

Section VI Comments on Revised Requirements for Internal Outfall 011

Comment VI.A.1: Requirement to Segregate Chemical and NonChemical Metal Cleaning Wastes From Low Volume and Ash Sluice Wastes

Mirant comments that:

Following are Mirant Canal's comments on the new and revised permit limits and conditions the Agencies have proposed for Canal Station's Outfall 011. Currently, this outfall is authorized to discharge a combination of ash sluice, low volume waste, and chemical metal cleaning waste, which are co-mingled for treatment prior to discharge. The proposed Draft Permit would impose significant new restrictions on both the current treatment system and the discharge via this outfall, as described below. Mirant Canal objects to these restrictions, for the reasons we detail.

Under the current permit, the Canal Station is authorized to discharge ash sluice water, equipment washes, and chemical metal cleaning wastes from Internal Outfall 011, which is defined as the "discharge from the Waste System Blowdown from Waste Ponds A, B, C or D regardless of the actual point of release into the cooling water discharge." *See* Federal Permit No. MA0004928, June 23, 1989, Part I.A.5. The low volume waste streams covered by the general term "equipment washes" include boiler blowdown, air pre-heater wash, SCR catalyst wash, boiler wash, furnace wash, stack and breeching wash, fan wash, precipitator wash, equipment wash dewatering press filtrate, and combustion air heater wash. The combined waste stream is subject to technology-based limits for copper, iron, total suspended solids ("TSS"), and oil and grease ("O&G"). Weekly grab sampling is required to assess compliance. In issuing the predecessor to this permit in 1983, EPA stated that the limits imposed "are based upon the Steam Electric Power Plant Guidelines ... as promulgated on November 19, 1982," and that those limits "satisfy all technology requirements of the Clean Water Act, including the 1984 BAT requirements for toxic pollutants and BCT for conventional pollutants." 1983 Draft NPDES Permit Fact Sheet, Attachment C.IV, p. 2 (citations omitted). As noted above in Section II.C, EPA also found that the monitoring requirements it imposed fully satisfied applicable regulatory requirements and were adequate for purposes of characterizing compliance with applicable limits.

In the Draft Permit, EPA proposes to require the Canal Station to segregate all metal cleaning wastes, both chemical and non-chemical, from ash sluice water, and to impose on both chemical and non-chemical metal cleaning waste streams the BAT effluent limitations guidelines for copper and iron, for which daily composite sampling would be required. *See* Draft Permit, Part I.A.5. The Draft Permit would specifically prohibit Mirant Canal from combining "low volume" waste streams¹ or ash sluice wastewater

¹ The Fact Sheet, p. 13, states, with respect to "Outfalls 011 and 012":

with metal cleaning wastewater prior to discharge to the final effluent flume. The Draft Permit also would require Mirant Canal to (1) submit an annual certification that all caustic used has no detectable levels of mercury, and (2) where chemicals are used for boiler cleaning, require composite sampling and analysis for petroleum hydrocarbons and priority pollutants.

From the discussion in the Fact Sheet, p. 13, it appears that EPA bases the new requirements for separation of both chemical and non-chemical metal cleaning wastes from ash sluice water and (other low volume wastes) on the assumptions that (1) “equipment washes” discharged via Outfall 001 under the current permit have been classified as metal cleaning wastes and, thus, are subject to technology-based limits for iron and copper, and (2) no treatment of chemical metal cleaning wastes occurs in the ash pond. Neither assumption is accurate. As is reflected by the current permit and by previous permit terms, non-chemical metal cleaning wastes have not been characterized, until now, as “metal cleaning wastes” *per se*, but rather as equipment washes. Pursuant to the June 17, 1975 “Jordan Memorandum”² equipment washes at the Canal Station

Under the current permit, low volume waste, metal cleaning waste and ash sluicing waste are allowed to be combined (in settling ponds) and discharged either through one of two treatment (neutralization) tanks or directly from the ponds. Low volume wastes consist of wastes from floor drains, waste treatment (demineralizer and condensate polisher), boiler blowdown, laboratory wastewater, and boiler seal water. Metal cleaning wastes consist of wastes from air preheater wash, boiler fireside wash, precipitator wash, boiler chemical cleaning, stack and breach wash, equipment cleaning and feedwater heater chemical cleaning.

This characterization is partially incorrect, as a legal and factual matter, for several reasons. First, while it correctly states that the Canal Station is allowed to co-mingle low volume wastes (*i.e.*, non-chemical metal cleaning wastes and boiler water and blowdown), chemical metal cleaning wastes, and ash sluice wastes for treatment and discharge via Outfall 011, it incorrectly suggests that the Canal Station co-mingles or is authorized to discharge other low volume wastes with those waste streams.

The remaining low volume wastes covered by the current permit are treated and discharged separately, via Outfall 012. Second, it incorrectly omits from the list of “low volume wastes” the non-[chemical] metal cleaning wastes currently treated and discharged via Outfall 011. Third, it inaccurately includes in the category of “metal cleaning wastes” those non-chemical metal cleaning wastes (including air pre-heater wash, SCR catalyst wash, boiler wash, furnace wash, stack and breeching wash, fan wash, precipitator wash, equipment wash dewatering press filtrate, and combustion air heater wash) which have been - and legally should be - classified as low volume wastes. Also, we note for the record that, on p. 9 of the Fact Sheet, EPA states that the Canal Station exceeded the average monthly flow limitation for 011 on 7/31/03. In fact, the Canal Station’s supporting documentation shows that the actual average monthly flow value for that month was 0.086, which is full compliance with the current permit. The value reported reflects erroneous transposition of a decimal point, which Mirant Canal will correct by separate notice.

² Memorandum from J. William Jordan, Chemical Engineer, EPA Permit Assistance & Evaluation Division, to Bruce P. Smith, Biologist, Enforcement Division, Region III, Re: Response to Request for Interpretation of the Chemical Effluent Limitation Guidelines for the Steam Electric Power Generation Industry. The Jordan Memorandum, p. 3, provides EPA’s contemporaneous interpretation of the term “metal cleaning wastes” as that term was used when the BPT effluent limitations were adopted in 1974. The memorandum states: “In regard to the question on distinguishing between metal cleaning and low volume wastes, the following classification is offered. All waste washing operations are ‘low volume’ while any discharge from any operation involving chemical cleaning should be included in the metal cleaning category.” After the 1982 revisions to the Steam Electric Guidelines, EPA retained this distinction for facilities to which it had previously applied.

were not regulated as “metal cleaning wastes” but instead were considered low volume wastes, to which iron and copper limits do not apply. Because chemical metal cleaning wastes and/or filter cake also are discharged to and treated by the waste treatment ponds, however, the iron and copper limits applied at the end-of-pipe.

That EPA considered the waste treatment ponds to provide treatment of chemical metal cleaning wastes also is evidenced by the fact that it chose not to require segregation of those wastes or set a combined wastestream limit in previous permits.

The practical and economic burdens that would be imposed on Canal Station if it were required to segregate chemical and, in particular, non-chemical metal cleaning wastes from ash sluice water and boiler blowdown are enormous. Given the current capacity of the waste treatment ponds at the Station, ensuring that such wastes would never be co-mingled with ash sluice water or other low volume wastes likely would require extensive modifications to the piping of the existing waste treatment system, as well as other modifications, possibly including construction of an additional waste treatment pond or even an additional clarifier. The cost of these modifications would be substantial. Our best (albeit rough) estimate is that costs would approach \$500,000, and would be far higher if a new clarifier is required. Moreover, construction of an additional waste treatment pond would require numerous approvals and permits (*see* Section XII on supplemental permitting issues) and likely would take between eighteen months and two years. For all of these reasons, it makes no sense for EPA to change its well-settled application of the technology-based limits for these waste streams.

