

various compounds. Ultimately, the wastewater from the facility is discharged into the Ohio River.

Wastewater discharged from Shenango's facility is regulated under the terms and conditions of National Pollutant Discharge Elimination System (NPDES) permits issued by the Department in accordance with Section 402(b) of the Clean Water Act, 33 U.S.C. §1342(b). NPDES permits establish specific effluent limits on the various outfalls located within a facility. Shenango's system of outfalls includes three interior discharge points: Outfall 101, whose discharges are the principal subject of this appeal, receives wastewater from the physical/chemical treatment plant; Outfall 201, which receives wastewater from the hot lime soda ash softener blowdown; and Outfall 301, which receives wastewater from the zeolite softener backwash and boiler blowdown. Effluent from these outfalls then combines with non-contact cooling water streams and is discharged into the river at the final, exterior outfall, Outfall 001. This outfall is regulated by the Department under the Effluent Limitation Guidelines (ELGs)¹ codified at 40 C.F.R. 420 Subpart A-Cokemaking Subcategory.²

¹ ELGs are uniform, categorical national standards promulgated by the Environmental Protection Agency (EPA) for major industrial categories and set forth limitations on the quantities, rates and concentrations of specified substances discharged from specific sources based on the applicable technology of the discharging facility. These technologies include the most stringent Best Technology Economically Achievable (BAT), the median Best Conventional Technology (BCT), and the least stringent Best Practicable Control Technology Currently Available (BPT).

² Normally, discharge at this outfall would have been subject to the BAT standards for ammonia-nitrogen (ammonia) and phenols, 40 C.F.R. 420.13(a)(3), BCT standards for pH, 40 C.F.R. 420.17(a), and BPT standards for cyanide, 40 C.F.R. 420.12(a). However, Shenango had been granted a variance in accordance with Section 301(g) of the Clean Water Act, 33 U.S.C. **(Footnote continued on next page...)**

Although Shenango has received NPDES permits containing mass-based effluent limits³ for many years, in the 2002 permit (Permit), the one at issue in this appeal, the Department further imposed average monthly and daily maximum concentration limits for ammonia, phenols and cyanide at Outfall 101 pursuant to 25 Pa. Code §92.57, *Effluent limitations*, which states:

NPDES permits shall specify average and maximum daily quantitative limitations for the level of pollutants in the authorized discharge in terms of weight except pH, temperature, radiation and any other pollutants not appropriately expressed by weight. Permits may in addition impose limitations on frequency of discharge, concentrations or percentage removal, and may include instantaneous maximum limits, BMPs [best management practices] or any other limitations, as necessary.

(Emphasis added.) The Permit also imposed pH limits for Outfalls 101, 201 and 301.

The additional limits were added because Shenango had repeatedly exceeded the mass-based effluent limitations for the pollutants ammonia, phenols

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§1311(g), for its discharge of ammonia and phenols which effectively allowed it to calculate the effluent limits of these two pollutants using the BPT standard rather than more rigorous BAT level.

³ Shenango does not dispute the mass-based effluent limits in the Permit.

and cyanide from 1998 to 2002.⁴ It also exceeded the limits for pH levels at various times. In imposing those limits, the Department did not conduct a site-specific analysis of Shenango's facility, taking into consideration factors such as Shenango's specific processes, control technology or economic burden before deriving the concentration limits in the Permit.⁵ Rather, the Department arrived at those limits by using the factors as set forth in the ELGs.

Opposing the limits on concentration and pH, Shenango filed an appeal of the Permit. A *de novo* hearing was held before the EHB where it contended that the Department lacked the authority to impose concentration limits in the Permit.⁶ While it acknowledged that 25 Pa. Code §92.57 and 40 C.F.R. §122.45(f)(2)⁷ provided that an NPDES permit may contain concentration limits in addition to mass-based limits, Shenango maintained that the limits were not

⁴ Shenango and the Commonwealth of Pennsylvania also entered into a Consent Order and Agreement on November 4, 1999, in which Shenango paid civil penalties for effluent, monitoring and unauthorized discharge violations.

⁵ For example, the Department did not consider the actual flow from Outfall 101 in determining the concentration limits. Also, the mass-based credits were inapplicable to the concentration limits.

⁶ In proceedings before the Board, the burden of proof is on the party asserting the affirmative of any issue. The party protesting issuance of a permit must come forward with evidence to show, on the record produced before the Board, that issuance of the permit was arbitrary or amounted to an abuse of discretion. *Berks County v. Department of Environmental Protection*, 894 A.2d 183 (Pa. Cmwlth. 2006).

