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1.0 Definition of "Metal Cleaning Waste" Compared to EPA Regulations

Comment IV.1.1	AR-841, UWAG, pp. 32-33

Comment: Under the present Merrimack permit, chemical cleaning wastes from cleaning the boiler tubes (waterside boiler wastes), as well as various wastes considered "low volume wastes," are treated in the wastewater treatment plant and then discharged to a combined treatment pond.

In the draft permit, EPA Region 1 made three changes for Outfall 003B that redefine "metal cleaning waste" and differ from EPA regulations. First, it expanded the scope of regulation from traditional waterside "chemical cleaning" boiler wastes to also include all gas side ash washwater. This means Outfall 003B must meet limits not once every seven years or so, as in the past, but more like six or seven times a year. Second, Region 1 moved the compliance point from the combined treatment pond outfall to the wastewater treatment plant discharge.
Third, Region 1 now would require each metal cleaning waste to be stored, managed, treated, discharged, and monitored separately, with no commingling with other wastewater.

It appears that EPA's intent is for 003B conditions to apply only while "metal cleaning waste" is being discharged, but the general description indicates that the outfall includes all wastewater discharged from Waste Treatment Plant #1, including low volume wastes and stormwater. Thus, the permit would require a composite sample to be collected every day there is any discharge from the existing facility.

EPA Response: EPA Region 1 disagrees with the commenter's claim that there are three ways in which the Draft Permit either redefines "metal cleaning waste" or otherwise differs from EPA regulations.

First, contrary to the commenter's assertion, the Region did not expand the scope of the regulation. As explained in the 2011 Fact Sheet to the Draft Merrimack Station Permit, and

unchanged by the 2015 Steam Electric Effluent Limitations Guidelines (Steam Electric ELGs) Rule, metal cleaning is defined in the regulations 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 CFR § 423.11(d). 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 best available technology (BAT) ELGs for such wastes. 40 CFR § 423.13(f). The *metal cleaning waste* and *chemical metal cleaning waste* definitions 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 or standards are otherwise established in this part. Low volume waste sources include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition.

40 CFR § 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. Additionally, the ELGs establish metal cleaning wastes as other sources with specific standards and limitations. Therefore, metal cleaning wastes are distinct from and not included in the definition of low volume wastes.

With respect to the commenter's claim that "Outfall 003B must meet limits . . . six or seven times a year," EPA agrees that limits must be met each time there is a discharge of metal cleaning wastewater. However, the discharge frequency for metal cleaning wastes is now expected to be lower based on the decrease in operations at Merrimack Station. Granite Shore Power, the current owner of Merrimack Station, has indicated that it will continue to operate the Station as a "peaking facility" in the foreseeable future. *See* Chapter II of this document.

Neither the Region's definition of metal cleaning waste to include both chemical and nonchemical metal cleaning waste (*e.g.,* gas side ash washwater) nor the Region's

requirement that metal cleaning limits be met at Outfall 003B when metal cleaning waste is discharged alter or expand the scope of the Steam Electric regulations. On the contrary, the definition and application of effluent limits are consistent with such regulations. *See* 40 CFR Part 423; *see also* Response to Comment IV.1.2 below.

Second, the commenter correctly identifies that Region 1 moved the compliance point from the combined treatment pond outfall to the Wastewater Treatment Plant #1 discharge. Movement of the compliance point to the appropriate location - after treatment but before combining with other wastestreams, does not constitute a redefinition of metal cleaning waste and is, in fact, necessary to ensure consistency with EPA regulations, as explained below.

Merrimack Station's existing permit issued June 25, 1992, (1992 Permit) applies total copper and total iron limits for the discharge from Outfall 003B: ash settling pond discharge during chemical cleaning.[1] Therefore, the 1992 Permit allows copper and iron limits for metal cleaning discharges to be met due to dilution provided by the slag settling pond water. Since 1992, the slag settling pond has been permitted to discharge up to 19.1 MGD of wastewater from multiple sources, including slag sluice water, low volume wastes, landfill leachate, stormwater from multiple sources, and metal cleaning wastes. However, the metal cleaning waste is reported to amount to only a tiny fraction of the total flow from the pond.[2]

The 2011 Fact Sheet provides that "[a]pplying the copper and iron limit of 1.0 mg/L to the combined waste streams from the Slag Settling Pond would potentially allow the Permittee to 1) comply by diluting the metal cleaning waste stream rather than treating it, and 2) discharge a total mass of copper and iron in excess of that authorized by the NELGs." 2011 Fact Sheet, p. 27. Importantly, the Region further explains, in the 2011 Fact Sheet, that EPA's regulations prohibit the commingling of distinct, separately regulated wastestreams:

> The Steam Electric Power Plant NELGs, *See* 40 C.F.R. Part 423, require that when separately regulated waste streams (i.e., ―waste streams from different sources‖) are combined for treatment or discharge, each waste stream must

[1] Outfall 003B in the existing, 1992 Permit is located at the discharge point from the slag settling pond to the discharge canal.

[2] The 1997 Permit Application lists boiler water side chemical cleaning flow equal to 2055 gpd, while the discharge from the slag settling pond equals 7.8 MGD. Also, important to note here is that the application identifies "Boiler Gas Side Water Washes," presumably without chemicals, having a flow of 4384 gpd, which are treated in a "6000 Gallon Chem Mix Basin." More recent information indicates that gas-side non-chemical metal cleaning amounts to less than 10,000 gpd, occurring one to five times per year and water-side chemical metal cleaning amounts to 300,000 gallons, occurring once every seven years. In 2011, the average monthly flow from the slag settling pond was approximately 5.3 MGD and the maximum daily flow approximately 13 MGD, which included approximately 1 MGD withdrawal for FGD make-up water when operating. *See* 2011 Fact Sheet, p. 14-15. Still, chemical metal cleaning, as well as non-chemical metal cleaning, flows are a small fraction of the total wastewater discharged from the slag settling pond. Given the substantial reduction in operations during the past several years, which is projected to continue, the flows from all waste sources is expected to be far less than when the facility operated as a base load plant.