Even if EPA could justify changing its previous assessment of the treatment capabilities of the waste treatment system to justify the segregation of *chemical* metal cleaning wastes, Mirant Canal believes EPA may not, and should not, require segregation of non-[chemical] metal cleaning wastes. Instead, non-chemical metal cleaning wastes should continue to be classified as “low volume wastes” that are subject to the same effluent guidelines that apply to ash sluice water. This would avoid the need for new construction, and allow Canal Station to maximize use of existing treatment facilities.

Response VI.A.1:

1. Regulation of Nonchemical Metal Cleaning Waste Discharges

Canal Station has many different types of pollutant discharges, including heated cooling water (i.e., thermal pollution), “chemical metal cleaning wastes,” and “ash sluice blowdown” (which is an “ash transport water” waste).³ It also discharges “nonchemical metal cleaning wastes,” which

³ Cf. 42 Fed. Reg. 15690, 15693 (Mar. 23, 1977) (Interim Regulations, Pretreatment Standards for Existing Sources, Steam Electric Generating Point Source Category) (listing the different types of wastewaters discharged by power plants as follows: metal cleaning wastes (without distinguishing between chemical and nonchemical metal cleaning wastes); cooling system wastes; boiler blowdown; ash transport water; and low volume waste).

have in the past been referred to in the context of this permit as “equipment washes.” Specifically, as noted in Canal Station’s comments, the facility’s “equipment washes” include wastewater from the following nonchemical, metal process equipment washing processes: air pre-heater wash, SCR catalyst wash, boiler wash, furnace wash, stack and breeching wash, fan wash, precipitator wash, and combustion air heater wash.

Canal Station’s existing permit (issued June 23, 1989) applies limits of 1.0 mg/L for both total copper and total iron in the discharge from outfall 011, which consists of wastewater combining chemical metal cleaning wastes, nonchemical metal cleaning wastes (*i.e.*, “equipment washes”), and “ash sluice blowdown.” *See* 1989 Permit, Part I.A.5.a. EPA’s new Draft Permit proposed changing this regime by requiring (a) that the nonchemical metal cleaning wastes (*i.e.*, equipment washes) and the chemical metal cleaning wastes both be discharged from outfall 011 and subjected to the 1.0 mg/L limits for total copper and total iron, and (b) that these two types of metal cleaning wastes be separated from the ash sluice blowdown, with the latter to be discharged from outfall 012 and not subject to the copper and iron limits.

In its comments on the Draft Permit, Mirant opposes the proposed changes to the existing permit. Although Mirant accepts the total copper and total iron limits as applied to the chemical metal cleaning waste stream, it submits that the nonchemical metal cleaning waste (or equipment washes) should be regarded as “low volume waste” and, as such, not subjected to the total copper and total iron limits.⁴ Mirant also comments that there is no need to segregate the metal cleaning waste stream(s) from the ash sluice blowdown waste stream, and that the total copper and total iron limits should continue to be applied at outfall 011 to the combined discharge of the chemical metal cleaning, nonchemical metal cleaning (*i.e.*, equipment washes) and ash sluice blowdown waste streams.

EPA disagrees with these comments and retains the conditions from the Draft Permit in the Final Permit. As explained in the Fact Sheet, and elaborated upon here, the Final Permit’s limits are consistent with the relevant provisions of the CWA and EPA’s regulations promulgated thereunder.

The basic requirements of the CWA NPDES permit program are well understood. CWA § 301(a) makes unlawful the discharge of any pollutant except in compliance with, among other

⁴ In footnote 1 above, Mirant comments that low volume wastes consisting of demineralizer and condensate polisher wastes are discharged from current outfall 012 and are not combined with the discharge through outfall 011 of ash sluice, “equipment washes” and chemical metal cleaning wastes. Mirant expresses concern that the Fact Sheet incorrectly suggests that the demineralizer and condensate polisher wastes are combined with the metal cleaning wastes in the waste treatment ponds and then discharged from outfall 011. EPA agrees that the demineralizer and condensate polisher wastes are discharged from outfall 012 and not combined with the metal cleaning waste streams. EPA also concurs that the Fact Sheet was confusing on this point. On page 14, the Fact Sheet correctly addressed the demineralizer and condensate polisher wastes, but the text on page 13 does appear to suggest that these waste stream were combined with the metal cleaning wastes prior to discharge through outfall 011. EPA has now clarified the matter in this footnote. The Agency also notes, however, that this point is inconsequential to EPA’s analysis and conclusion regarding waste stream segregation and the effluent limits and treatment requirements applicable to the chemical and nonchemical metal cleaning wastes.

things, CWA §§ 301 and 402. 33 U.S.C. § 1311(a). *See also* 40 C.F.R. § 122.1(b)(1). CWA § 402(a)(1) provides (in pertinent part) that EPA:

. . . may . . . issue a permit for the discharge of any pollutant, . . . notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable requirements under section[] 1311 . . . , or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.

33 U.S.C. § 1342(a)(1)(A) and (B). *See also* 33 U.S.C. § 1342(a)(2) and (b)(1)(A); 40 C.F.R. §§ 122.43(a), 122.44(a) and 125.3. CWA § 301(b) sets forth in narrative form the technology standards that pollutant discharges must satisfy and the deadlines by which compliance with them must be achieved. Effluent limitations based on application of the “best practicable control technology” (BPT) were generally to be achieved by July 1, 1977, 33 U.S.C. § 1311(b)(1)(A). *See* 33 U.S.C. § 1311(B)(3)(A); 40 C.F.R. § 125.3. Effluent limitations based on the “best technology economically achievable” (BAT) were to be achieved no later than March 31, 1989. 33 U.S.C. § 301(b)(2). *See also* 40 C.F.R. §§ 125.3.

When EPA has promulgated national effluent limitation guidelines (ELGs) applying the statute’s narrative technology standards to a particular industrial category’s pollutant discharges, then those ELGs provide the basis for the discharge limits included in the NPDES permits issued to individual facilities falling within the industrial category in question. 33 U.S.C. §§ 1342(a)(1)(A) and (b). *See also* 40 C.F.R. §§ 122.43(a) and (b), 122.44(a)(1) and 125.3. In the absence of a categorical ELG, however, EPA develops NPDES permit limits by applying the statute’s narrative technology standards (such as the BAT standard) on a case-by-case, best professional judgment (BPJ) basis. 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. §§ 122.43(a), 122.44(a)(1) and 125.3.

EPA has promulgated national ELG regulations for the “Steam Electric Power Generating Point Source Category,” of which Canal Station is a member. *See* 40 C.F.R. Part 423 (the Steam Electric Power Plant ELGs). These current ELG regulations define “metal cleaning waste” as:

any wastewater resulting from cleaning [with or without chemical cleaning compounds]
any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

40 C.F.R. § 423.11(d).⁵ Thus, the plain language of this regulation defines *metal cleaning waste* to include *any* wastewater generated from *either the chemical or nonchemical cleaning of metal process equipment*. Furthermore, the regulations define “chemical metal cleaning waste” as “any wastewater resulting from cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.” EPA also uses, but does not expressly define, the term “nonchemical metal cleaning waste” in the regulations when it states that it has “reserved” the development of BAT ELGs for such wastes. 40 C.F.R. § 423.13(f). While the

⁵ EPA’s current permitting decision is made under the present regulations, but earlier versions of the regulations are also discussed below to the extent they are relevant to EPA’s present analysis of the issues.

regulations provide no definition of “nonchemical metal cleaning waste,” the definitions of *metal cleaning waste* and *chemical metal cleaning waste* make clear that *nonchemical metal cleaning waste* is any wastewater resulting from the cleaning without chemical cleaning compounds of any metal process equipment. Finally, the regulations define “low volume waste” as:

. . . wastewater from all sources except those for which specific limitations are otherwise established in this part. Low volume wastes sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

40 C.F.R. § 423.11(b). The waste sources listed as examples of low volume wastes include various process and treatment system wastewaters and do not include wastewater generated from washing metal process equipment. Therefore, low volume wastes are distinct from metal cleaning wastes.