⁷ In addition, 40 C.F.R. §122.45(f)(2), which regards mass limitations, provides:

Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.

“necessary” and offered the expert testimony of Gary Amendola, P.E. (Amendola) at the hearing who opined that these regulations did not provide the Department with the authority to implement concentration limits. It further asserted that imposition of the limits was arbitrary and capricious because the Department failed to conduct a best professional judgment (BPJ) analysis of Shenango’s facility, considering factors such as the cost to Shenango to institute new technology at its facility, the age of the current equipment at the facility, and the processes Shenango heretofore employed to reduce effluent levels prior to establishing the limits. Shenango also argued that the pH limits on the internal outfalls were unreasonable and unlawful. It claimed that pH monitoring at the internal outfalls was impractical because effluent from these sources was significantly diluted by the non-contact cooling water by the time it reached Outfall 001, the point where pH levels were usually monitored.

Finding that the Department’s inclusion of concentration and pH limits in the Permit constituted a reasonable exercise of its discretion and that it acted reasonable in relying on the concentration factors used to develop mass-based ELGs as a basis for the limits, the EHB dismissed Shenango’s appeal. As part of its reasoning, it stated that 25 Pa. Code §92.57 and 40 C.F.R. §122.45(f)(2) “clearly and expressly impart[ed] authority to impose concentration limits ‘in addition’ and ‘additionally’ to mass limits.” (EHB’s November 1, 2006 Decision at 11.) The EHB rejected Amendola’s testimony on this matter citing that it was an opinion on a question of law which was not in the purview of the witness. It also concluded that the Department did not need to conduct a BPJ analysis because such was only necessary when a particular industry lacked ELGs. The EHB then

noted that given Shenango’s compliance history, the Department properly imposed the limits in the permit to help ensure that Shenango correctly operated and maintained its treatment plant. Determining that Shenango had not met its burden of proving that the Department made an unreasonable decision in applying concentration and pH limits to its plant, the EHB upheld the limits, and this appeal by Shenango followed.⁸

I.

Shenango first argues that the EHB erred in concluding that 25 Pa. Code §92.57 gave the Department unbounded authority to impose the concentration limits. It maintains that “as necessary” modifies the entire phrase “limitations on frequency of discharge, concentrations or percentage removal, and may include instantaneous maximum limits, BMPs or any other limitations,”⁹ and thus, applies to all limitations, not just those in the final clause of the regulation. Because the record before the EHB lacked substantial evidence to support a conclusion that the concentration-based limits at Outfall 101 were “necessary,”

⁸ When reviewing decisions of the EHB, our scope of review is limited to determining whether constitutional rights were violated, whether an error of law was committed, or whether necessary findings of fact are supported by substantial evidence. *Global Eco-Logical Services, Inc. v. Department of Environmental Protection*, 789 A.2d 789 (Pa. Cmwlth. 2001).

⁹ Instantaneous maximum limits are “[t]he highest allowable discharge of a concentration or mass of a substance at any one time as measured by a grab sample.” 25 Pa. Code §92.1. BMPs are “[s]chedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce pollution to surface waters of this Commonwealth.” *Id.*

Shenango claims that the EHB erred in holding that the Department properly added concentration limits to the Permit.¹⁰

We disagree with Shenango's interpretation because a plain reading of 25 Pa. Code §92.57 indicates that the phrase "as necessary" only modifies "may include instantaneous maximum limits, BMPs or any other limitations." If limits on frequency of "discharge, concentration, or percentage removal" were intended to be implemented by the Department only when "necessary," the language "and may include" would have been omitted, and the factors would have been grouped together. Moreover, this plain reading of the statute is confirmed when the language of the current regulation is compared to its previous version, which provided:

NPDES permits shall specify average and maximum daily quantitative limitations for the level of pollutants in the authorized discharge in terms of weight except pH, temperature, radiation, and any other pollutants not appropriately expressed by weight. Permits may in addition impose limitation on frequency of discharge, concentrations or percentage removal.

¹⁰ Shenango also argues that the Board improperly rejected Amendola's testimony opining that the Department lacked the authority under 25 Pa. Code §92.57 to impose concentration limits. Contrary to Shenango's belief that Amendola was offering guidance on the application and effect of the regulation, his opinion regarded the legal appropriateness of the Department's actions in light of the regulation, a matter which is solely left to the Board to determine. See *Murphy v. Department of Education*, 502 A.2d 382, 386 (Pa. Cmwlth. 1986); *Browne v. Commonwealth*, 843 A.2d 429, 434 (Pa. Cmwlth. 2004).

