amendment Application, at 10–15. However, elsewhere in the application, Shell claimed its cooling tower system was an "existing" facility and that TDS loads from its 2006 application were "existing" mass loadings for the purposes of being subject to weaker effluent limitations. Fact Sheet, at 31 (These issues are discussed in other sections of these Comments, *infra*). As DEP states, Shell's Petrochemical Plant is a "completely new facility conducting different industrial activities" than previous site operations. Fact Sheet, at 31–32. Shell must be held to new discharger standards for all discharges and all purposes, and must be required to obtain a new and separate NPDES permit.

2. DEP must reject Shell's amendment application and require Shell to submit an application for a new, distinct NPDES permit for the Petrochemical Plant because an amendment application fails to require data, fees, and other information required for a new permit.

By applying for an amendment to the NPDES permit for the Horsehead zinc smelter, Shell has not only persuaded DEP to impose weaker effluent limitations but has also benefitted from a different application process that requires less information to be publicly disclosed. DEP must require that all information required for a new facility is required for Shell through a new application for a new, distinct NPDES permit.

Shell has gone through an Amended NPDES permit application process as opposed to completing a standard, mandatory Individual NPDES application for a brand new industrial operating facility. In doing so, Shell was subjected to a different application process as required by DEP. An amended permit is treated differently than a new permit for the purposes of NPDES applications. Shell's amended permit is an extension of a pre-existing permit held by Horsehead Corporation for a now obsolete Zinc Smelting plant. The Zinc smelting process and the Petrochemical processes are entirely different manufacturing processes in different chemical industries that involve entirely different potential pollutants. They pose unique threats to the environment, specifically the waterways, and they require different safety standards.

Compared with an application for an individual NPDES permit for a new facility, an application to amend an NPDES permit is an extraordinarily simplified application process. There are an additional 39-pages of substantive documentation and 46-pages of instructions for a new individual NPDES permit, not to mention addendums and supplemental documents. An Amended NPDES requires almost no research or analysis. On the other hand, an Individual NPDES requires extensive research and analysis. The difference is a check-the-box format to a full-body scan. By allowing Shell to apply for an amended NPDES permit, DEP is permitting Shell to piggyback on Horsehead's pre-existing NPDES permit for an unrelated and demolished facility, and, in doing so, allowing Shell to bypass the time, money, and disclosures associated with having to submit a sufficient full-fledged NPDES permit. Shell also avoids the additional regulatory and public scrutiny of its plant by not disclosing information that would otherwise be required. In fact, the instructions for a permit amendment application even state, "**Important Note**: this amendment application is made available as a convenience so that the applicant can bypass completion of the lengthier individual NPDES permit applications." DEP, NPDES, Application for Permit Amendment, http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-102026/3800-PM-BPNPSM0027b%20Application.pdf.

Despite its unique situation of breaking ground on a new plant at a previously pollution-heavy piece of property, which should require more, not less, information to be disclosed to ensure protection of health and waterways, Shell will have disclosed a fraction of the information it would otherwise during its application process. Finally, although it is insignificant to a company like Shell, DEP, by allowing Shell to apply for an amended permit, has lost itself the additional $5,000 in permit application fees that is required for a new permit. DEP must require Shell to reapply for a new permit for the Petrochemical Plant in order to ensure full disclosure of site operations and accurate permit requirements based on a review of all the required information.

B. DEP incorrectly failed to apply the ELGs for the petroleum refining point source category to IMP 101, allowing Shell to escape limits on toxic pollutants such as hexavalent chromium.

Although DEP correctly applied ELGs at 40 C.F.R. Part 414, "Organic Chemicals, Plastic, and Synthetic Fibers," to the Petrochemical Plant's process discharges from IMP 101, the ELGs contained at 40 C.F.R. Part 419, Petroleum Refining Point Source Category, also apply.

EPA's *NPDES Permit Writers' Manual* states clearly that a facility can be subject to multiple effluent guidelines:

> When a facility is subject to multiple effluent guidelines, the permit writer must apply each of the effluent guidelines in deriving the technology-based effluent limits for the particular facility. If all wastewaters regulated by effluent guidelines are combined prior to treatment and discharge to navigable waters, then the permit writer could simply combine the allowable pollutant loadings from each effluent guideline to arrive at a single technology-based effluent limit for the facility (i.e., a "building block" approach).

EPA, *NPDES Permit Writers' Manual*, at 61 (Sept. 20, 1984), *available at* https://www3.epa.gov/npdes/pubs/chapt_05.pdf.

The Petrochemical Plant's processes meet the definitions for the "Cracking Subcategory," Subpart B,[2] as well as the "Petrochemical Subcategory," Subpart C,[3] of Part 419, but both of these provide that they are not applicable to facilities with processes that meet the definitions in Subcategory E, "Integrated Subcategory," which is what should apply to this discharge. Subcategory E states, "[t]he provisions of this subpart are applicable to all discharges resulting from any facility that produces petroleum products by the use of topping, cracking, lube oil manufacturing processes, and petrochemical operations, whether or not the facility includes any process in addition to topping, cracking, lube oil manufacturing processes, and petrochemical operations." 40 C.F.R. § 419.50.

The Petrochemical Plant uses petrochemical operations to produce petroleum products. Although not defined in Subcategtory E, "petrochemical operations" was defined in Subcategory C to as "the production of second-generation petrochemicals (*i.e.*, alcohols, ketones, cumene, styrene, etc.) or first generation petrochemicals and isomerization products (*i.e.*, BTX, olefins, cyclohexane, etc.) when 15 percent or more of refinery production is as first-generation petrochemicals and isomerization products." *Id.* § 419.31(b). The Petrochemical Plant produces 48.34% ethylene and 51.66% polyethlylene, both of which are olefins, meaning 100 percent of refinery production is as first generation petrochemicals. *See* Fact Sheet, at 22, Tbl. 1, Production Information. Shell even stated in its application that the production of ethylene is to be described as "Petrochemical Manufacturing." NPDES Application, Section 5, PADEP NPDES Application Forms, Application for Permit Amendment, at 3.