The ELG regulations establish BPT daily maximum and 30-day average limits of 1.0 mg/l for both total copper and total iron in discharges of “metal cleaning waste.” On the face of the regulations, these limits apply to both chemical and nonchemical metal cleaning wastes because, as stated above, both are included within the definition of “metal cleaning waste.” 40 C.F.R. § 423.12(b)(5), 423.11(d). Thus, under the effluent limitation guidelines, the facility’s nonchemical metal cleaning wastes are subject to BPT limits of 1.0 mg/l (maximum and 30-day average limits) for both total copper and total iron.

The regulations also set BAT daily maximum and 30-day average limits of 1.0 mg/L for both total copper and total iron in discharges of *chemical metal cleaning waste*, 40 C.F.R. § 423.13(e), while indicating that EPA has “reserved” specification of BAT ELGs for nonchemical metal cleaning waste. 40 C.F.R. § 423.13(f). Thus, although the regulations only set national, categorical BAT ELGs for *chemical* metal cleaning waste, they nevertheless indicate that the BAT standard applies to nonchemical metal cleaning wastes. EPA explained in the preamble to the Steam Electric Power Plant ELGs promulgated in 1982, that it was “reserving” the specification of BAT ELGs for nonchemical metal cleaning waste because it felt that it had insufficient information regarding (a) the potential for differences between the inorganic pollutant concentrations found in the nonchemical metal cleaning wastes of oil-burning and coal-burning power plants, and (b) the cost and economic impact that would result from requiring that nonchemical metal cleaning wastes satisfy the same limits that had been set for chemical metal cleaning wastes. 47 Fed. Reg. 52297 (Nov. 19, 1982). Of course, as explained above, in the absence of an applicable national ELG, EPA applies the CWA’s narrative technology standards on a case-by-case, BPJ basis in order to develop NPDES permit limits. 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. § 125.3(c)(2).

Therefore, the plain text of the CWA and EPA regulations indicate (1) that EPA set categorical BPT ELGs applicable to Canal Station’s metal cleaning wastes, both chemical and nonchemical, that impose limits of 1.0 for total copper and total iron, (2) that EPA set categorical BAT ELGs

applicable to Canal Station's chemical metal cleaning wastes that impose limits of 1.0 for total copper and total iron, (3) that EPA has reserved development of a BAT ELG for nonchemical metal cleaning wastes, but BAT permit limits for such wastes should be developed on a BPJ basis, (4) that the statutory deadlines for achieving compliance with the BPT and BAT standards have long since passed, (5) that nonchemical metal cleaning waste is not a low volume waste, and (6) that low volume wastes are not subject to the total iron and total copper limits that were developed for metal cleaning waste.

In its comments, Canal Station contends that its nonchemical metal cleaning wastes (*i.e.*, "equipment washes") – which include air pre-heater wash, SCR catalyst wash, boiler wash, furnace wash, stack and breeching wash, fan wash, precipitator wash, and combustion air heater wash – should be treated as "low volume wastes" and not subjected to the effluent limits for iron and copper developed for the metal cleaning wastes. The commenter maintains that nonchemical metal cleaning wastes at Canal Station were considered "low volume wastes" in the past and should continue to be categorized as such. In support of its view, the commenter relies on past EPA permit determinations, a 1975 EPA memorandum referred to as the "Jordan Memorandum" and EPA's later treatment of that memorandum in the preamble to the 1982 Revisions to the Steam Electric ELGs. As explained below, in EPA's view, Canal Station's comments do not identify a reasonable basis for EPA to address the facility's nonchemical metal cleaning wastes as low volume wastes not subject to effluent limits for total copper and iron in the new NPDES permit.

EPA first promulgated the ELG regulations for the Steam Electric Generating Point Source Category in 1974. 39 Fed. Reg. 36186 (Oct. 8, 1974). These regulations defined "metal cleaning wastes" to mean:

. . . any cleaning compounds, rinse waters, or any other waterborne residues derived from cleaning any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning and air preheater cleaning.

39 Fed. Reg. 36199 (*see* former version of 40 C.F.R. § 423.11(j)). On its face, this regulatory definition encompasses both chemical and nonchemical metal cleaning wastes, as it covers both any cleaning compounds and any rinse waters or other waterborne residues from cleaning metal process equipment, and does not in any way exclude nonchemical metal cleaning waste. The 1974 ELG regulations also defined "low volume wastes" to mean:

. . . taken collectively, as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this subpart. Low volume waste sources would include but are not limited to waste waters from wet scrubber air pollution control systems, ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, floor drainage, cooling tower basin cleaning wastes and blowdown from recirculating house service water systems.

39 Fed. Reg. 36199 (*see* former version of 40 C.F.R. § 423.11(h)). This regulatory definition does not appear to include metal cleaning wastes of any sort. Taken together, the two definitions

identify a clear distinction between metal cleaning wastes (whether chemically or nonchemically based) and low volume wastes.

Nevertheless, in 1975, a biologist in EPA's Region III Office wrote to an engineer in EPA Headquarters' Office of Enforcement seeking clarification regarding, among other things, whether "effluent streams that result exclusively from water washing of ash found on boiler fireside, air preheater etc. should be considered in the low volume or ash transport waste source categories," as opposed to the metal cleaning waste category, while only chemical cleaning wastewaters should be categorized as "metal cleaning wastes." See Letter from Bruce P. Smith, Delmarva-D.C. Section, EPA Region III, to Mr. Bill Jordan, EPA Headquarters (May 21, 1975), p. 2. In posing the question, Mr. Smith acknowledged that the ELG regulations clearly do *not* exclude nonchemical waste streams from the definition of metal cleaning waste, but indicated that some ambiguity was suggested by text in EPA's technical "Development Document" for the Steam Electric Power Plant ELGs.

Mr. Jordan responded to Mr. Smith with a memorandum stating as follows:

[i]n regard to the question on distinguishing between metal cleaning wastes and low volume wastes, the following clarification is offered. All water washing operations are 'low volume' while any discharge from an operation involving chemical cleaning should be included in the metal cleaning category.

See Memorandum from J. William Jordan, Chemical Engineer, Permit Assistance & Evaluation Section, Office of Enforcement, EPA Headquarters, to Bruce P. Smith, Biologist, Enforcement Division, EPA Region III (June 17, 1973) (the Jordan Memorandum), p. 2.⁶ Thus, with no explanatory analysis provided, Engineer Jordan appears to propose that wastes from nonchemical washing of metal equipment (i.e., "water washing operations") should be treated as "low volume waste" (and not subject to BPT effluent limitations for total copper and total iron in metal cleaning waste) contrary to the text of the ELG regulations.