8 Pa. Bull. 31 (August 5, 1978). As can be seen when the regulation was amended on November 17, 2000, to reflect its current form, the phrase “as necessary” followed the new text, “and may include instantaneous maximum limits, BMPs or any other limitations,” demonstrating the intent to only modify that portion.¹¹ Consequently, the Department’s authority to impose frequency of discharge, concentration or percentage removal limits is not restricted to an “as necessary” basis, but rather, the Department may use reasonable discretion in determining whether this measure will better protect the waters of the Commonwealth.¹²

Shenango also claims that the Department possessed other means such as civil enforcement orders, civil penalties and injunctive relief besides the concentration limits to ensure the proper maintenance and operation of its facility. Even if the Department were required to pursue alternative remedies, Shenango’s argument is a bit disingenuous because the record shows that even after paying civil penalties pursuant to a Consent Order and Agreement with the Department in 1999, Shenango continued to violate its permit limits. Because Shenango has

¹¹ See 30 Pa. Bull. 47, Part II (November 18, 2000).

¹² Even if we were to conclude that the Department could only impose concentration limits “as necessary,” the record, nevertheless, supports their imposition considering the repeated operation and maintenance problems Shenango has encountered in the years prior to the issuance of the Permit. The EHB found, based on a series of Shenango’s Discharge Monitoring Reports, that from 1998 until the permit became effective on October 1, 2002, Shenango had violated the mass effluent limitations for the pollutants ammonia, phenols and cyanide at Outfall 101 approximately 71 times. This pattern of non-compliance constitutes substantial evidence demonstrating that concentration limits were needed to compel Shenango to properly operate and maintain its wastewater treatment facility.

failed to show that the Department acted unreasonably in imposing the concentration limits in the Permit, the EHB did not err in upholding the limits in this regard.

II.

Shenango argues next that the EHB erred in concluding that the Department was not required to perform a facility-specific analysis prior to imposing the concentration limits in the Permit. It contends that 40 C.F.R. §§125.3(c) and (d)¹³ mandate that the Department conduct a site-specific inquiry when no ELGs exist for the particular industry or the ELGs that do exist are inapplicable. Even though Shenango concedes that ELGs exist for the cokemaking industry, it maintains that these limits speak only in terms of mass, and the concentration limitations imposed by the Department were not generated pursuant to the ELGs.

Shenango's argument fails because the Department applied these ELGs in developing the concentration-based limitations for Shenango.¹⁴ The

¹³ According to 40 C.F.R. §125.3(c), a facility-specific inquiry is only necessary prior to the application of a technology-based effluent limitation when no ELGs exist for the industry at issue. When such an inquiry is needed, the permit writer must consider 1) the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application; 2) the age of the equipment and facilities involved; 3) the process employed; 4) the engineering aspects of the application of various types of control techniques; 5) process changes; and 6) non-water quality environmental impact (including energy requirements). 40 C.F.R. §125.3(d)(1).

¹⁴ The EPA established a standard for the mass-based effluent limitations throughout the development of the ELGs that regulate the cokemaking industry. In doing so, it conducted an extensive study and analysis of the industry and advanced a sizeable report known as the **(Footnote continued on next page...)**

ELGs applied by the Department cover the cokemaking industry and do not contemplate that a site-specific analysis be made to regulate conditions at any single facility. As the EHB stated, the ELGs “represent a technical as well as a policy decision that a certain level of treatment should be required for a particular industry in order to balance the need to operate a successful business with the need to protect the nation’s waterways.” (EHB’s November 1, 2006 Decision at 15.)

With regard to the applicable ELGs here, the mass-based limits for ammonia were derived from the product of the loading factor (the concentration of a pollutant measured in lbs/1000 lbs production/day) and the production flow. However, before the EPA arrived at these mass limits, it also had to compute the loading factor for ammonia which is the product of its long-term concentration (97.2mg/l) and the “model flow” (225 gallons). These values were based on non-site-specific information gathered by the EPA through a survey of the iron and steel industry. They cannot be altered due to the amount of flow, the treatment techniques used by the facility, or the age of the facility’s equipment because they

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“Development Document for Effluent Limitations Guidelines, New Source Performance Standards and Pretreatment Standards for the Iron and Steel Manufacturing Point Source Category” (Development Document). Setting forth the development of ELGs in the Development Document, the mass effluent limits applicable to a discharger were derived from a formula comprised of the long-term average discharge concentration for regulated pollutants and a representative wastewater flow to produce a ton of product. The basis for the factors in this formula was information the EPA gathered from its own sampling data and data reported by the iron and steel industry. The EPA’s long-term average discharge concentration represented the average concentration of a pollutant at the various coke facilities it surveyed prior to promulgating the ELGs, as well as the effluent concentration of a pollutant that, in its judgment, could have been met by a well-operated and maintained treatment plant.