By failing to subject Shell's Petrochemical Plant to the Part 419, Subcategory E ELGs, DEP impermissibly failed to include applicable TBELs in Shell's permit. Most notable is that numeric limits would apply for total chromium and hexavalent chromium, the latter of which is a

[2] "The provisions of this subpart are applicable to all discharges from any facility that produces petroleum products by the use of topping and cracking, *whether or not the facility includes any process in addition to topping and cracking*." 40 C.F.R. § 419.20 (emphasis added).

[3] "The provisions of this subpart are applicable to all discharges from any facility that produces petroleum products by the use of topping, cracking, and petrochemical operations whether or not the facility includes any process in addition to topping, cracking, and petrochemical operations. The provisions of this subpart shall not be applicable, however, to facilities that include the processes specified in subpart D or E of this part." 40 C.F.R. § 419.30.

known human carcinogen (and the former of which Shell also managed to escape limits for under Part 414 in the Draft Permit – see Section III.D.4 of these Comments). 40 C.F.R. § 419.56; *see* Fact Sheet, at 24.

DEP must revise the permit to add the required TBELs from the Petroleum Refining Point Source Category to Shell's proposed discharges in order to ensure that all applicable TBELs will apply to control toxic and other discharges from the facility.

1. Shell cannot use the permit amendment process to escape compliance with TDS treatment requirements and, anyway, is not eligible for an exemption from these requirements even through the permit amendment process.

DEP incorrectly exempted Shell's Outfall 001 discharge from DEP's 2010 treatment requirements for Total Dissolved Solids ("TDS") on the basis that the "new discharge from the a completely new facility conducting different industrial activities" should be exempted as an "existing mass loading of TDS" under either of two exemptions. *See* Fact Sheet, at 31. Pennsylvania promulgated regulations in 2010 to address the "limited assimilative capacity" of Pennsylvania's rivers and streams for TDS, imposing treatment requirements on new or expanding mass loadings of TDS but exempting existing mass loadings. *See* Fact Sheet, at 31; 25 Pa. Code § 95.10 (Aug. 21, 2010). Shell's Petrochemical Plant represents a new mass loadings of TDS to which the 2010 regulations must apply, and neither of the claimed exemptions apply here.

Shell and DEP assert repeatedly and clearly throughout the application and the Fact Sheet, respectively, that this is a new facility and that the Outfall 001 discharge is a "new discharge." *See, e.g.*, Fact Sheet at 31, NPDES Amendment Application, at 22. DEP admits that "Shell requested to maintain the NPDES permit previously issued to" Horsehead in order to "maintain the existing TDS load that was *implicitly* authorized under that NPDES permit for discharges from" the zinc smelter and thereby evade DEP's 2010 TDS treatment requirements. Yet DEP, somewhat incredulously, jumps through hoops to attempt to justify how this new discharge could be exempted as "existing" based on discharges from the demolished plant for which no TDS loads were ever "authorized" by DEP prior to 2010 (as required for the exemption) in the first place. *Shell and DEP cannot cherry-pick instances in which they want their discharges to be considered "existing" in order to evade legal requirements designed to protect Pennsylvania's waterways.*

DEP's failure to impose TDS requirements for new and expanded discharges of TDS is not permissible according to the definitions in DEP's regulations because Shell's Outfall 001 discharge is unequivocally a "new discharge" subject to the regulations and this discharge does not meet the definitions of either of the exemptions that Shell and DEP claim apply here. Shell's discharges and claims of exemption fail to meet the regulatory standard for an exemption on multiple fronts. DEP admits that Shell's request to be exempted is "not necessarily consistent with the intent of § 95.10" because this is a "new discharge from a completely new facility conducting different industrial activities." Fact Sheet, at 31–32. Also, DEP never authorized any mass TDS loadings prior to 2010, even for the Horsehead plant. In addition, the new and

expanding discharges exceed the pounds per day threshold below which an exemption under (a)(7) could apply.

First, TDS loadings from Outfall 001 at the as yet non-operational Shell Petrochemical Plant are not "existing mass loadings" as defined by Pennsylvania's TDS regulations; they are unequivocally "new" and "expanding" mass loadings. The TDS regulations apply to "new and expanding mass loadings of TDS." 25 Pa. Code § 95.10. Shell unequivocally admitted that Outfall 001 is a "new discharge" by checking the "New Discharge" box of its NPDES Application. *See* NPDES Amendment Application, Analysis Results Table, Pollutant Group 1, Outfall 001, at 22 (this is the page where it lists its estimates of what its TDS discharge concentrations and mass will be from Outfall 001). However, Shell claims, and DEP agrees, erroneously, that Shell is exempt from these requirements under Sections 95.10(a)(1) and (a)(7). Section (a)(1) exempts "[m]aximum daily discharge loads of TDS or specific conductivity levels that were authorized by the Department prior to August 21, 2010. These discharge loads will be considered existing mass loadings by the Department." 25 Pa. Code § 95.10(a)(1).

Outfall 001 discharges were not authorized by the Department prior to August 21, 2010. For one, the wastewater to be discharged from Outfall 001 is the main discharge point from which all process wastewaters from the production of ethylene and polyethylene will flow, and these processes have not yet even begun to operate. The Outfall is described as "[t]reated process water and storm water from the wastewater treatment plant (monitored at IMP 101) and cooling tower blowdown (monitored at IMP 201)." Fact Sheet, at 31. These discharges do not represent existing mass loadings of TDS in any way.