> independently satisfy the effluent limitations applicable to it. 40 C.F.R. §§ 423.12(b)(12), 423.13(h).[3] *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). Thus, it is not acceptable to determine compliance for different wastewater streams after they have been mixed (or diluted) with each other, unless the effluent limits applicable to them are the same. *See* 40 C.F.R. § 122.45(h) (internal waste streams).

2011 Fact Sheet, p. 27 (internal footnote omitted); *see also* 40 CFR § 122.41(j) *Monitoring and Records* (establishing that samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity); 40 CFR § 125.3(e) (technology-based treatment requirements are applied prior to or at the point of discharge). The 1992 Permit applied both copper and iron limits to the co-mingled, non-similar waste streams at Outfall 003B. EPA has concluded that these limitations was incorrectly applied in the 1992 Permit, as explained here and in the 2011 Fact Sheet.[4] Therefore, Region 1 corrects the error in this Final Permit by changing the compliance point of Outfall 003B from the discharge point of the slag settling pond to the discharge point of Waste Treatment Plant No. 1 (WTP#1).

This change is consistent with the plain text of the CWA and EPA regulations. See Response to Comment IV.1.2 below.

Third, the commenter claims that Region 1 now requires that each metal cleaning waste be stored, managed, treated, discharged, and monitored separately, with no commingling with other wastewater. This is not entirely accurate. As stated above, the Steam Electric Power Plant ELG's 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. *See* 40 CFR §§ 423.12(b)(13), 423.13(n); 40 CFR § 125.3(f).

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 TSS effluent limitations for the low volume and legacy bottom ash wastes[5] 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 because they are subject to the same limitations.[6] The metal cleaning wastes may not, however, be combined

[3] The provision 40 CFR § 423.13(h) cited in EPA's Fact Sheet has since been re-codified as 40 CFR § 423.13(n). Similarly, subsection 40 CFR §423.129(b)(12) has been re-codified as 40 CFR § 413.12(b)(13). The language in the identified provisions remains the same, but the subsections have changed.

[4] The 2011 Fact Sheet mistakenly described the copper limit (applicable to Outfall 003B in the 1992 Permit) as a technology-based limit. However, that copper limit was a water quality-based effluent limit, which applied because it was more stringent than the 1.0 mg/l technology-based limit derived from the ELGs. *See* 2011 Fact Sheet, p. 16.

[6] 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 the same limits to the nonchemical metal cleaning wastes. *See* 2011 Fact Sheet.

with the ash, low volume wastes, and combustion residual leachate for compliance monitoring because the metal cleaning wastes are subject to additional effluent limitations for copper and iron. Either the metal cleaning waste streams must be separately monitored for compliance with copper and iron limitations, or a combined waste stream formula (CWF) must be developed if they are co-mingled with other waste streams (*e.g.,* low volume wastes or bottom ash transport water).

As discussed in the 2011 Fact Sheet, commingling of separately regulated wastestreams may be allowed if a CWF is developed for the commingled waste stream. But, "EPA does not, however, currently have sufficient information to derive a combined waste stream limit." 2011 Fact Sheet, p. 27. At this time, the Permittee has not provided the additional information required for the Region to determine limits based on a CWF. The Region suspects that limitations derived using this approach might be infeasible as described in the preamble of the Steam Electric ELG:

> EPA's record demonstrates, however, that combined wastestream limitations and standards at the point of discharge, derived using the building block approach or CWF, may be impractical or infeasible for some combined wastestreams because the resulting limitation or standard for *any* of the regulated pollutants in the combined wastestream would fall below analytical detection levels. In such cases, the permitting authority should establish internal limitations on the regulated wastestream, prior to mixing of the wastestream with others, as authorized pursuant to 40 CFR 122.45(h) and 40 CFR 403.6.62 See TDD Section 14 for more examples and details about this guidance.

80 Fed. Reg. 67884. In addition, waste streams may be combined in certain cases where one of the waste streams (with equal or less stringent limitations) is reused as process water for the other more stringently regulated waste stream. Indeed, the 2015 Steam Electric ELG's allow for this type of situation. Generating units (except for those equal to or below 50 MW) may only discharge pollutants in fly ash or bottom ash transport waters (after a permitted compliance date) if those transport waters are used as process water within an air pollution control scrubber (i.e., flue gas desulfurization system). 80 Fed. Reg. at 67861. Therefore, as an example, low volume wastewater may be used as the wash water for chemical metal cleaning. This would be considered reuse and not commingling of wastestreams. Consequently, the limits for chemical metal cleaning would apply to the resulting wastewater.

Furthermore, EPA acknowledges that the 2011 Fact Sheet and Draft Permit do not appear to be congruous. Specifically, Outfall 003B in the 2011 Draft Permit appears to apply iron and copper limits to all wastewater that passes through Waste Treatment Plant #1 (including low volume and other wastewater), while the 2011 Fact Sheet makes clear that these metals limits would only apply to metal cleaning wastes. Therefore, the description and limits applied at Outfall 003B in the 2011 Draft Permit were - errors that have been corrected in the Final Permit. To clarify, EPA's intent is that Outfall 003B apply to the discharge of metal cleaning wastewater (chemical and non-chemical) *only* and not to the other wastewater

streams that are discharged on a daily basis through Waste Treatment Plant #1 (unless those waste streams are re-used as metal cleaning wash water).[7] As a result, footnote 7 in the Draft Permit is no longer necessary because Outfall 003B is dedicated to the discharge of treated metal cleaning (chemical and non-chemical) wastewater only. Therefore, footnote 7 has been removed from the Final Permit.