In 1977, EPA promulgated new pretreatment standards for the Steam Electric Power Plant ELGs. See 42 Fed. Reg. 15690 (Mar. 23, 1977) (Interim Regulations, Pretreatment Standards for Existing Sources, Steam Electric Generating Point Source Category). In the preamble to the Final Rule, EPA identified five categories of wastewater produced by steam electric power plants, including metal cleaning wastes, cooling system wastes; boiler blowdown; ash transport water; and low volume wastes. *Id.* at 15693. In its discussion, EPA did not distinguish between chemical and nonchemical metal cleaning wastes and gave no suggestion that that latter should be regarded as low volume waste. EPA's discussion, instead, indicated that nonchemical metal cleaning wastes would be included within the metal cleaning waste category. See *id.* ("Metal cleaning wastes are those wastes which are derived from cleaning of metal process

⁶ The bulk of the Jordan Memorandum addresses a question other than the one about how to categorize nonchemical metal cleaning waste. Specifically, Mr. Smith's letter had also asked how effluent limits should be applied when non-similar waste streams such as metal cleaning waste, low volume waste, and ash sluice water are all discharged to an ash pond prior to discharge. The Jordan Memorandum, at pp. 1-2, focuses largely on responding to that question and outlined several possible different approaches.

equipments.”). *See also id.* (list of examples of metal equipment the cleaning of which would yield metal cleaning wastes and discussion of what constitutes low volume wastes). EPA also explained that pollutants in metal cleaning wastes include iron and copper, among other pollutants. Properly categorizing wastes within the metal cleaning waste category was no idle concern for EPA in developing pretreatment standards because EPA had determined that copper (and certain other constituents) would be incompatible with the operation of publicly owned treatment works (POTW) and, therefore, had imposed a pretreatment standard for copper in metal cleaning wastes discharged to a POTW but not for low volume wastes. *See id.* at 15695-96 (40 C.F.R. §§ 423.14(b)(2), 423.24(b)(2), 423.34(b)(2)). Therefore, improperly categorizing a waste that included copper as a low volume waste could result in excessive copper being discharged to a POTW despite its incompatibility with POTW operations.

In 1980, EPA proposed amendments to the Steam Electric Power Plant ELGs. 45 Fed.Reg. 68328 (October 14, 1980). In the preamble to the proposed rulemaking, EPA expressly reconsidered and rejected the Jordan Memorandum’s exclusion of nonchemical metal cleaning waste from the metal cleaning waste category, noting that a distinction between the chemical and nonchemical wastes was contradicted by the existing regulations. The Agency explained that the existing requirements applied to *all* metal cleaning wastes, regardless of whether they resulted from cleaning with chemical solutions or with water only. *See id.* at 68333. EPA further indicated that its decision to reject the Jordan Memorandum’s conclusion was supported by (a) cost and technology data supporting the original copper and iron limits, which were based on all metal cleaning wastes, not just the chemically-based ones, and (b) the presence of “toxic pollutants in these waste streams even where only water is used for washing.” *Id.* EPA concluded that “the regulations proposed below make clear that the ‘metal cleaning waste’ definition will apply according to its terms, and the question of whether washing is done with water only will be irrelevant.” *Id.*

Nevertheless, EPA went on to propose that, “[b]ecause many dischargers may have relied on EPA’s memorandum of June 1975, . . . the regulations proposed below adopt the memorandum’s position for purposes of BPT only.” *Id.* EPA proposed to implement this apparently equitably-based approach by taking the following three steps:

1. Revising the definition of “metal cleaning wastes” to even more explicitly *include both chemical and nonchemical metal cleaning wastes*. The new proposed definition was subsequently retained in the final regulations and remains in the current regulations. It is quoted above in this response. *Id.* at 68350 (proposed 40 C.F.R. § 423.11(d)).
2. Adding a definition of “chemical metal cleaning waste.” *Id.* at 68350 (proposed 40 C.F.R. § 423.11(c)). The proposed new definition was subsequently retained in the final regulations and remains in the current regulations. It is quoted above in this response.
3. Changing the BPT ELGs so that they would only apply to “chemical metal cleaning wastes,” rather than to “metal cleaning wastes” generally. *Id.* at 68351 (proposed 40 C.F.R. § 423.12(b)(5)).
4. Promulgating new BAT ELGs applicable to “metal cleaning wastes” generally, which imposed effluent limits for copper and total iron. *Id.* at 68352 (proposed 40 C.F.R. § 423.13(g)).

EPA's approach would have amended the Steam Electric Power Plant ELGs to correctly categorize nonchemical metal cleaning wastes as "metal cleaning wastes" while legally exempting them from the application of the BPT ELGs for copper and iron. This result would have been consistent with the effect of the Jordan Memorandum even as it corrected its mistaken underlying conclusion. It also would have correctly applied BAT ELGs to both chemical and nonchemical metal cleaning wastes going forward.

In the Final Rule, however, EPA shifted course somewhat in response to public comments received on the proposal. 47 Fed. Reg. 52290 (Nov. 19, 1982). EPA retained the clarified definition of "metal cleaning waste" and the new definition of "chemical metal cleaning waste," *id.* at 52305 (40 C.F.R. §§ 423.11(c) and (d)), but it dropped the regulatory language that applied the BPT limitations only to chemical metal cleaning wastes. *Id.* at 52297, 52306 (40 C.F.R. § 423.12(b)(5)). Thus, the regulations applied the BPT limits to *all* metal cleaning waste. With regard to BAT limitations, however, EPA decided to promulgate effluent limitations only for the *chemical* metal cleaning wastes and to "reserve" development of the limitations for the nonchemical metal cleaning wastes. *Id.* at 52297, 52307 (40 C.F.R. §§ 423.13(3) and (f)). EPA explained that while the BAT standard applied to nonchemical metal cleaning wastes, certain issues raised in the public comments, as discussed above, required further investigation. *Id.* at 52297. *See also id.* at 52307-08 (40 C.F.R. §§ 423.15(e), 423.16(c), 423.17(c)). Specifically, EPA felt it had insufficient information to determine whether the waste streams from oil-burning and coal-burning facilities had significant differences or whether the costs would be excessive on a national, industry-wide basis. *Id.* at 52297. In addition, EPA once more addressed its apparent equitable concern about the Jordan Memorandum by stating in the preamble that "until the Agency promulgates new limitations and standards, the previous guidance policy may continue to be applied in those cases in which it was applied in the past." *Id.* Thus, although it had concluded that the Jordan Memorandum was inconsistent with the regulations and its conclusion was fundamentally flawed, EPA indicated that it could apply it on a discretionary basis in cases where it had been applied in the past ("may continue to be applied").

Having considered all of the above, EPA concludes that it would be unreasonable to exempt Canal Station's nonchemical metal cleaning waste streams from effluent limits for copper and iron based on the Jordan Memorandum and EPA's past discussion of it in the preambles to the Steam Electric Power Plant ELGs. EPA reaches this conclusion for a number of independently sufficient reasons. First, to do so would be inconsistent with the CWA's requirements that BPT and BAT standards be satisfied by now (i.e., no later than 1977 and 1989, respectively) and that NPDES permits include limits reflecting such standards based on ELGs or, in the absence of ELGs, BPJ determinations. Second, issuing an NPDES permit to Canal Station without copper or iron limits applicable to its "equipment washes" (which are nonchemical metal cleaning wastes), based on treating them as low volume wastes, would be inconsistent with the plain language of the regulations, which treats nonchemical metal cleaning wastes as a type of metal cleaning waste subject to copper and iron limits. The commenter incorrectly states that the Jordan Memorandum represents a "contemporaneous interpretation" of the term metal cleaning waste used in the regulations. The June 1975 Jordan Memorandum was, instead, a later-in-time opinion about how the terms from the October 1974 regulations should be applied, and it included no analysis of the regulations whatsoever. Rather than *interpreting* the regulations, the

Jordan Memorandum *contradicts* the regulations, as EPA indicated in the 1980 preamble to the proposed Steam Electric Power Plant ELGs.

Third, as EPA stated in the preamble to the revised Steam Electric Power Plant ELGs proposed in 1980, the Jordan Memorandum was not only inconsistent with the regulations, and provided no analysis to support its conclusion, but it was incorrect as a matter of fact and inadvisable as matter of policy. The technology and cost data upon which EPA had based the BPT limitations for copper and iron in metal cleaning waste were based on both chemical and nonchemical metal cleaning wastes, and not just on the former. Furthermore, EPA pointed out that like chemical metal cleaning wastes, nonchemical metal cleaning wastes can contain toxic pollutants. At the same time, Canal Station has not provided a description of its operations or any monitoring data to indicate that its nonchemical metal cleaning wastes are free from toxic pollutants. Subjecting nonchemical metal cleaning wastes to BAT standards is thus also reasonable from the standpoint of environmental protection.