In addition, there were *no maximum daily discharge loads of TDS* – or any discharge loads of TDS – authorized by the Department prior to 2010. Horsehead applied for an NPDES Permit renewal in 2006. DEP claims that although "Horsehead was not subject to TDS effluent limits," the TDS loads in Horsehead's 2006 application "are considered to be authorized" because the application concentrations/loads were "implicitly approved by issuing a permit based on that application." Fact Sheet, Attachment A, at 1. However, even if DEP were correct that loads in an NPDES application could qualify, this argument is fatally flawed because *DEP did not issue a permit based on that application until well after 2010.* According to DEP's efacts website, the 2006 renewal application was not approved by the Department until *2015*:

1076897	SHELL CHEMICAL APPALACHIA LLC	Major IW Facility <250 MGD	Renewal	Date Received 02/03/2006	Status Issued06/12/2015

Even DEP's guidance document (upon which DEP relies) explains, when providing that TDS in an application can provide the discharge loading information that is authorized, that "authorized" means "upon issuance of a permit," stating:

> [I]f TDS (or conductivity) data have been reviewed by DEP as part of an application for an authorized discharge, the discharge loading of TDS *has been authorized upon issuance of the permit* (or other vehicle), regardless of whether there is an actual limitation or monitoring requirement.

DEP, Policy and Procedure for NPDES Permitting of Discharges of Total Dissolved Solids (TDS) -- 25 Pa. Code §95.10, at 3 (Nov. 12, 2011), http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-85967/385-2100-002%20tech%20guidance.pdf. DEP's failure to issue the permit until 2015 means the TDS loading in the 2006 application was *not* authorized prior to 2010. Consequently, Shell cannot claim the Section (a)(1) exemption applies because DEP did not authorize any TDS loads prior to 2010 that could be claimed to be the "existing" loads, and anyway the discharges authorized by Outfall 001 are completely new discharges from a completely new facility than what the previous permit had authorized at any point.

Next, the Section (a)(7) exemption also fails to be legally applicable to Shell's TDS discharges in this case. Section (a)(7) exempts "[n]ew and expanding discharge loadings of TDS equal to or less than 5,000 pounds per day, measured as an average daily discharge over the course of a calendar year, otherwise known as the annual average daily load." 25 Pa. Code § 95.10(a)(7). Shell's estimated TDS loading from Outfall 001 is *91,442 pounds per day*, more than 18 times the limit for the exemption to apply. NPDES Application, Outfall 001 Analysis Results Table, Pollutant Group 1, at 22. DEP claims that cooling water discharges that feed into Outfall 001 should not apply, but fails to support this assertion. Even if DEP is correct, the TDS loading from IMP 101 (which feeds into Outfall 001 but does not include cooling tower blowdown from IMP 201) is still *50,078 pounds per day*, still more than 10 times the limit for the exemption to apply for a new discharge loading. Yet, DEP claims that Shell can claim the exemption because this is an "expanding" discharge load and this load does not *exceed* the previous load authorized by DEP by more than 5,000 pounds. *See* Fact Sheet, at 31–32 & Attachment A. However, new discharges from a new facility that replace discharges from a demolished facility do not constitute an "expansion." There are no ongoing process discharges from the zinc smelter, so the net increase in process discharges of TDS is 50,078 pounds per day.

Thus, Shell is not eligible for any exemption from the TDS requirements and, in fact, must be required to obtain a new NPDES permit for its new plant. *See* Section II.A, *supra*.

C. DEP's deletion or weakening of limits and monitoring requirements at the end of an "Interim Period" is not well-defined, fails to ensure remediation of discharges, and violates the anti-backsliding provisions of the Clean Water Act.

The Draft Permit proposes to delete and weaken monitoring requirements for several toxic pollutants that are the result of legacy pollution at the site at the end of an Interim Period that is not defined in the permit documents rather than upon a finding that this pollution has been remediated. Doing so contravenes the Clean Water Act's cornerstone prohibition on discharges of pollutants from a point source without a permit and its anti-backsliding provisions. The Clean Water Act prohibits weakening of effluent limitations contained in a previous permit. 42 U.S.C.

§ 1342(o). While an exception can be made where there have been "material and substantial alterations or additions" to a facility, this exception only applies where the alterations or additions are those "which justify the application of a less stringent effluent limitation." *Id.* § 1342(o)(2)(A).

The Draft Permit's removal of limits and monitoring requirements at the end of the Interim Period without clearly defining when this period ends and without requiring the pollution to be abated and that the requirements are no longer warranted, threatens health and the environment and violating the CWA and Pennsylvania's Clean Streams Law ("CSL").

1. The Draft Permit removes limits and monitoring requirements for toxic pollutants at several outfalls after an "Interim Period" without ensuring the pollution has ceased.

The Draft Permit illegally removes permit limits for arsenic and lead from Outfall 004 and even deletes the requirements for Shell to monitor these pollutants at the end of the Interim Period without requiring that the discharges of these pollutants will cease upon construction of the Petrochemical Plant. Similar deletions and weakening of requirements after an Interim Period apply to Outfalls 007, 008, 009, 010, and 013. *See* Table 2.