Comment IV.1.2	**AR-1548, PSNH, pp. 189-195**

Comment: The effluent guidelines and standards for the steam electric industry are set out in 40 C.F.R. Part 423. They were promulgated in 1974, revised in 1982, and reasserted by the agency on November 3, 2015.[737] They contain BPT limits for the generically referenced "metal cleaning wastes," BAT and NSPS limits for "chemical metal cleaning wastes," and include a holding place for future BAT limits on NCMCWs. This "holding place" remains even after the promulgation of EPA's latest NELGs on November 3, 2015, within which the agency once again elected to "reserve" BAT for NCMCWs due to the fact that the agency:

> [D]oes not have sufficient information on the extent to which discharges of non-chemical metal cleaning wastes occur, . . . the ways that industry manages their non-chemical metal cleaning wastes[,] . . . [the] potential best available technologies or best available demonstrated control technologies, or the potential costs to industry to comply with any new requirements.[738]

The term "metal cleaning waste" is defined 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."[739] "[C]hemical metal cleaning waste" is defined as "any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning."[740] NCMCW is not expressly defined in the regulations despite the fact that the term is used in 40 C.F.R. § 423.13(f). Nevertheless, the agency has repeatedly attempted to establish a working definition of NCMCWs based on a comparison of the two aforementioned terms defined in 40 C.F.R. Part 423: "[A]ny wastewater resulting from the cleaning of metal process equipment without using chemical cleaning compounds."[741]

The BPT limits for the generically defined "metal cleaning wastes" include iron and copper limits (1.0 mg/L) and TSS and oil and grease limits.[742] BAT limitations for "chemical metal cleaning wastes" are the same as the BPT iron and copper limits for "metal cleaning wastes" (*i.e.*, 1.0 mg/L).[743] As mentioned above, there are no current BAT requirements for NCMCWs due to a lack of data regarding this waste stream.[744]

Impacting the application of these effluent limitations to the various "metal cleaning"

[7] PH monitoring at Outfall 003B has been removed from the Final Permit because pH monitoring is required at the end of the slag settling pond (Outfall 003A) and water quality-based pH limitations must be met at the end of the discharge canal (Outfall 003). Therefore, footnote 9 of the Draft Permit has also been removed.

waste streams generated by facilities within the industry is a June 17, 1975 document commonly referred to as the "Jordan Memorandum."[745] EPA used the Jordan Memorandum to clarify the limits for "metal cleaning wastes" applied only to chemical cleaning wastes, explaining that use of the term "metal cleaning wastes" in 40 C.F.R. Part 423 actually meant chemical cleaning wastes and does not include NCMCWs.[746] The memorandum was issued by Bill Jordan of the Permit Assistance & Evaluation Division of EPA Headquarters to Bruce P. Smith of Region 3's Enforcement Division in response to a May 21, 1975 letter from Mr. Smith, noting "some confusion as to what actually constitutes metal cleaning wastes" within the industry.[747] Mr. Smith specifically provided that he was "inclined to agree with . . . companies" that:

> [E]ffluent 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 categories, while effluent streams resulting from cleaning processes involving chemical solution (acid cleaning of boilers) should be considered in the metal cleaning waste source category.[748]

However, because of the perceived "ambigu[ity]" on this issue, Mr. Smith expressly requested EPA Headquarters provide clarification as to what constitutes NCMCWs. Mr. Smith specifically suggested "Headquarters should distinguish the type of cleaning that generates metal cleaning wastes and the type of cleaning that generates low volume wastes."[749]

The Jordan Memorandum explicitly addresses Mr. Smith's concerns. In it, Bill Jordan explains that NCMCWs constitute "low volume" wastes and are therefore not subject to effluent limitations for total copper and total iron in metal cleaning waste. Further, the Jordan Memorandum specifies that "[a]ll water washing operations are 'low volume' while any discharge from an operation involving chemical cleaning should be included in the metal cleaning category."[750]

Due to the Jordan Memorandum, iron and copper limits for "metal cleaning wastes" (meaning chemical metal cleaning wastes) were often included in permits within the industry between 1975 and 1980. At the same time, NCMCWs were classified as low volume wastes and not mentioned by name in many permits. This was to be expected, since "low volume waste" is a residual category for wastewater from all sources that do not have specific limitations.[751]

In proposed amendments to Part 423 published in 1980, EPA recognized that it "adopted a policy" as to the classification and treatment of NCMCWs by and through the Jordan Memorandum.[752] And, this "policy" from the Jordan Memorandum was reaffirmed in EPA's final 1982 NELGs.[753] While EPA originally proposed in 1980 to reject the Jordan Memorandum for facilities that had previously relied upon it by adopting a new definition that purportedly "[made] clear that the 'metal cleaning waste' definition" was meant to include NCMCWs,[754] the agency ultimately succumbed to its equitable concerns regarding the Jordan Memorandum in the 1982 final rule, recognizing that "many dischargers may have relied on [the Jordan Memorandum] guidance." Thus, EPA determined 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."[755]

EPA likewise abstained once again from establishing BAT effluent limitations for NCMCWs in this 1982 rulemaking, acknowledging both the data the agency had collected pertaining to NCMCWs "were too limited to make a final decision" and it had not sufficiently examined either "the available data on waste characteristics of non-chemical metal cleaning wastes [or] the costs and economic impacts of controlling them."[756] Thus, the Jordan Memorandum remained in effect for facilities that had relied on it following EPA's 1982 rulemaking.[757]

The latest NELGs do nothing to change how NCMCWs are regulated at facilities within the industry. In its 2013 proposed rule, EPA set out yet again to establish BAT requirements for NCMCWs equal to previously established BPT limitations for "metal cleaning wastes"[758] while preserving the status quo for those facilities historically authorized to discharge NCMCWs as a low volume waste.[759] In the final NELGs, the agency preserved the status quo for those facilities that rely upon the Jordan Memorandum to discharge NCMCWs as a low volume waste. However, EPA elected to not establish BAT requirements for NCMCWs due to flawed and imprecise data.[760] The agency stated as follows regarding how NCMCWs are to be regulated within the industry going forward:

> By reserving limitations and standards for non-chemical metal cleaning waste in the final rule, the permitting authority must establish such requirements based on BPJ for any steam electric power plant discharged non-chemical metal cleaning wastes. As part of this determination, EPA expects that the permitting authority would examine the historical permitting record for the particular plant to determine how discharges of non-chemical metal cleaning waste had been permitted in the past, including whether such discharges had been treated as low volume waste sources or metal cleaning waste.[761]

In its Response to Comments document, the agency provided that "[b]y not revising the[NCMCW] effluent limitations and standards and not revising the definitions, the final rule will not result in changes to industry operations for the specified wastestream[]."[762] The only reasonable interpretation of the above-referenced statements from the agency's final rulemaking is that NCMCWs will continue to be classified as a low volume waste if they have been historically. This has been recognized as the generally accepted practice for the last 30+ years by all relevant parties (permit writers, regulated community, interested third parties, etc.), with the assistance of the Jordan Memorandum. Any other interpretation by EPA is arbitrary and capricious.