Fourth, while it is unclear to EPA that it would have the authority to issue Canal Station an NPDES permit inconsistent with the statute and regulations based on the equitable concern noted in the Steam Electric Power Plant ELG preambles (*i.e.*, past reliance on the Jordan Memorandum), EPA does not believe it would be appropriate to exercise any such authority in this case. EPA's stated equitable concern about parties who may have relied on the Jordan Memorandum is best understood as a concern about the application of BPT limits, which were the limits for which compliance was required at the time of the Jordan Memorandum and the 1980 and 1982 preambles. In 1980, EPA proposed changing the ELGs to specify that *BPT* limits would not apply to nonchemical metal cleaning wastes because of past reliance on the Jordan Memorandum, though it later dropped that idea in the final ELGs. EPA never suggested, however, that nonchemical metal cleaning wastes should also potentially be exempted from the BAT standards for which compliance was to be required in the near future. While EPA ended up *reserving* the development of national, categorical BAT limitations because of insufficient information on certain issues, the Agency did not suggest BAT limits should not be applied because of the Jordan Memorandum. Thus, it is appropriate that EPA's new NPDES permit for Canal Station apply BAT limits on a BPJ basis to the facility's nonchemical metal cleaning waste discharges.

Fifth, while EPA suggested that it had discretion to continue applying the Jordan Memorandum in cases where it had been applied in the past, it is not clear to EPA that it ever was applied to Canal Station, which is the precondition for applying the Jordan memorandum on a discretionary basis. Neither the 1989 Permit nor the Fact Sheet for that permit state that the nonchemical metal cleaning wastes (or "equipment washes") were being treated as low volume wastes or that they were not subject to effluent limits for copper and iron. Instead, EPA's permit applied copper and iron limits at outfall 011 to a combined discharge of chemical metal cleaning wastes, nonchemical metal cleaning wastes (equipment washes), and ash sluice blowdown. As discussed below, it was incorrect for EPA to apply the limits to these commingled wastestreams, but EPA's approach does not indicate that EPA thought that the limits did not need to be applied to the nonchemical metal cleaning wastes.

Finally, even as an equitable matter it does not make sense to exempt Canal Station from BPT or BAT effluent limits in a 2008 NPDES permit based on an unsubstantiated (and oft questioned) memorandum from more than 30 years ago. To the extent that the Jordan Memorandum was ever applied to Canal Station in the past – and it is not clear to EPA that it was – the facility would already have received many years of benefit to the detriment of a public resource. Moreover, continuing to misapply the law and regulations could arguably give an unfair competitive advantage to Canal Station over other facilities not excused from complying with permit limits based on the ELGs or based on a BAT limit determined on a BPJ basis.

2. BPJ Determination of BAT Limits

In the absence of an applicable effluent limitation guideline, EPA must exercise its Best Professional Judgment to establish an effluent limit based on BAT.⁷ According to 40 C.F.R. § 125.3(c)(2), in determining BAT requirements, EPA should consider the “appropriate technology for the category of point sources of which the applicant is a member, based on all available information,” and “any unique factors relating to the applicant.”⁸

According to the CWA’s legislative history, “best available” technology refers to the “single best performing plant in an industrial field.” *See* 45 Fed. Reg. 68333.⁹ EPA also considers the following factors: (i) age of the equipment and facilities involved; (ii) process employed; (iii) engineering aspects of the application of various types of control techniques; (iv) process changes; (v) the cost of achieving such effluent reductions; and (vi) non-water quality environmental impact (including energy requirements). *See* CWA § 304(b)(2) and 40 C.F.R. § 125.3(d)(3). EPA has determined that the BAT-based effluent limits for nonchemical metal cleaning waste discharges at Canal Station should be at least as stringent as the applicable BPT limitations for such nonchemical metal cleaning wastes. Therefore, for this permit, EPA has determined, based on its Best Professional Judgment, that equipment washes (or nonchemical metal cleaning wastes) at Canal Station should be subject to concentration-based effluent limits of 1.0 mg/L for total copper and total iron.

⁷ *See Tex. Oil & Gas Ass’n v. EPA*, 161 F.3d 923, 928-29 (5th Cir. 1998) (“In situations where the EPA has not yet promulgated any [effluent limitation guidelines] for the point source category or subcategory, NPDES permits must incorporate ‘such conditions as the Administrator determines are necessary to carry out the provisions of the Act.’ 33 U.S.C. 1342(a)(1). In practice, this means that the EPA must determine on a case-by-case basis what effluent limitations represent the BAT level, using its ‘best professional judgment.’ 40 C.F.R. § 125.3(c)-(d). Individual judgments thus take the place of uniform national guidelines, but the technology-based standard remains the same.”); *Trs. for Alaska v. EPA*, 749 F.2d 549, 553 (9th Cir. 1984) (same for BCT).

⁸ EPA is not aware, and the Company has not identified, any unique factors applicable to the facility that would impact the selection of the BAT in this case. EPA has taken into account site-specific factors in the course of discussing the six BAT considerations below.

⁹ *See also Texas Oil & Gas Ass’n*, 161 F.3d at 928 (quoting *CMA v. EPA*, 870 F.2d at 226); *CMA v. EPA*, 870 F.2d at 239; *Kennecott v. EPA*, 780 F.2d 445, 448 (4th Cir. 1985); *Ass’n of Pacific Fisheries*, 615 F.2d at 816-17; *American Meat Inst. v. EPA*, 526 F.2d 442, 463 (7th Cir. 1975).

(i) Age of the equipment and facilities involved

In determining BAT for Mirant Canal Station, EPA accounted for the age of equipment and the facilities involved. Canal Units 1 and 2 first came online in 1968 and 1976, respectively. Canal Station is equipped with waste treatment tanks and has been performing treatment of chemical metal cleaning wastes consisting of boiler chemical cleaning wastewater.¹⁰ There is nothing about the age of the equipment and facilities involved that would preclude the use of the same or similar technology to treat nonchemical metal cleaning wastes (*i.e.*, equipment washes) at the facility. Indeed, Mirant in its comments discusses how the existing facility could be retrofitted with new technology, albeit at some expense, to comply with the new requirements and by implication acknowledges that the age of the facility by itself poses no bar to compliance.

(ii) Process employed

In determining BAT for Mirant Canal Station, EPA considered the process employed at the facility. Mirant Canal Station is a 1120 MW, fossil fuel-burning, steam-electric power plant with the primary purpose of generating electrical energy. Treating nonchemical metal cleaning wastes to the same level as chemical metal cleaning wastes will not prevent the Permittee from maintaining the primary production process of energy generation. Mirant Canal already segregates for treatment of chemical metal cleaning waste generated as a result of operations at the facility, and this treatment process is equally applicable to nonchemical metal cleaning wastes.¹¹ Chemical metal cleaning wastewater (specifically boiler cleaning) is treated prior to discharge using effluent segregation in one of four possible holding ponds, pH adjustment, solids removal and sludge dewatering.

(iii) Engineering aspects of the application of various types of control techniques

Technologies to treat metal cleaning wastes for copper and iron are in wide use at large existing steam-electric power plants around the country. Typically, this treatment process entails pH adjustment, metal coagulation and solids removal. This is fairly straightforward, standard technology applied to treat many types of metal containing waste waters.¹² The Mystic Station power plant in Everett, Massachusetts, for instance, requires nonchemical metal cleaning wastes to receive the same level of treatment as chemical metal cleaning wastes and both must meet mass-based limits equivalent to concentration-based limits of 1.0 mg/L for total copper and total iron. See Mystic Station NPDES Permit No. MA0004740.