Table 2. Pollutants (With Limits and/or Monitoring Requirements in the Interim Period) That Are Deleted from the Permit After the "Interim Period" Ends

Outfall 004	Outfall 007	Outfall 008	Outfall 009	Outfall 010	Outfall 013
Nitrate-Nitrite, Aluminum, Arsenic, Cadmium, Chromium, Copper, Fluoride, Iron, Lead, Thallium, Zinc	Arsenic, Barium, Cadmium, Chromium, Copper, Fluoride, Manganese, Mercury	Arsenic, Barium, Cadmium, Chromium, Copper, Fluoride, Manganese, Mercury	Arsenic, Barium, Cadmium, Chromium, Copper, Fluoride, Manganese, Mercury	Arsenic, Cadmium, Chromium, Copper, Fluoride	Arsenic, Cadmium, Chromium, Copper, Fluoride, Nickel, Thallium (plus Lead and Zinc limits and 2x/month monitoring replaced with 2x/year report only)

Rolling back these limits without justification that such limits are no longer warranted violates the Clean Water Act and may serve to threaten protect public health and safety, and deleting the requirement to even monitor for these pollutants further threatens public safety by eliminating the only means the public would have to determine whether these discharges were still occurring or not. DEP must retain all monitoring requirements and limits imposed during the Interim Period through the end of the Final Permit term in order to comply with the law and

protect public health from the unmonitored or unlimited release of arsenic, lead, and other toxic pollutants into the Ohio River.

2. DEP fails to define when the "Interim Period" ends and the "Final Period" begins.

The Draft Permit imposes Interim Limits at Outfalls 004, 007, 008, 009, 010, and 013 that are removed or weakened at the end of the "Interim Period," but this term is not defined in the Draft Permit. The Fact Sheet states that "[m]onitoring locations with outfall numbers that will be reused for discharges from the future petrochemical plant will have an interim effective period during which the existing permit limits will be in effect and a final effective period for discharges associated with the petrochemical plant." Fact Sheet, at 1. It further refers to "the interim period between shutdown of the Horsehead Monaca Zinc Smelter and startup of Shell's petrochemical plant." It is not clear whether the Final Limits – and the associated removal of limits – will apply at the day the plant starts operating, the day of the first discharge from these new outfalls, or at some other time. This needs to be clarified as a preliminary matter that is related to the larger concern of Commenters that the removal of the limits and monitoring requirements at these outfalls does not appear to be upon confirmation that the pollutants being discharged from the outfalls will cease to be discharged (see next section, *infra*).

3. Existing contamination at the site is pervasive, and Shell has stated openly and flagrantly that its demolition and construction activities under Act 2 will not clean up the existing contamination.

The Draft Permit deletes monitoring requirements and limits for several pollutants despite the fact that these pollutants are currently being released into soil and groundwater at the site and Shell does not have any plans to clean up the site.

Shell's Act 2 application found "high levels of lead, arsenic and several other contaminants in the soil and groundwater," yet Shell has decided to allow the groundwater to continue to be polluted instead of paying to clean up the site. Anya Litvak, "Shell plans to spend $80 million to clean up contamination at Horsehead site," *Pittsburgh Post-Gazette* (Sept. 22, 2015). After evaluating several options, Shell rejected remediation options that would have actually cleaned up the pollution and opted to allow the pollution to remain in place. Options Shell considered but rejected included excavating and removing all the impacted soil (2.3 million cubic yards) at a cost of $150 million to $200 million and stabilizing the soil with material to prevent metals from leaching into the groundwater at a cost of $90 million to $250 million. *Id.* Instead, Shell decided to cap the site with only soil (five to seven feet)—which is not impermeable and will not be stabilized in a manner that would prevent leaching—and then restrict future use of the site through a deed in a manner than will not permit untreated groundwater from being used for potable or agricultural purposes. *Id.*

DEP's approval of a Draft Permit that deletes monitoring requirements and limits for arsenic, lead, and other toxic pollutants without ensuring the discharges have been cleaned up contravenes the spirit and purpose of the CWA to "eliminate" discharges of pollutants, violates

the Act's anti-backsliding requirements, and potentially jeopardizes human and environmental health.

D. DEP must require additional monitoring and reporting requirements from the cooling tower system.

The Draft Permit fails to impose limits that should apply to cooling tower blowdown discharges at this outfall and fails to impose monitoring requirements sufficient to ensure compliance with applicable TBELs. Shell will be using a closed-cycle recirculating cooling system for discharges from the cooling tower. Although Shell claims throughout its application that it is a new facility and a new discharger, and DEP restates this fact, both Shell and DEP claim that the cooling tower system is "existing" and that it should be subject to weaker effluent limitations because Shell is artificially reducing the capacity of the system from 80 Million Gallons per Day ("MGD") to approximately 20 MGD. This evasion of regulatory requirements should not be permitted, the applicable limits should not be relaxed, and additional requirements should be applied to these discharges.

1. DEP must not allow Shell to artificially reduce the capacity of hits cooling system in order to evade permit requirements.

Although DEP is requiring Shell to comply with "new discharger" requirements throughout the Draft Permit, DEP is treating Shell's Petrochemical Complex's cooling tower as an "existing facility" subject to less stringent permit requirements from IMP 201 on the basis of Shell's assertion that it is decreasing the intake capacity of the facility from 80 million gallons per day ("MGD") to 20 MGD. In addition to the ethylene and polyethylene production units, the Petrochemical Plant will also operate a cogeneration unit with cooling tower blowdown discharges. Section 316(b) of the CWA requires that standards for cooling water intake structure discharges "shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing environmental impact." 33 U.S.C. § 1326(b). While 40 C.F.R. Part 414 does not regulate cooling tower blowdown, DEP has correctly used its best professional judgment ("BPJ") to apply the ELGs applicable to cooling tower blowdown from the Steam Electric Generating Industry at 40 C.F.R. Part 423 to Shell's discharges in order to comply with CWA Section 316(b).