[737] *See* 39 Fed. Reg. 36,186 (Oct. 8, 1974), amended 40 Fed. Reg. 23,987 (June 4, 1975); 47 Fed. Reg. 52,290 (Nov. 19, 1982), amended 48 Fed. Reg. 31,403 (July 8, 1983); 80 Fed. Reg. 67,838 (Nov. 3, 2015) (codified at 40 C.F.R pt. 423).
[738] 80 Fed. Reg. at 67,863.
[739] 40 C.F.R. § 423.11(d) (brackets included in original).

[740] *Id*. § 423.11(c).
[741] AR-608 at 28.
[742] *See* 40 C.F.R. § 423.12(b)(5).
[743] *Compare id.* at § 423.13(e) *with id.* at § 423.12(b)(5).
[744] *See id*. § 423.13(f).
[745] *See generally* Jordan Memorandum.
[746] *Id.* at 3.
[747] *See* Jordan Memorandum, Appendix IV(B) (Letter from Bruce P. Smith, Delmarva-D.C. Section, EPA Region III, to Mr. Bill Jordan, EPA Headquarters (May 21, 1975) at 5).
[748] *Id.*
[749] *Id.* (emphasis added).
[750] Jordan Memorandum at 3.
[751] *See* 40 C.F.R. § 423.11(b).
[752] *See* 45 Fed. Reg. 68,328, 68,333 (Oct. 14, 1980) (to be codified at 40 C.F.R. pts. 125 and 423) (noting that "EPA adopted a policy" in the Jordan Memorandum).
[753] *See* 47 Fed. Reg. at 52,297.
[754] 45 Fed. Reg. at 68,333. The definition of "metal cleaning wastes" was ultimately revised in EPA's final 1982 regulations. *See* 47 Fed. Reg. at 52,305.
[755] 47 Fed. Reg. at 52,297.
[756] *Id.*
[757] *See* EPA, High Capacity Fossil Fuel Fired Plant Operator Training Program Student Handbook, EPA- 453/B-94-056 (Sept. 1994) ("Since non-chemical metal cleaning is not currently specifically regulated, it is classified under low volume wastes.").
[758] *See* 78 Fed. Reg. 34,432 (June 7, 2013) (to be codified at 40 CFR pt. 423).
[759] *See, e.g.*, *id.* at 34,436 n.1, 34,465.
[760] *See* 80 Fed. Reg. at 67,863.
[761] *Id.* (emphasis added).
[762] NELGs Response to Comments, Part 4 of 10 at 4-324 (emphasis added).

EPA Response: During the 2015 rulemaking to revise the Steam Electric Effluent Limitations Guidelines (Steam Electric ELGs), EPA determined that it did not have sufficient information on a national basis to establish Best Available Technology (BAT) requirements for non-chemical metal cleaning wastes for the entire industrial category. 80 Fed. Reg. 67,838, 67,863; *see also Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category: EPA's Response to Public Comments*, at 7-179. The final rule, therefore, continues to ''reserve'' BAT standards for non-chemical metal cleaning wastes, as the previously promulgated 1982 regulations did. The 2015 Steam Electric ELGs explicitly state that by reserving BAT standards for non-chemical metal cleaning wastes in the final rule, permitting authorities are left to continue establishing such requirements based on Best Professional Judgement (BPJ) for any steam electric power plant discharging this waste stream. 80 Fed. Reg. at 67,863.[8] Region 1, as the permitting authority, has followed the regulatory requirements and made the required BPJ-based determination with regard to non-chemical metal cleaning wastes in the Merrimack Station Final Permit. Region 1 determined that BAT limits for non-chemical metal cleaning wastes are equivalent to BAT limits for chemical metal cleaning wastes and, thus, include effluent limits for total copper and iron applied at Outfall 003B.

[8] The limits for NCMCW are unaffected by the 2017 Reconsideration as well as the 2019 Fifth Circuit Opinion vacating and remanding other specific provisions of the 2015 Rule.

However, the commenter maintains that dischargers are entitled to continue to rely on EPA's 1975 guidance, the Jordan Memorandum, suggesting that metal cleaning wastes are those where chemical additives, not just water, are used for washing, and that non-chemical metal cleaning wastes should "continue to be classified as a low volume waste if they have been historically." EPA has carefully considered these comments, but, as explained below, in EPA's view, these comments and the assumptions upon which they are based do not provide a reasonable basis for EPA to regulate Merrimack Station's non-chemical metal cleaning wastes as low volume wastes not subject to effluent limits for total copper and iron in the Final Permit.

EPA first promulgated national ELG regulations for the Steam Electric Generating Point Source Category in 1974. 39 Fed. Reg. 36186 (Oct. 8, 1974). These regulations identified numerous distinct wastestreams, including "metal cleaning wastes." "Metal cleaning wastes" were defined as:

> … 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. 36,199 (*see* former version of 40 CFR § 423.11(d)). On its face, this regulatory definition encompasses both chemical and non-chemical metal cleaning wastes, as it covers any cleaning compounds and any rinse waters or other waterborne residues from cleaning metal process equipment. Furthermore, the above-cited definition in no way excludes non-chemical metal cleaning waste. The 1974 ELG regulations also identify "low volume wastes" as a distinct wastestream and define this wastestream as follows:

> …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. 36,199 (*see* former version of 40 CFR § 423.11(b)). This regulatory definition does not include metal cleaning wastes and, in fact, explicitly notes that wastewater from sources governed by separate, specific limitations in 40 CFR Part 423, are not considered low volume wastes. As stated above, metal cleaning waste, which encompasses both chemical and non-chemical metal cleaning wastes, is a separate wastestream specifically identified and regulated under Part 423 and, therefore, excluded from the definition of low volume wastes. Taken together, the two definitions identify a clear distinction between metal cleaning wastes (whether chemically or non-chemically based) and low volume wastes. *See also* Response to Comment IV.1.1 above.