¹⁰ See Mirant Canal's letter, dated March 14, 2005, describing the treatment and discharge of boiler cleaning wastewater. Also see subsequent emails between Sharon Zaya, EPA and Robert Bartolome, Mirant, on April 4, 2005 and May 4, 2005.

¹¹ See Mirant Canal letters, dated April 23, 2003 and March 14, 2005.

¹² See pages 441-455 of the Final Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category, November, 1982, for treatment technologies for metal cleaning wastes.

As mentioned, technology to treat chemical metal cleaning wastewater already exists at Mirant Canal Station. Specifically, this wastewater is treated prior to discharge using pH adjustment and solids removal within waste ponds and neutralization tanks. The Station can utilize existing treatment technologies at the facility to meet the proposed BAT standards for copper and iron for nonchemical metal cleaning wastewater. Furthermore, existing treatment capacity (360,000 gallons) exists within the four waste storage ponds to accommodate the nonchemical metal cleaning wastes.

In order to employ this existing treatment capability, some wastewater streams would need to be redirected before and during metal cleaning treatment. Because this effluent stream is currently commingled with ash sluice water (and possibly low volume wastes under certain circumstances), it must be segregated before treatment or a combined waste stream formula could potentially be applied. The Permittee has acknowledged that waste segregation would be possible from an engineering standpoint at Mirant Canal Station.¹³ Several communications between EPA and Mirant Canal took place during permit development in 2005 in which EPA sought to determine whether segregating chemical and nonchemical metal cleaning wastes for treatment would be feasible.¹⁴ The permit writer, Sharon Zaya (DeMeo), explained that EPA was considering segregation of wastestreams for the Draft Permit and provided the rationale for so doing. During a March 28, 2005 phone communication, Mirant indicated that the metal cleaning waste segregation proposed for the Draft Permit could be accomplished with scheduling changes and the facility's existing treatment technology. Mirant stated that it would need to change the timing of nonchemical cleaning operations to coincide with either chemical cleaning operations or outages.

Contrary to these discussions, in its comments on the Draft Permit, Mirant objects to segregating the ash sluice water and boiler blowdown from its chemical and especially nonchemical metal cleaning wastes on the grounds that it may require extensive piping modifications, a new treatment pond and/or a new clarifier, and that it would be expensive (Mirant estimates costs approaching \$500,000.00 or more) would potentially require time for obtaining permits. EPA responds to these comments by noting that the "scheduling changes" approach outlined above might be feasible and would obviate the difficulties noted in the comments. EPA also points out that the comments indicate that any necessary changes would be technologically feasible, albeit at some expense (cost is discussed below) and effort. Finally, it may also be possible to avoid waste segregation by taking a combined waste stream formula approach. Mirant did not, however, provide any data showing copper and iron concentrations of each of the relevant waste streams so that a combined waste stream formula could be applied. Nevertheless, the Permittee may provide this information in the future and EPA will consider a possible permit modification to limit copper and iron based on a combined waste stream formula. In addition, another option

¹³ Mirant Canal's letter, dated April 23, 2003, describes a proposed boiler cleaning waste treatment operation utilizing "D" pond and four 20,000 gallon FRAC tanks. Mirant estimated that they would be discharging between 200,000 and 275,000 gallons from this operation.

¹⁴ Email from Sharon Zaya, EPA to Leslie Alden, Mirant, January 20, 2005; same email forwarded to Robert Bartolome, Mirant, May 5, 2005; email from Sharon Zaya, EPA to Leslie Alden, Mirant, June 30, 2005; notes from phone communication between Sharon Zaya, EPA and Leslie Alden, Mirant, January 19, 2005 and phone communication between Sharon Zaya, EPA and Leslie Alden and Robert Bartolome, Mirant, March 28, 2005.

available to the Permittee is the collection and off-site treatment and disposal of the metal cleaning wastes.

(iv) Process changes

EPA has also evaluated the process changes associated with treatment of nonchemical metal cleaning wastes. As discussed, nonchemical metal cleaning wastes can be treated using existing technology currently in use at the plant. Since metal waste treatment is a separate process from power generation, the treatment of nonchemical metal cleaning wastewater does not impact power generating operations at the Station.

(v) Cost of achieving effluent reductions

In its comments, Mirant indicates that waste stream segregation and additional treatment of the nonchemical metal cleaning wastes could be accomplished, but now estimates that it will require extensive engineering modifications and associated expenditures approaching \$500,000 (or more if a new clarifier is needed). It is not clear to EPA that this will be the case in light of the options discussed above. Still, engineering costs on the order of magnitude cited by Mirant can reasonably be borne by the Company from an economic standpoint. Since Mirant has emerged from bankruptcy, it has been a profitable company, and should be able to afford the expense associated with mandated technology for NPDES compliance. The Company's recent financial reports, released on August 9, 2007 indicated an adjusted net income of \$291 million for the first 6 months of 2007, and Earnings Before Income Taxes, Depreciation and Amortization (EBITDA) of \$451 million. (Source - Mirant Corporation Second Quarter 2007 Earnings Release.) Although these numbers reflect the sale of some business units, the company demonstrated upward trends in profitability with adjusted quarterly EBITDA increasing by 177% between the second quarters of 2006 and 2007. In addition, should the Company choose to pursue either the "scheduling changes" or the "combined waste stream formula" options, the costs required to comply with the permit limits could be still less than required for waste stream segregation. EPA recognizes that even more substantial costs may result from steps needed to comply with CWA § 316(b), but concludes that it is feasible for the Facility to assume the total costs.

(vi) Non-water quality environmental impacts (including energy requirements)

Finally, EPA considers the non-water quality environmental impacts associated with the treatment of nonchemical metal cleaning wastes, including energy consumption, air emission, noise, and visual impacts at Canal Station. In particular, EPA believes that the Permittee should be able to treat the nonchemical metal cleaning wastes with a similar amount of energy usage, air emissions and noise as presently occurs at the facility. As previously stated, Mirant indicated that the metal cleaning waste segregation proposed for the Draft Permit could be accomplished with scheduling changes and the facility's existing treatment technology. Moreover, EPA would expect the volume of nonchemical metal cleaning waste water to be considerably less than the chemical metal cleaning wastewater already generated at the site. In addition, EPA does not expect any change in the visual impacts of the plant from the redirection of waste streams. EPA

has determined the non-water environmental impacts from the steps needed to comply with the BAT effluent limits would be negligible.

3. Segregation of Waste Streams

Mirant comments that EPA should not require segregation of the nonchemical metal cleaning wastes and that they should be regarded as low volume wastes not subject to the copper and iron limits for metal cleaning wastes. EPA has explained why it disagrees with this comment above. EPA has also explained that waste segregation is one approach that Canal Station may take to meet the permit limits, but that it may also seek to regulated under a combined waste stream formula by providing adequate information to support a permit modification by EPA.

During permit reissuance, EPA determined that ash sluice blowdown, chemical and nonchemical metal cleaning wastes and (possibly) low volume wastes (boiler blowdown) were combined prior to sampling for compliance. Consistent with this determination, Canal Station's comments acknowledge that a combination of ash sluice, equipment washes, boiler blowdown and chemical metal cleaning waste are co-mingled for treatment prior to discharge through outfall 011. The 1989 permit applied a maximum concentration limit of 1.0 mg/l for both copper and iron to the co-mingled, non-similar waste streams. EPA has concluded that this limitation was incorrectly applied in the 1989 permit, as explained below and the Agency therefore corrects the error in this permit.