EPA's requirements for cooling water intake structures for new facilities under CWA Section 316(b) define a "new facility" as:

> [A]ny building, structure, facility, or installation that meets the definition of a "new source" or "new discharger" in 40 CFR 122.2 and 122.29(b)(1), (2), and (4) and is a greenfield or stand-alone facility; commences construction after January 17, 2002; and uses either a newly constructed cooling water intake structure, or an existing cooling water intake structure whose design capacity is *increased* to accommodate the intake of additional cooling water.

40 C.F.R. § 125.83 (emphasis added). While DEP is holding Shell to "new" discharger standards elsewhere in the Draft permit, Shell is claiming, and DEP has agreed, that Shell's cooling tower

is not a "new facility" under these regulations because Shell is using the cooling tower system from the zinc smelter but is *decreasing* the design capacity from the current 80 MGD to about 20 MGD. *See,* Shell NPDES Application, Section 9: Sourcewater Physical and Biological Baseline Characterization Study, at 4, n.5.

DEP and Shell have repeatedly asserted that this is a "new facility." DEP cannot now allow Shell to claim not to be a "new facility" when it allows Shell to evade permitting requirements. This is especially problematic given that DEP is not requiring reporting to confirm whether the flow is even actually reduced, which is discussed in the next subsection *infra*.

2. DEP must require reporting of cooling water intake flow monitoring data to the agency on at least a monthly basis with the required DMR data from all outfalls.

DEP has approved weaker permit limits for Shell's cooling system without even providing a means by which it can confirm that Shell has reduced its design capacity. DEP failed to require reporting of actual intake flow data until the next permit application, which is not required to be submitted until December 2019. DEP should require evidence of the reduced design capacity and also require that actual intake flow data from the cooling system is reported at least monthly after the plant is in operation in order to help confirm the reduction of the design capacity of the cooling system in fact.

First, DEP must require Shell to submit documentation that verifies that the capacity of the cooling tower unit has been decreased from 80 MGD to "18 to 21 MGD" as provided in the permit as a prior to authorization of this permit. *See* Shell NPDES Application, Module 5 – Cooling Water Intake Structures, at 1.

In addition, while DEP is requiring "at least daily" monitoring of actual intake flows from the cooling system, a closed cycle recirculating system, this intake flow data is only required to be reported "with the next permit renewal application." Draft Permit, at 87 (Section XI(F)). DEP must require that the required daily intake flow monitoring data be reported on a monthly basis in order to confirm the reduced capacity of the cooling system.

3. Shell's application failed to disclose estimated discharges from its "existing" cooling tower system.

As discussed elsewhere in these Comments, Shell is claiming that the cooling tower system is an "existing" facility with existing discharges in order to evade more stringent TBEL requirements. *See,* Shell NPDES Application, Section 9: Sourcewater Physical and Biological Baseline Characterization Study, at 4, n.5. However, if Shell has existing discharges, its amendment application should have disclosed anticipated discharges of any pollutant believed to be present in the discharges, and this should be based on actual discharge data for existing dischargers. *See, e.g.*, 40 C.F.R. § 122.45(b)(2)(i) (permit limitations, standards or prohibitions shall be based upon "a reasonable measure of actual production of the facility"). Shell cannot have it both ways, and must be required to submit a new and complete application.

4. DEP should limit and must require monitoring of chromium and zinc from cooling tower discharges at IMP 201.

DEP declined to apply the required TBELs on chromium and zinc on the IMP 201 cooling tower blowdown discharge on the basis that the list of chemical additives provided by Shell does not include chromium or zinc-based additives. However, Shell failed to disclose any estimated discharge concentrations of these or any other pollutants from this IMP, which could have been used by the DEP to actually evaluate anticipated discharge concentrations. Estimated discharge concentrations should have been available had it been true, as Shell is claiming, that this is an existing discharge for TBEL purposes. Shell cannot claim no limits should apply when they failed to provide required effluent information in their application, and DEP cannot assume no discharges of chromium or zinc based only on the basis of chemical additive data without requiring application data. First, DEP should deny this permit application on the basis of it being incomplete and must require Shell to supplement its incomplete application with estimated discharges of all pollutants from IMP 201 and/or admit that this is a new discharge source. Further, and in either case, DEP must impose required TBELs for chromium and zinc and regular monitoring of these pollutants to confirm ensure with TBELs.

5. DEP must require at least monitoring and reporting of the 126 priority pollutants from IMP 201 in order to ensure compliance with ELGs that represent BAT for these discharges.

While DEP's Fact Sheet correctly states that one of the applicable TBELs for IMP 201 (cooling tower blowdown discharges) is that there must be "no detectable amount" of any of the 126 priority pollutants from Appendix A to 40 C.F.R. Part 423, the Draft Permit fails to require *any* monitoring of *any* of these 126 pollutants from this Outfall. *See* Fact Sheet, at 29; Draft Permit, at 8, 79, 87. Part A of the permit only imposes limits on pH and chlorine as well as a reporting requirement for flow. While Part C of the permit contains the prohibition that "[c]ooling tower blowdown discharges shall contain no detectable amounts of the 126 Priority Pollutants listed in 40 CFR Part 423, Appendix A, that are contained in chemicals added for cooling tower maintenance," the only monitoring requirement included to ensure compliance with this prohibition is the statement that "[w]hen requested by DEP, the permittee shall conduct monitoring or submit engineering calculations to demonstrate compliance with this requirement." *Id.* DEP, and the public, cannot ensure compliance with the prohibition on detectable amounts of the 126 priority pollutants if no monitoring is ever required, and the permit currently fails to require any monitoring at all of any of these pollutants.

In order to actually require the application of limitations that represent the BAT and ensure compliance with this limitation, DEP must require at least monthly monitoring of the priority pollutants and must require that this monitoring data be submitted on a monthly basis along with the other discharge monitoring data.