Nevertheless, in 1975, just after the first Steam Electric ELGs were promulgated, a biologist in EPA's Region 3 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, and whether only chemical cleaning wastewaters should be categorized as "metal cleaning wastes." *See* Letter from Bruce P. Smith, Delmarva-D.C. Section, EPA Region 3, to Mr. Bill Jordan, EPA Headquarters (May 21, 1975), p. 2 (AR-313, Exhibit 3). In posing the question, Mr. Smith acknowledged that the ELG regulations clearly do not exclude non-chemical 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 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 (AR-313, Exhibit 3).[9] Thus, with no explanation or analysis provided, Engineer Jordan appears to propose, contrary to the text of the ELG regulations, that wastes from non-chemical 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).

In 1977, EPA promulgated new pretreatment standards for the Steam Electric ELGs. *See* 42 Fed. Reg. 15,690 (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 again did not distinguish between chemical and non-chemical metal cleaning wastes and gave no suggestion that that latter should be regarded as low volume waste. EPA's discussion, instead, indicated that non-chemical 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 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).

[9] The bulk of the Jordan Memorandum addresses a question other than the one about how to categorize non-chemical 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.

In 1980, EPA proposed amendments to the Steam Electric ELGs. 45 Fed. Reg. 68,328 (October 14, 1980). One particular area of focus in the proposed rule was EPA's effort to "clarify an issue of applicability for the 'metal cleaning wastes' stream limitations." *Id*. at 68,328. In essence, EPA expressly confronted the definition of metal cleaning waste and how the regulations outlining corresponding effluent limits must be read and applied. As part of this assessment, EPA reconsidered and rejected the Jordan Memorandum's exclusion of non-chemical metal cleaning waste from the metal cleaning waste category, noting that a distinction between the chemical and non-chemical 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 water only. *Id*. at 68,333. 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, however, the regulations proposed below adopt the memorandum's position for purposes of BPT only." *Id*. EPA proposed to implement this apparently equity-based approach by taking the following steps:

> 1. Revising the definition of "metal cleaning wastes" to even more explicitly *include both chemical and non-chemical 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 68,350 (proposed 40 CFR § 423.11(d)).
>
> 2. Adding a definition of "chemical metal cleaning waste." *Id*. at 68,350 (proposed 40 CFR § 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 68,351 (proposed 40 CFR § 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 68,352 (proposed 40 CFR § 423.13(g)).

EPA's approach would have amended the Steam Electric ELGs to correctly categorize non-chemical 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, while at the same time would have corrected its

mistaken underlying conclusion. It also would have correctly applied BAT ELGs to both chemical and non-chemical 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. 52,290 (Nov. 19, 1982). EPA retained the clarified definition of "metal cleaning waste" and the new definition of "chemical metal cleaning waste," id. at 52,305 (40 CFR §§ 423.11(c) and (d)) but dropped the regulatory language that applied the BPT limitations only to chemical metal cleaning wastes. Id. at 52,297, 52,306 (40 CFR § 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 non-chemical metal cleaning wastes. *Id*. at 52,297, 52,307 (40 CFR §§ 423.13(3) and (f)). EPA explained that while the BAT standard applied to non-chemical metal cleaning wastes, certain issues raised in the public comments, as discussed above, required further investigation. Id. at 52,297. *See also id*. at 52307-08 (40 CFR §§ 423.15(e), 423.16(c), 423.17(c)). Specifically, EPA explained that it had insufficient information to determine whether the waste streams from oil-burning and coal-burning facilities had significant differences and whether compliance costs would be excessive on a national, industry-wide basis. *Id*. at 52,297.

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.* (emphasis added). 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.

For the November 2015 revised Steam Electric ELGs, the Agency again "decided that it does not have enough information on a national basis to establish BAT/NSPS/PSES/PSNS requirements for non-chemical metal cleaning wastes. The final rule, therefore, continues to 'reserve' BAT/NSPS/PSES/PSNS for non-chemical metal cleaning wastes, as the previously promulgated regulations did." 80 Fed. Reg. 67,863. In the preamble to the 2015 Steam Electric ELGs, the Agency explains that:

> …the permitting authority must continue to establish such requirements based on BPJ for any steam electric power plant discharging this wastestream. As explained in Section VIII.I, in permitting this wastestream, some permitting authorities have classified it as non-chemical metal cleaning wastes (a subset of metal cleaning wastes), while others have classified it as a low volume waste source; NPDES permit limitations for this wastestream thus reflect that classification. In making future BPJ BAT determinations, EPA recommends that the permitting authority examine the historical permitting record for the particular plant to determine how discharges of non-chemical metal cleaning wastes have been permitted in the past. Using historical information and its best professional judgment, *the permitting authority could determine that the BPJ BAT limitations*

> *should be set equal to existing BPT limitations or it could determine that more stringent BPJ BAT limitations should apply.* In making a BPJ determination for new sources, EPA recommends that the permitting authority consider whether it would be appropriate to base standards on BPT limitations for metal cleaning wastes or on a technology that achieves greater pollutant reductions.

80 Fed. Reg. 67,884 (emphasis added). The 2015 preamble language makes three things clear: 1) moving forward, permitting authorities are expected to examine the historical classification of non-chemical metal cleaning wastes and method of regulation for a particular plant; 2) permitting authorities should use this historical information as one of several components in their BPJ BAT analysis; and 3) permitting authorities may establish BPJ BAT limitations for non-chemical metal cleaning wastes that are equal to existing BPT limitations or are more stringent.

In early 2017, EPA received administrative petitions requesting that the Agency reconsider the November 2015 Steam Electric ELGs. After considering the petitions, EPA decided that it would be appropriate and in the public interest to conduct a rulemaking to potentially revise the BAT limitations and PSES established by the 2015 Rule for FGD wastewater and bottom ash transport water. As a result of this decision, EPA issued a Final Rule, *Postponement of Certain Compliance Dates for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category*, 82 Fed. Reg. 43,494 (Sept. 18, 2017), in which EPA postponed the earliest compliance dates for the new, more stringent, BAT effluent limitations and PSES for bottom ash transport water and flue gas desulfurization (FGD) wastewater that were included in the 2015 Rule for a period of two years. EPA explained that it:

> "does not intend to conduct a rulemaking that would potentially revise the new, more stringent BAT effluent limitations and pretreatment standards in the 2015 Rule for fly ash transport water, flue gas mercury control wastewater, and gasification wastewater, or *any of the other requirements in the 2015 Rule*.