The Steam Electric Power Plant ELGs require that when separately regulated waste streams (i.e., "waste streams from different sources") are combined for treatment or discharge, each waste stream must independently satisfy the effluent limitations applicable to it. 40 C.F.R. §§ 423.12(b)(12), 423.13(h). *See also* 40 C.F.R. § 125.3(f) (technology-based treatment requirements may not be satisfied with "non-treatment" techniques such as flow augmentation). It is not acceptable to determine compliance after mixing (or diluting) the different waste streams with each other unless the effluent limits applicable to them are the same. The effluent limitations for the low volume and ash wastes are the same and, as a result, these two waste streams may be combined prior to sampling for compliance. The chemical and nonchemical metal cleaning wastes may also be combined together because they are subject to the same limitations. The metal cleaning wastes may not, however, be combined with the ash and low volume wastes because the metal cleaning wastes are subject to additional effluent limitations for copper and iron.¹⁵ Either these two sets of waste streams must be separately monitored for compliance with copper and iron limitations, or a combined waste stream formula must be developed for the co-mingled waste stream. Allowing the Permittee to discharge copper and iron at a concentration of 1.0 mg/l for the combined ash/low volume/metal cleaning waste streams would potentially allow the Permittee to dilute the chemical metal cleaning waste stream rather than treat it and discharge a total mass of copper and iron in excess of the ELGs. In addition, if chemical metal cleaning wastes are greatly diluted, removal of the pollutant metals in the chemical metal cleaning wastes becomes more difficult and less efficient.

¹⁵ The BPT ELGs apply copper and iron limits to both types of metal cleaning wastes, the BAT ELGs apply limits to chemical metal cleaning wastes, and the current BPJ determination of BAT by EPA applies limits to the nonchemical metal cleaning wastes.

A combined waste stream formula calculation or waste stream segregation are the two means of correcting this oversight in the previous permits.¹⁶ EPA currently has insufficient information and data to derive a combined waste stream limit, therefore, EPA is imposing limits on the waste streams separately in the Draft and Final Permits. This effectively results in compliance being achieved by waste segregation, however, the Permittee may gather data and make a demonstration regarding the application of a combined waste stream formula in lieu of waste segregation. If the Permittee chooses to make a demonstration, EPA will evaluate the information and determine if a permit modification is warranted.

Comment VI.A.2

Mirant comments that:

In the event EPA determines that there is some principled basis for reversing its previous determination that chemical metal cleaning wastes may be treated with ash sluice water and some low volume wastes, and finds that segregation of chemical metal cleaning wastes is justified, the relevant maximum daily flow for that wastestream would be approximately 0.36 MGD and the monthly average flow would be 0.30 MGD.¹⁷ The combined flow values for ash sluice, non-chemical metal cleaning wastes, and other low volume wastes routed to 011 would be a maximum daily of 0.40 MGD and a monthly average of 0.25 MGD.¹⁸ Also, if chemical metal cleaning wastes were required to be segregated for discharge, it would be necessary to establish a separate outfall (013) through which only that effluent would be discharged, while allowing the remaining waste streams to continue to be co-mingled for treatment and discharge subject only to the applicable limits for TSS, O&G, and pH.

Response VI.A.2

EPA has determined that separation of low volume/fly ash and metal cleaning (using chemicals and without using chemicals) wastes is necessary to ensure compliance with effluent guidelines at 40 C.F.R. Part 423 for copper and iron in the metal cleaning wastestream. *See Responses in Section VI.A.1 above.*

¹⁶ The law is clear that when an administrative agency recognizes that it has made an error, it not only has the right - but also the obligation - to correct that error. *See Southwestern Penn. Growth Alliance v. Browner*, 121 F.3d 106, 115 (3d Cir. 1997), *Davila-Bardales v. I.N.S.*, 27 F.3d 1, 5 (1st Cir. 1994), *Puerto Rico Cement Co. v. EPA*, 889 F.2d 292, 299 (1st Cir. 1989).

¹⁷ In this regard, we note that EPA proposes to establish flow limits for the discharge of chemical and non-chemical metal cleaning wastes from Outfall 011. The proposed flow limits are 0.12 and 0.18 as an average monthly and maximum daily value, respectively. Those values would be inadequate to cover the combined discharge from both units, chemical and non-chemical cleaning were to occur simultaneously.

¹⁸ In that case, the flows for other low volume waste streams routed to Outfall 012 would be approximately 0.07 MD and 0.12 MGD as an average monthly and a daily maximum value, respectively.

EPA based the flow limits in the Draft Permit on the flow diagram provided by the Company (see Attachment A of EPA's 2005 Fact Sheet for the Mirant Canal Draft Permit). EPA is changing the flow limits in the Final Permit for outfalls 011 and 012 to "Report" based on Comment VII.C and EPA's response to that comment. By reporting the flows, EPA will be able to collect and assess accurate flow data during the permit term. In order to ensure that the Station is not allowed to discharge pollutants at a higher mass-based load than the current permit, EPA has included the following provision in the Final Permit to satisfy anti-backsliding regulations: "the total average monthly combined flow from locations 011 and 012 shall not exceed 0.32 MGD and the total maximum daily combined flow from locations 011 and 012 shall not exceed 0.52 MGD." Mirant Canal consistently meets these flow limits. There is no need to create a new outfall 013 because the current outfall descriptions for outfalls 011 and 012 have been changed to reflect the segregation of the waste streams in accordance with the Final Permit.

Comment VI.B.1: Sampling Requirements

Mirant comments that:

In addition to this overarching issue, Mirant Canal objects to the change in monitoring requirements for Outfall 011, from a weekly grab sample to daily composite using a recorder. First, EPA has not explained why this change is warranted, given its previous conclusion regarding the adequacy of weekly grab sampling. Second, the waste treatment system is a "batch" discharge, meaning that effluent may be discharged intermittently, in several different batches, throughout the day for short intervals (typically 2-3 hours). Batch discharges also may occur occasionally during non-business hours. The addendum to the Draft Permit defines a "composite sample" as a "sample consisting of a minimum of eight grab samples collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample collected proportional to flow over that time period." Given this batch discharge configuration, we do not believe it will be possible for the Station to collect a "composite" sample that is consistent with this definition. Nor is it feasible for the Station to use a recorder to monitor flow for this batch discharge.

To the extent it is reasonable for EPA to require any increase in sampling at all (*e.g.*, once per day), any such sampling should involve grab sampling.

Response VI.B.1:

Under the Draft and new Final Permit, outfall 011 is dedicated to the discharge of metal cleaning wastewater (chemical and nonchemical), unlike the previous permit. EPA has little data showing the characteristics of this waste stream and has been informed that this discharge will occur infrequently (primarily during outages and depending on scheduling changes). In addition, composite sampling captures variability in the effluent over time. Therefore, EPA believes that daily composite sampling *when discharging* is appropriate. Composite sampling can either be flow-weighted or time-weighted as defined in Part II of the Draft and Final permits. A time-weighted composite is defined as a composite sample consisting of a mixture of equal volume

aliquots collected at a constant time interval. For example, aliquots could be collected every 15 minutes during the 2-3 hours of a batch discharge.