E. DEP should impose additional limits and monitoring requirements in order to track and reduce new and legacy pollution from the site.

DEP failed to limit the concentrations of a variety of toxic pollutants from various plant outfalls, including pollutants Shell admitted will be present in its discharges, and failed to even require monitoring to determine the actual concentrations of pollutants discharged. DEP should use its discretion to add limits and monitoring requirements to this permit in order to monitor and curb pollution from this facility.

1. DEP should use its discretion to impose limits as set forth in 40 C.F.R. § 414.91 and monitoring requirements for chromium, copper, nickel, and total cyanide, as well as lead and zinc, from IMP 101.

Shell has admitted that chromium, copper, nickel and cyanide will be discharged from IMP 101. Yet, DEP failed to apply applicable TBELs for these pollutants or lead or zinc, assuming that the discharge will have low concentrations of these pollutants. Yet none of these pollutants is being monitored, let alone limited, at either IMP 101 or at Outfall 001 (its discharge point), despite Shell's acknowledgment that these pollutants will be present in these discharges. *See*, Fact Sheet, at 23–24, *and* NPDES Amendment Application, IMP 101 Analysis Results Table, Pollutant Group 2, at 17. Lead and zinc should also be included; these pollutants are present in high levels at the site, from the previous operations, and monitoring is necessary to confirm that they are not present in high concentrations in discharges. DEP should impose metals limits consistent with 40 C.F.R. § 414.91 for all of these pollutants and should at the very least require at least monthly monitoring of each of these pollutants from IMP 101.

2. Outfall 015 authorizes discharges from an illegal seep from a coal combustion residual landfill and must include TBELs for oil and grease as well as limits and monitoring requirements for additional coal ash pollutants.

Outfall 015 is an illegal groundwater seep that has been discharging without a permit, and DEP should impose required oil and grease limits as well as limits and monitoring of additional coal ash pollutants from this new outfall. Outfall 015 is described as follows: "Outfall 015 is not included in the existing permit. The groundwater seep that is being permitted under this amendment has existed for some time, but was never included in the NPDES permit for the site." Fact Sheet, at 20. DEP should have penalized Horsehead for this illegal discharge, which it admits has been discharging for "some time." *Id.* DEP has decided, correctly, to use its Best Professional Judgment ("BPJ") to apply limits from 40 C.F.R. Part 423, ELGs for the Steam Electric Generating Point Source Category, to this discharge. Fact Sheet, at 44. Given the ongoing and prolonged pollution from this discharge, DEP should apply all of the new ELGs for this outfall, which would include oil and grease limits in addition to total suspended solids. 40 C.F.R. § 423.12(b)(11). In addition, DEP should use its discretion to impose monitoring requirements for all pollutants required to be monitored at residual waste landfills to this discharge in order to ascertain the extent of contamination and determine whether further assessment or abatement is required under Pennsylvania regulations. *See* 25 Pa. Code § 288.254 (containing monitoring requirements for coal combustion residuals landfills).

F. DEP failed to limit flow from any of the pipes allowed to release pollutants from this plant and must revise the permit to limit flow.

DEP failed to limit flow from any of the Outfalls or IMPs in this Draft Permit. DEP must impose flow limits from all monitoring points. The Outfalls and IMPs in the Draft Permit contain nothing more than reporting requirements, some of which are only for daily maximum flow and an additional requirement to report monthly average flow. For most pollutants at most outfalls, only concentration or mass is required to be reported but not both, meaning an unlimited flow could significantly increase the total mass loading of pollutants into receiving waters. DEP must impose flow limits or set *both* concentration and mass limits for all pollutants from all outfalls in order to restrict the total loading of toxic and other pollutants from the Petrochemical Plant into the impaired Ohio River, Rag Run, and Poorhouse Run.

G. The petrochemical industry has an extensive record of noncompliance with permit limits, this site has a history of significant violations, and Shell has a record of noncompliance at its other petrochemical facilities.

While the NPDES permit application requires Shell to provide a Compliance History detailing whether Shell is "in violation of any DEP regulation, permit, order or schedule of compliance at this or any other facility," a broader look at compliance information for this site, Shell, and the petrochemical industry reveals reasons to be concerned regarding this site and this industry's compliance with NPDES permits.

The petrochemical industry has a history of discharging dangerous pollutants above permitted levels. *See, e.g.,* Table 3. All values provided on EPA's Enforcement Compliance History Online ("ECHO") database, and note that some of these exceedances have been resolved by regulatory authorities.

TABLE 3. Select Petrochemical Industry NPDES Permit Exceedances

PLANT, Owner, Permit Number	LOCATION	QUARTERS IN NON-COMPLIANCE	POLLUTANTS EXCEEDING PERMIT LIMITS	HIGHEST % ABOVE PERMIT LIMIT
Westlake Vinyls Inc., Westlake Petrochemicals Corp KY0003484	Calvert City, KY	9 of the last 12	Chloride	71%
			Hexachlorobenzene	111,624%
			Mercury	96%
			Toxicity	295%
			BOD	61%
			pH	N/A
Geismar Ethylene Plant, Williams Olefins LLC LA0069612	Geismar, LA	12 of the last 12	BOD	258%
			Oil and grease	249%
			TSS	124%
			pH	N/A
Javelina Gas Plant, Javelina Co., TX0105481	Corpus Christie, TX	12 of the last 12	BOD	367%
			Copper	1380%
			Oil and grease	180%
			Chem. Oxygen demand	122%
			TSS	77%
			Sulfide	73%
			Zinc	267%
Equistar Chemicals LP, Lyondell Basell, TX0119792	La Porte, TX	9 of the last 12	Chlorine	840%
			Copper	40%
			BOD	537%
			pH	N/A
			Nitrogen, ammonia total	88%
			TSS	227%
			Oil and grease	347%
			E. coli	1821% (outlier excluded)

In addition, the existing site has a record of pollution from the former zinc smelter operations and coal plant at the site that is extensive, and DEP was aware of compliance issues at this site yet approved this permit nonetheless. NPDES Permit PA0002208 has 69 exceedances of permit limits listed on ECHO for the last 12 available quarters. *See* Table 4.