82 Fed. Reg. at 43,494 (emphasis added) Ultimately, EPA's September 2017 Final Rule "does not otherwise amend the effluent limitations guidelines and standards for the steam electric power generating point source category." 82 Fed. Reg. at 43,495. The rule, therefore, does not amend or affect the effluent limitations for metal cleaning wastes. The analysis and language included in the 2015 preamble related to NCMCWs, as mentioned above and discussed at length throughout EPA's responses to comments, remains effective, and is not subject to postponement or amendment.

As a result of the its reconsideration, the Agency began developing a revised rule to address BAT and PSES limits for FGD wastewater and bottom ash transport water. *See* Chapters V and VIII of this document. On November 22, 2019, EPA published a Proposed Rule in the Federal Register. 84 Fed. Reg. 64620 (Nov. 22, 2019). Again, this 2019 Proposed Rule did not address metal cleaning wastes. Thus, metal cleaning wastes are not affected or implicated by the 2017 reconsideration, 2017 Final Postponement Rule, or the 2019 Proposed Rule.

Having considered all of the above, EPA concludes that it would be unreasonable to exempt Merrimack Station's non-chemical metal cleaning waste streams from effluent limits for copper and iron. EPA reaches this conclusion for a number of independently sufficient reasons.

First, issuing an NPDES permit to Merrimack Station without copper or iron limits applicable to its "gas side (or fire side) ash washes" (non-chemical metal cleaning wastes), based on treating them as low volume wastes, would be inconsistent with the plain language of the regulations, which treats non-chemical metal cleaning wastes as a type of metal cleaning waste subject to copper and iron limits. The June 1975 Jordan Memorandum was 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 ELG's.

Second, as EPA stated in the preamble to the revised Steam Electric Power Plant ELG's 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 non-chemical metal cleaning wastes, and not just on the former. Furthermore, EPA pointed out that like chemical metal cleaning wastes, non-chemical metal cleaning wastes can contain toxic pollutants. At the same time, Merrimack Station has not provided a description of its operations or any monitoring data to indicate that its non-chemical metal cleaning wastes are free from toxic pollutants. Subjecting non-chemical metal cleaning wastes to BAT standards is thus reasonable from the standpoint of environmental protection as well.

Third, while it is unclear to EPA that it would have the authority to issue Merrimack Station an NPDES permit inconsistent with the statute and regulations based on the equitable concern noted in the Steam Electric 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 ELG's to specify that *BPT* limits would not apply to non-chemical metal cleaning wastes because of past reliance on the Jordan Memorandum, though it later dropped that idea in the final ELG's. EPA never suggested, however, that non-chemical metal cleaning wastes should also potentially be exempted from the BAT standards. 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, and required by the 2015 ELGs, that EPA's new NPDES permit for Merrimack Station apply BAT limits on a BPJ basis to the facility's non-chemical metal cleaning waste discharges. *See* 80 Fed. Reg. at 67863 ("By reserving limitations and standards for non-chemical metal cleaning waste in the final rule, the permitting authority must establish such [BAT] requirements based on BPJ for any steam electric power plant discharged non-chemical metal cleaning wastes.").

Fourth, while the Agency suggests that permitting authorities consider historical information when using its best professional judgment in determining BAT limitations (80 Fed. Reg. 67884), it is not clear to EPA that the Jordan Memorandum was ever applied to Merrimack Station in the past. Neither the 1992 Permit nor the Fact Sheet for that permit state that the non-chemical metal cleaning wastes (or "gas side ash 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[10] at Outfall 003B (slag/ash settling pond) during chemical cleaning to a combined discharge of chemical metal cleaning wastes,[11] non-chemical metal cleaning wastes, bottom ash transport water, low volume waste (LVW), and stormwater. As discussed above, it was incorrect for EPA to apply the limits to these commingled wastestreams, but EPA's approach does not equate to a conclusion that the limits were not also necessary for non-chemical metal cleaning waste, nor is it an indication that non-chemical metal cleaning waste was classified a low volume waste. Indeed, the 1991 Fact Sheet at page B-3 specifies that the discharge from Outfall 003B consist of "[n]on-routine ash settling pond discharge *including gas-side and water-side metal cleaning wastes*." (emphasis added). These particular non-chemical metal cleaning wastes were specifically called out. Further, in the 1992 Permit, limits for copper and iron[12] are also applied to Outfall 003A, the slag/ash settling pond, during "routine operation" when chemical cleaning is not taking place. Again, the permit does not specify that non-chemical metal cleaning waste is or is not a low volume waste, and during all operations (routine or during chemical cleaning), non-chemical metal cleaning waste is currently subject to iron and copper limits.

Finally, even as an equitable matter it does not make sense to exempt Merrimack Station from BPT or BAT effluent limits in a 2020 NPDES permit based on an unsubstantiated (and often questioned) memorandum from 45 years ago. To the extent that the Jordan Memorandum was ever applied to Merrimack 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 Merrimack Station over other facilities not excused from complying with permit limits based on the ELG's or based on a BAT limit determined on a BPJ basis.

Comment IV.1.3	**AR-1548, PSNH, pp. 202-204**

Comment: EPA attempts to define "non-chemical metal cleaning waste" in its Fact Sheet as "any wastewater resulting from the cleaning of metal process equipment without using chemical cleaning compounds."[789] This definition lacks clarity and is overbroad. For instance, must an operator be intending to actually clean a given piece of metal process equipment for the water that comes in contact with it to constitute NCMCWs? If so, is water that incidentally contacts

[10] Iron limits are technology/ELG-based limits and the calculated copper limits are based on the more stringent NH Water Quality Standards.
[11] Samples from the discharge of the slag settling pond were to be taken when chemical cleaning wastewater was being discharged to the pond.
[12] Iron limits are technology/ELG-based limits and the calculated copper limits are based on the more stringent acute (versus chronic) NH Water Quality Standards.

metal process equipment still considered a low volume waste? Furthermore, what all is included in the definition of "metal process equipment?" Will water intended to clean an electrical junction box associated with operation of the CWISs or water from an intake screen backwash constitute NCMCWs—requiring segregation and isolated chemical precipitation treatment? Interjecting subjective intent into the definition of NCMCWs is problematic and will create unnecessary confusion at the facility. Without clarity on these issues, it is not possible for PSNH to know what process changes and/or retrofits will be required to comply with the new permit.