With respect to the measurement of flow, EPA has clarified this requirement throughout the Final Permit by changing the Draft Permit description: “Recorder: Pump capacity curve and operational hours” to “Recorder **or** Pump capacity curve and operational hours”

Comment VI.B.2 **from Commonwealth of Massachusetts - Office of Coastal Zone Management**

MA CZM comments that:

Section 4.4.6 (p.18 of 59) of the fact sheet and Section I.A.5. of the permit: The reasoning for the 1.0 mg/l maximum daily copper limit in the permit is the technology-based national effluent limitation guideline specified in 40 C.F.R. Part 423. However, the EPA recommended water quality criteria for copper in salt waters are 0.0048 mg/l (acute) and 0.0031 mg/l (chronic). Of the ten major NPDES permit holders in coastal Massachusetts, nine have permit limits for copper that are less than 1.0 mg/l (the only one that has a limit higher than 1.0 mg/l relies on substantial dilution from the Merrimack River). Clearly both the State and EPA recognize the toxic effects of copper to salt water biota and have sought to limit its discharge through the NPDES program. CZM recommends that EPA reduce the average monthly and maximum daily discharge limits for copper in the Canal Station permit to 0.024 mg/l and 0.036 mg/l, respectively, based upon the EPA recommended water quality criteria and the EPA-calculated dilution factor of 7.7.

Response VI.B.2:

Part I.A.5 of the Draft Permit sets forth the monitoring requirements for the internal outfall location consisting of the facility’s metal cleaning waste streams. When setting permit limits, EPA compares water quality and technology limits and applies the more stringent of the two. EPA determined that the technology limit applied at internal outfall 011 would result in compliance with water quality-based limits in the receiving water. EPA’s calculated dilution factor of 7.7 was used to evaluate the water quality-based limit for chlorine at outfall 001. This dilution factor applies to the flow of once-through cooling water (518 MGD or 804 cfs) compared to the flow through the Cape Cod Canal (6191 cfs). The flow of the metal cleaning wastewater (internal outfall 011) is less than 1 MGD, which is significantly less than the once-through cooling water flow. Therefore, the dilution factor for the metal cleaning wastewater is close to 4000. In this case, the technology-based limits are more stringent than the calculated water quality-based limits.

Comment VI.C.1: Requirements for Certification of Caustic and Additional Priority Pollutant Analyses

Mirant comments that:

As noted above, the permit also requires the Station to: (1) submit an annual certification that all caustic used has no detectable levels of mercury, and (2) where chemicals are used for boiler cleaning, require composite sampling and analysis for petroleum hydrocarbons and priority pollutants. According to the Fact Sheet at p. 14, both of these requirements are linked to concerns raised by the results of the Station's testing of boiler chemical cleaning wastewater in June, 2005, which showed low levels of mercury (0.4 ppb and 0.2 ppb in approximately 250,000 gallons). As the Fact Sheet acknowledges, further investigation found that the results were attributable to mercury present in caustic. *Id.* Although the Agency also acknowledges that these concentrations have no reasonable potential to cause or contribute to a violation of applicable water quality standards, EPA nevertheless proposes to impose the certification requirement for caustic as a "best management practice." *Id.* EPA then justifies the additional sampling for petroleum hydrocarbons and priority pollutants based on the "potential for other unexpected pollutants to be present in the boiler chemical cleaning effluent."

Mirant Canal does not agree that EPA has authority to impose a BMP for caustic that is neither required by effluent guidelines nor justified by water quality standards. In addition, we do not agree with the factual premise on which EPA has based the certification requirement (*i.e.*, that mercury-free bulk caustic is readily available (Fact Sheet, p. 14)), nor do we agree that the certification as drafted is appropriate. Upon inquiry among several reputable vendors of bulk caustic, Mirant Canal was told that suppliers would not be willing to guarantee caustic with zero or even non-detectable mercury.

Response VI.C.1:

EPA has broad authority to require the monitoring and reporting conditions of the permit under sections 402(a)(1) and 308(a) of the CWA. Under the authority of section 402, the Administrator may impose best management practices that he determines are necessary to carry out the provisions of the Act, but there must be a "rational connection" between the permit condition and either the achievement of effluent limits in the permit or the fulfillment of the purposes of the Act. *See NRDC v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977) (Section 402(a)(1) gives EPA considerable flexibility in framing a permit to achieve a desired reduction in pollution discharges); Decision of the General Counsel No. 33 (October 21, 1975) (EPA has authority to include sludge-handling requirements in permit that can be shown to influence the attainment of limitations); Decision of the General Counsel No. 19 (June 27, 1975) (EPA could include condition in permit requiring proper operator qualifications as there is a reasonable relationship between this condition and the plant's attainment of effluent limitations). Likewise, Section 308(a) confers broad authority on the Agency to impose monitoring requirements on any point source.

EPA believes there is sufficient authority under each of these provisions to impose the conditions referenced above. Specifically, EPA is concerned about mercury in the boiler cleaning and other metal cleaning wastewaters, especially those waste streams requiring neutralization with sodium hydroxide (a.k.a caustic), because mercury, which is used in the manufacturing process for sodium hydroxide, is a toxic pollutant that is known to bio-accumulate in the food chain. In response to Canal Station's representation in its comment that obtaining mercury-free caustic, and a certification that it has been obtained, is not possible, and that mercury may be present in the discharge, EPA has decided that in lieu of the certification process proposed in the Draft Permit, the Final Permit will require the Permittee to: (1) undertake reasonable best efforts to obtain and to use bulk caustic manufactured using a mercury-free process,¹⁹ which will minimize the amount of mercury discharged into the Canal, and (2) require daily, composite monitoring and average monthly and maximum daily reporting for mercury at outfall 011, without limits. This will provide representative data regarding the amount of mercury entering the Cape Cod Canal from Mirant Canal's metal cleaning waste streams.

Comment VI.C.2:

Mirant comments that:

If EPA believes that some form of assurance on this score is necessary, Mirant Canal suggests that the permit provide for the annual submission by the Station of a certificate of analysis completed by the *vendor* or vendors supplying bulk caustic to the Station. That certificate would include a certification by the vendor that the caustic contains the lowest mercury concentration reasonably available for supplies of bulk caustic.

Response VI.C.2:

EPA has removed the certification requirement and replaced it with a requirement to test for mercury at outfall 011. See Response VI.C.1 above.

Comment VI.C.3:

Mirant comments that:

With respect to the additional testing, Mirant Canal does not believe that testing for the full range of priority pollutants and petroleum hydrocarbons is warranted after each boiler chemical cleaning event, given that previous testing has not suggested that such

¹⁹ EPA believes that caustic manufactured using a mercury-free process is available. Both JohnsonDiversey UK and We Energies, Wisconsin have changed their purchasing policies to buy caustic made in a mercury-free process. The ion-exchange membrane-cell and porous diaphragm-cell process are two technologies that do not use mercury. Mirant Canal may also request "certificates of analysis" from their chemical suppliers when purchasing caustic soda and other materials. The certificate of analysis should list mercury content in parts per billion (ppb) and the detection method used in the analysis. A Material Safety Data Sheet (MSDS) is not comparable to a Certificate of Analysis because low level concentrations of mercury in products (less than 10,000 ppm) are not required to be listed on MSDS's.

pollutants are present at levels of concern. This is especially true given that the cost of each priority pollutant and hydrocarbon test battery runs between \$4000 and \$6000, and the results of testing during the last three chemical cleanings have shown no levels of concern.

Response VI.C.3:

The Draft Permit proposed testing of the priority pollutant metals and not the entire 126 parameter priority pollutant scan (“full range of priority pollutants”). However, EPA agrees that data from boiler cleaning have previously shown no levels of concern and agrees to remove this requirement from the Draft Permit.

Comment VI.C.4 from Commonwealth of Massachusetts - Riverways Program

MA Riverways comments that:

The operational changes in outfall 002 to prohibit heated, chlorinated effluent discharges during screen washing operation is another needed step to reduce impacts to the marine biota of the receiving water. This is also true of asking the Permittee to use mercury-free caustic, a reasonable limitation given the ready availability of alternatives. The related requirement to undertake priority pollutant testing will further protect the marine system and is a valuable addition to the permit requirements.

Response VI.C.4:

See Response VI.C.1 above.