Table 4. Horsehead Permit PA0002208 Limits Exceedances July 2013 to September 2016

POLLUTANT*	Aluminum	Manganese	pH	Selenium	TSS	Zinc
# Exceedances	4	4	5	36	7	11
Highest % Above Limit	45%	418%	N/A	203%	93%	160%

*Cadmium and lead removed as potential outliers with only one exceedance each.

And, DEP knew of these violations when it greenlighted approval of the permit. For example, regarding Horsehead's application to renew its permit in 2015, communications among DEP staff include a statement that states, "they have significant open violations, but I don't think that

should preclude you from issuing them a waterways permit." Horsehead Corporation, NPDES Permit Renewal Application (June 2015), DEP email communications from June 12, 2015.

Finally, Shell has a history of risky compliance issues at petrochemical plants. For example, Shell was just fined $91,800 in May 2016 for violations of 40 C.F.R. Part 68 related to Risk Management Plans ("RMPs") at the Shell Norco Chemical Plant East Site in Norco, Louisiana. *See* ECHO, Shell Norco Plant, Civil Enforcement Case Report, https://echo.epa.gov/enforcement-case-report?id=06-2016-3352. RMPs are required under the Clean Air Act for "facilities that use extremely hazardous substances." EPA, RMP Rule, https://www.epa.gov/rmp (last accessed Oct. 18, 2016). This plant is also in Significant Non-Compliance with the CWA for failing to submit discharge monitoring data for any of 2016. *See* ECHO, Shell Norco Chemical Plant East Site.

Given the history of compliance issues within the petrochemical industry, the history of pollution at this site, and the fact that violations have been noted at at least one of Shell's petrochemical plants, Commenters have many reasons to question compliance issues at this proposed facility, and reiterate our request to meet with DEP and EPA regarding this proposed facility and Draft Permit in order to discuss this further.

H. DEP's WQBEL calculations at Outfall 001 were inaccurate because DEP applied an incorrect flow value and Shell failed to provide required information, and DEP must require both deficiencies to be corrected.

1. DEP underestimated pollutant loads to the Ohio River from Outfall 001 by relying on an inaccurate flow value lower than Shell's reported flow volume when calculating WQBELs.

DEP's fact sheet shows the Outfall 001 design flow to be 3.75 MGD, but the analysis uses a discharge flow of 3.28 MGD. *Compare* Fact Sheet, at 31, *with* Fact Sheet, at Attachment B. Applying a lower flow means DEP underestimated the potential pollutant loads into the Ohio River from Outfall 001. DEP must revise its calculations and, if warranted, its WQBEL calculations and resulting effluent limits.

2. Shell's application lacks required data needed to calculate applicable effluent limitations.

In performing a Toxics Screening Analysis, DEP is supposed to identify "pollutants of concern" by calculating whether any toxic pollutant has a maximum concentration "as reported in the permit application or on DMRs" that is greater than the most stringent applicable water quality criterion. Fact Sheet, at 32. DEP acknowledges that "[t]his includes pollutants reported as 'Not Detectable' or as '<MDL' where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion." *Id.* In Appendix B, DEP's calculations of WQBELs for Outfall 001 include many non-detects, but fail to show the detection limit. Shell's application similarly fails to provide this information (and, in fact, seems to suggest that these are all "believed absent," because the application doesn't show any non-detects). By failing to provide the detection limits, it is impossible to determine whether there are

additional pollutants of concern. DEP should require Shell to submit a complete permit application that includes all data – including detection limits for all non-detects - for all pollutants in order to ensure that appropriate and accurate limits are placed on the Petrochemical Plant's discharges.

3. DEP should require Shell to apply for an amendment to its new permit once the Petrochemical plant is operational to reevaluate WQBELs from Outfalls 002, 003, 006–010, and 012–014, for which discharge quality was not available at the time the Draft Permit was issued.

Shell claimed that there are "no data on which to base an evaluation of storm water quality" from Outfalls 002, 003, 006–010, or 012–014, so DEP did not perform a WQBEL analysis for these outfalls and simply imposed report-only requirements for a handful of pollutants based on the PA General Permit PAG-03 for stormwater discharges and declined to impose any monitoring requirements. *See* Fact Sheet, at 38. These Outfalls generally discharge stormwater, the makeup of which, since it drains from land area affected by historic uses, will likely be similar in the future to what it has been in the recent past. Shell therefore has a perfectly reasonable set of data with which to characterize the stormwater discharges. However, even if it were true that Shell could not apply the pre-existing data or data from other facilities or find another way to estimate discharges, DEP should use its discretion to require Shell to submit actual monitoring data once the plant is operational and require Shell to apply for an NPDES permit amendment, if warranted, based on the actual discharges, rather than simply applying no limits at all.

I. Additional questions and concerns regarding Shell's Application and the Draft Permit.

1. DEP failed to limit discharges of coal ash pollutants from the captive landfill that used to discharge through Outfall 006.

The permit fails to address discharges of toxic and other pollutants from the captive landfill that formerly discharged through Outfall 006 (and is still discharging). DEP issued a completely separate NPDES Permit for this outfall to a different entity, Horsehead Corporation, in 2015, and DEP failed to incorporate this discharge into the Draft Permit despite the fact that it is on the Petrochemical Plant site, is in noncompliance with its current permit limits, and the permittee for that permit, Horsehead Corporation, has been mired in bankruptcy battles this year.