In crafting this bloated definition of NCMCWs, EPA has ignored EPA's historical management of this waste stream and disregarded the instructive list of pieces of metal process equipment specifically referenced in the definition of "metal cleaning wastes" to serve as a guide for determining the scope of regulation for metal cleaning wastes (chemical and nonchemical) at a given facility. "Metal cleaning wastes" were first defined in the 1974 ELGs as "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."[790] For decades, EPA focused on developing data limited to chemical boiler cleaning wastes and NCMCWs associated with water washing of ash on boiler firesides and air preheaters. This makes perfect sense, given these pieces of metal process equipment are specifically referenced in EPA's definition for the waste stream. This list was presumably included in the definition for a reason. Although it is not exclusive, inclusion of a representative list such as this one should be interpreted to clarify that the agency never intended for all water that comes in contact with any metal process equipment to be interpreted as metal cleaning waste. To do so renders the representative list of metal process equipment included in the "metal cleaning waste" definition semantic and meaningless.

Only recently, as a part of the 2015 ELGs, did EPA attempt to better ascertain the potential breadth of the metal cleaning waste stream and gather corresponding additional data beyond water washing of ash on boiler firesides and air preheaters. And, this effort proved fruitless, as the agency itself provided that "plants refer to the same [NCMCW] operation using different terminology" and that results of EPA's data collection efforts are "skewed" and insufficient.[791] EPA has not concerned itself with understanding the wastewater management issues that will arise at Merrimack Station by the expansive definition of NCMCWs advanced in the Draft Permit. Nor has the agency heeded the specific list of metal process equipment included in the definition of "metal cleaning wastes" and attempted to extrapolate a reasonable list of additional metal process equipment that may be included in the definition of NCMCWs at Merrimack Station. Despite the agency's lack of action, it claims in the Fact Sheet of the Draft Permit that "the annual volume of [NCMCW] water [at Merrimack Station will be] considerabl[y] less than the chemical metal cleaning wastewater already generated at the site."[792] Based on EPA's broad definition of NCMCW, this statement is unjustified.[793]

EPA's seemingly all-inclusive definition of NCMCWs is not supported by the administrative record and cannot pass muster without additional analysis or discussion of the costs (including infrastructure needs) and expected pollutant reductions associated with such an expansive definition. In actual fact, expanding the meaning of "NCMCWs" to water washing of process equipment other than gas-side ash removal will be expensive and of limited environmental

benefit, especially if comingling is prohibited and iron and copper limits imposed. Any definition of NCMCWs should therefore be restricted to the gas-side removal of ash without chemicals. A suitable definition of "NCMCWs" would be "any wastewater from the cleaning of ash from gas-side process equipment from the boiler to the stack without chemical cleaning compounds, including boiler fireside cleaning and air preheater cleaning."

789 AR-608 at 28. Notably, the actual 2011 Draft Permit for the facility does not utilize this broad definition. Instead, it defines NCMCW effluent as "boilers water side boiler cleaning, gas side equipment ash wash, and precipitators" from Units 1 and 2 at Merrimack Station. AR-609 at 5.
790 39 Fed. Reg. at 36,205.
791 *See* 80 Fed. Reg. at 67,863
792 AR-608 at 32.
793 This statement is not true even utilizing a more narrow definition for NCMCW. PSNH and others within the industry generate significantly greater volumes of NCMCWs than they do chemical metal cleaning wastewater, which may be generated only one or two times during a permit cycle (at most).

EPA's Response: In general, EPA disagrees with the comment that the definition for NCMCW in the Fact Sheet is vague and too broad. At the beginning of this comment, the commenter asks "must an operator be intending to actually clean a given piece of metal process equipment for the water that comes in contact with it to constitute NCMCWs?" To this, the Region replies "Yes." It is not the Region's intent to broaden the scope of non-chemical metal cleaning waste beyond that defined for metal cleaning waste or to necessarily include any water that incidentally, or accidentally, comes into contact with any metal equipment within the facility. However, neither does the Region intend to narrow the scope as suggested to limit it only to "wastewater from the cleaning of ash from gas-side process equipment from the boiler to the stack without chemical cleaning compounds, including boiler fireside cleaning and air preheater cleaning." This would be inconsistent with the definition of metal cleaning waste in EPA's regulations, as has been discussed already herein.

The plain language of section 423.11(d) in EPA's regulations defines metal cleaning waste to include any wastewater generated from *either the chemical or non-chemical cleaning of metal process equipment*. *See also* 40 CFR §§ 423.11(c), 423.13(f). These definitions for *metal cleaning waste* and *chemical metal cleaning waste* make clear that *non-chemical metal cleaning waste* is any wastewater resulting from the cleaning of any metal process equipment without chemical cleaning compounds. *See* EPA Response to Comment IV.1.1 and IV1.2. above.

Finally, the 2011 Fact Sheet specifically identifies the known waste streams that are considered metal cleaning wastes (both chemical and non-chemical), pursuant to 40 CFR Part 423: MK(Unit)-1 and MK-2 water side boiler cleaning, MK-1 and MK-2 gas side boiler cleaning, MK-1 air heater wash, and precipitator wash. *See* 2011 Fact Sheet, p. 14 and 16. To the extent that the commenter suggests that the definition of metal cleaning wastes in this permit is vague, expansive, or "all-inclusive," the 2011 Fact Sheet contradicts any such suggestion. The Permittee has been provided a list of known sources of metal cleaning waste at the facility. In addition, this commenter, PSNH (the previous owner of Merrimack Station), provides in a Comment IV.2.1 below, that the Station's metal cleaning wastewater occurs during the following activities: cleaning Unit 1's air heater, boiler, precipitators, and stack; and cleaning Unit 2's air heater,

boiler, precipitators, and stack. This is consistent with EPA's list of metal cleaning waste at Merrimack Station identified above and the description included at Outfall 003B in the Final Permit. However, if the Permittee is unable to determine whether a particular waste stream should be classified as NCMCW, it may, as always, contact the Region for additional clarity.