were the factors used by the EPA to derive industry-wide standards. Although the long-term concentration and “model flow” values were not listed in a separate effluent limit regulation as stand-alone requirements, they were not merely “plucked” by the Department from tables in the EPA’s Development Document as Shenango has suggested. Instead, they are systematic components that produce the mass-based limits found in 40 C.F.R. §420.12(a), which Shenango does not dispute. As such, the EHB did not err in concluding that a site-specific investigation of Shenango’s facility was not warranted before the Department imposed the concentration limits because it employed the concentration values found in the EPA-promulgated ELGs.

III.

Finally, Shenango argues that the EHB erred in upholding the Department’s imposition of the pH limitations at the internal outfalls because it disregarded 40 C.F.R. §122.45(h)¹⁵ which restricts effluent limitations on internal

¹⁵ 40 C.F.R. §122.45(h) provides:

(h) Internal waste streams.

(1) When permit effluent limitations or standards imposed at the point of discharge are impractical or infeasible, effluent limitations or standards for discharges of pollutants may be imposed on internal waste streams before mixing with other waste streams or cooling water streams. In those instances, the monitoring required by §122.48 shall also be applied to the internal waste streams.

(2) Limits on internal waste streams will be imposed only when the fact sheet under §124.56 sets forth the exceptional circumstances which make such limitations necessary, such as when the final discharge point is inaccessible (for example, under

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waste streams to instances where their application at the ultimate point of discharge is impractical or infeasible and requires the Department to demonstrate that these internal outfall limits were necessary. Because the pH may be monitored at the external outfall, Shenango maintains that the pH limits at the internal outfalls in the Permit are unlawful.¹⁶

The “internal waste stream” rule as set forth in 40 C.F.R. §122.45(h) allows the EPA or the Department to impose effluent limits on internal outfalls because monitoring a particular effluent at an external outfall is sometimes impractical as the final discharge may be inaccessible, several effluents may combine complicating the separate monitoring of each, or dilution during treatment may leave an effluent present in immeasurably small, but still harmful, concentrations. *Texas Municipal Power Agency v. EPA*, 836 F.2d 1482 (5th Cir. 1988). Shenango concedes that the effluent from its internal outfalls is significantly diluted before reaching Outfall 001, and although Shenango is able to monitor the pH levels at Outfall 001, its Discharge Monitoring Reports show that it

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10 meters of water), the wastes at the point of discharge are so diluted as to make monitoring impracticable, or the interferences among pollutants at the point of discharge would make detection or analysis impracticable.

¹⁶ The Department contends that Shenango has waived the issue of whether it could have imposed the pH limits on the internal outfalls pursuant to 40 C.F.R. §122.45(h) because it did not raise this argument before the EHB. While Shenango never expressly addressed this regulation, it did argue that the imposition of the internal pH limits was unreasonable, unlawful, arbitrary and capricious. Therefore, raising this regulation on appeal is not asserting a new argument, but rather offering authority to support its prior argument. *Civil Service Commission v. Paieski*, 559 A.2d 121 (Pa. Cmwlth. 1989).

had violated the pH limits at Outfall 001 18 times approximately 21 months before the Permit was issued. Due to the dilution, the Department was unable to locate the source of the pH problems. Under such circumstances, it reasonably imposed pH limits on the internal outfalls to determine the origin of the problems by placing the monitoring point closer to the potential trouble spots in the wastewater stream. More importantly, much like its repeated violations of the mass-based limits, Shenango's record of non-compliance with the external pH limits demonstrates that the internal outfall limits were necessary to compel Shenango to operate its treatment system more effectively. The EHB did not err in upholding the Department's imposition of pH limits at the internal outfalls.

Accordingly, the order of the EHB is affirmed.

DAN PELLEGRINI, JUDGE

IN THE COMMONWEALTH COURT OF PENNSYLVANIA

Shenango Incorporated,	:
Petitioner	:
	:
v.	: No. 2203 C.D. 2006
	:
Department of Environmental	:
Protection,	:
Respondent	:

ORDER

AND NOW, this 2nd day of October, 2007, the order of the Environment Hearing Board, No. 2002-259-L, is affirmed.

DAN PELLEGRINI, JUDGE