The Fact Sheet states that Outfall 006 used to monitor discharges "from a captive landfill for non-hazardous refractory bricks, fly ash, bottom ash and coal mill rejects from the former onsite power plant, and slag from Horsehead Corporation's secondary zinc smelting facilities," but that the landfill was removed from the NPDES permit because Horsehead retained ownership of the landfill, and that 006 would be redesignated for discharges from the South Ponds for the Petrochemical Plant. In fact, DEP issued a completely separate NPDES Permit, PA0254584, to Horsehead Corporation on September 1 2015, which authorizes discharges from Outfall 006. *See* DEP, NPDES Permit PA0254584 for the Horsehead Corporation Landfill, at 1 (Sept. 1, 2015).

This separate permit authorizes discharges from a landfill that is on the Petrochemical Plant Property, yet Shell is not the permittee with regard to that Outfall.

This landfill is still discharging high levels of dangerous pollutants according to its 2015 and 2016 monitoring data in excess of PA0254584 permit limits. *See* Table 5. There were also no permit limits applicable to several other toxic pollutants that are monitored from Outfall 006, yet these pollutants are being discharged at very high concentrations in comparison to Pennsylvania's Water Quality Criteria for Toxic Substances, including antimony, arsenic, and lead. *See* DEP, eDMR Reporting for PA0254584, Jan. 2015 through September 2016, http://www.depreportingservices.state.pa.us/ReportServer/Pages/ReportViewer.aspx?/WMS/EDMR (last accessed Oct. 18, 2016).

Table 5. Exceedances of Permit PA0254584 Limits at Outfall 006 from the Horsehead Corporation January 2015-September 2016.

POLLUTANT	EXCEEDANCES	HIGHEST CONCENTRATION (mg/L)	LIMIT TYPE
Aluminum	4 / 24	6.935 (limit: 3.8)	Average monthly
Selenium, Total	8 / 24	0.115 (limit: 0.07)	Average monthly
Total suspended solids ("TSS")	8 / 24	64 (limit: 30)	

This pollution is severe, ongoing, and Commenters have not been able to identify a plan to actually remediate the pollution here or elsewhere at this site. Shell has already abdicated responsibility for remediating legacy pollution at this site, opting instead to place a soil cover over the site and get a deed restriction on groundwater uses in place. The uncertainty regarding whether this site will be remediated properly in the future is further complicated by the fact that Horsehead Corporation's parent corporation, Horsehead Holdings Corp., has been mired in bankruptcy proceedings since February 2016, and although its plan to exit bankruptcy was just approved in September, its future ability to address pollution from this landfill is unclear. *See, e.g.*, Reuters.com, "Judge Approves Horsehead Holding Bankruptcy Exit" (Sept. 2, 2016), *available at* http://www.reuters.com/article/us-horsehead-hldg-bankruptcy-idUSKCN118231; *see also* http://horsehead.net/.

Are the ongoing violations of permit limits from Outfall 006 being addressed? Who will be responsible for permitting, monitoring, and remediation of discharges from this landfill should Horsehead be unable to perform its duties as the permittee? Commenters would like to discuss these and other compliance, permitting, and liability issues regarding the landfill with DEP prior to DEP taking any final actions regarding the Petrochemical Plant NPDES permit.

2. The Fact Sheet lists a private chemical company as the nearest downstream "public water supply intake" instead of an actual public water supply intake source.

The Fact Sheet lists NOVA Chemicals Corporation as the "Nearest Downstream Public Water Supply Intake" for every single outfall. However, NOVA Chemicals Corporation is a

"multinational company producing polyethylene, styrenic polymers, monomers, and a variety of coproducts," not a public water supply intake. NOVA Chemicals Corporation, http://www.novachem.com/Pages/home.aspx (last accessed Oct. 14, 2016). DEP cannot adequately assess impacts on downstream public water supply users of the discharge of pollutants from the site unless it accurately characterizes the downstream users. Commenters request that the nearest public water supply intake be revised and considered by DEP.

3. DEP must not remove any storm water outfalls from the permit or allow Shell to stop collecting and treating storm water unless the storm water discharges are clean *in fact* and not just so-called "clean."

The Fact Sheet states that any "storm water that may be contaminated by operations at the petrochemical plant" after transitional activities are complete "will be directed to treatment along with the plant's process wastewaters." Fact Sheet, at 2. However, it further states that Shell is seeking a determination from DEP prior to completing transitional activities that "the site's storm water is 'clean,' which would eliminate the need to collect and treat storm water before all transitional activities are complete," and after which Shell would request that those outfalls be removed from the permit. *Id.* Similarly, the Outfall descriptions for several storm water outfalls state that the outfalls will be maintained for storm water treatment unless "treatment for legacy contaminants is no longer required." *See, e.g.,* Fact Sheet, at 12–15 (for Outfalls 007–010).

The Draft Permit materials do not specify what criteria DEP will use to determine what is "clean" or what will form the basis of whether treatment is "no longer required," and it is not clear why "clean" was placed in quotation marks in this description. Commenters urge DEP not to grant Shell's determination request unless discharge data from each affected stormwater outfall supports DEP's determination. Commenters also request public notice and a 30-day public comment period on any application by Shell to delete a stormwater outfall from this permit.

IV. Conclusion

For the foregoing reasons, DEP must reject Shell's Amendment Application and require Shell to submit an application for a new individual NPDES Permit. In addition, the requirements in the resulting permit must substantially reassessed and revised before a final permit for can be issued. Thank you for your consideration of our comments.

Respectfully submitted,

_____

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