2.0 Commingling of Metal Cleaning and Low Volume Wastestreams

Comment IV.2.1	AR-846, PSNH, p. 211-214

Comment: Merrimack Station generates metal cleaning wastewater during the following activities: (1) cleaning the Unit 1 air heater, typically 4 or 5 times each year, producing, in the range of 200,000 to 400,000 gallons of wastewater each time; (2) cleaning Unit 1's air heater, boiler, precipitators, and stack once every 18 to 24 months, producing in the range of 400,000 to 600,000 gallons of wastewater; and (3) cleaning Unit 2's air heater, boiler, precipitators, and stack once a year, producing upwards of a million gallons of wastewater. Based on these numbers, PSNH's permit renewal application provided the average flow of metal cleaning wastewater for Unit 1 was 6850 gpd (500,000 gallons 5 times a year) and Unit 2 was 2900 gpd (1,058,500 gallons 1 time per year).

Prior to major maintenance outages, daily discharges of low volume wastewater (LVW) are collected after treatment until two of the three basins are mostly filled. This LVW is then used as the supply to start the metal cleaning wash. Once the water is used to wash ash from equipment, it drains back to Basin 1 where it is chemically treated to enhance settling. The treated LVW is then pumped to Basin 3 where primary settling occurs before being transferred to Basin 2. From Basin 2, the wastewater is recycled back to be used as a continuing source for ongoing fireside wash. Limited volumes of treated wastewater are intermittently discharged during this process as necessary to maintain capacity in the treatment facility. Once the waterwash is finished, the wastewater is treated and the basins are sequentially discharged as the iron concentrations drop below 1.0 mg/L. This process is dependent upon the ability to blend the routine LVW with nonchemical metal cleaning wastes.

EPA Response: As discussed in Response to Comment IV.3.1 below, blending or combining of different waste streams prior to discharge is acceptable and encouraged in certain cases. One such case is the *reuse* of industrial process wastewater or other previously used water in an industrial process, provided the reused water has equal or less stringent limitations than the wastestream-generated wastewater. In this case, PSNH describes a process which uses LVW as the wash water for the metal cleaning processes. This scenario is not considered commingling of different waste streams prior to discharge, where an adjusted pretreatment limit would need to be calculated in accordance with 40 CFR § 403.6(e). Instead, the procedure explained by the Permittee is an acceptable method of reusing process water, without diluting the resulting discharge stream for the purpose of compliance with the copper and iron ELG limitations, because the resulting wastewater itself becomes metal cleaning wastewater and is treated as such. All of the resulting discharge wastewater, therefore, is treated as metal cleaning waste and would

be subject to the limits applicable to metal cleaning waste (*i.e.*, TSS, oil and grease, copper, and iron).

In fact, EPA encourages, where appropriate, onsite industrial wastewater reduction and reuse projects. EPA understands that the reuse of process wastewater has several benefits, including but not limited to conservation of potable water supplies, decreasing wastewater discharges, reduction in entrainment/impingement impacts (when source water is used as the supply), lower energy consumption and utility costs, and enhanced public image.

The Permittee currently collects, treats and discharges chemical metal cleaning wastes (*i.e.*, "boiler water side chemical cleanings" 1997 Permit Application) separately from other wastewaters once every 7 years at Merrimack Station. EPA is unaware of any reasons why the Permittee could not do the same for the non-chemical metal cleaning wastestreams, knowing now that reuse of LVW is acceptable as process water. Compliance with copper and iron limits at Outfall 003B would occur five to six times per year for the non-chemical metal cleaning wastes, without any change in current process operations as described in this comment. Although with limited "peaking facility" operations, as explained in Chapter II of this document, EPA expects that the occurrence would be far less. Further, compliance with the same copper and iron limits at Outfall 003B for chemical metal cleaning wastes would occur approximately every seven years. Both chemical and non-chemical metal cleaning wastes will be subject to the same BAT limits on copper and iron, and, therefore, commingling of the two related wastestreams is permitted and expected

3.0 Feasibility of the Outfall 003B Requirements

Comment IV.3.1	**AR-841, UWAG, p. 33**

Comment: While the existing facility might be able to isolate boiler chemical cleanings, it is physically impossible to do this for all ash washwater.

Fireside washes occur more frequently than chemical cleanings and often involve larger volumes of water. A Unit 2 annual outage might generate a million gallons or more of ash-related washwater. It is not possible to segregate and treat such large volumes of water in a system that consists of three 250,000-gallon basins.

Prohibiting the discharge of other (low volume) wastestreams to the treatment plant while metal cleaning wastes are being managed is also impossible. The flow of wastewater from an operating unit cannot be stopped with the simple turn of a valve. Floor drains continue to flow, demineralizers must be regenerated, and rain will fall. Wastewater management at a power plant is a full-time business.

EPA Response: EPA agrees that there may be feasibility issues with managing non-chemical cleaning wastes separately from low volume and other waste streams. However, as described by the Permittee above, LVW is used as process water for metal cleaning operations. EPA has explained that this does not constitute "commingling" or "dilution" and the resulting wastewater

is considered metal cleaning wastewater with regard to compliance with the permitted copper and iron technology-based limits. Further, as delineated in the 2011 Fact Sheet, pages 14-15, almost half the total amount that is reported to be discharged through WTP#1 each day is from intermittent sources. WTP#1 discharges approximately 83,000 gpd; nearly 39,000 gpd is from intermittent sources that may discharge, for example, once per day, 25 times per year or as is the case with water-side metal cleaning – once every 7 years. The intermittent nature of these discharges will aid in the facility's ability to coordinate segregation of metal cleaning wastes.

EPA notes that other power plants throughout New England are required to manage their waste separately, as required for Merrimack Station. The NPDES permit for the Mystic Station power plant in Everett, Massachusetts, for instance, requires non-chemical 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. The 2008 final Canal Station NPDES Permit (withdrawn and re-noticed for unrelated reasons) also requires that non-chemical metal cleaning wastewater meet copper and iron limits prior to dilution with other wastestreams (except for chemical metal cleaning). And notably, Schiller Station, also owned by GSP, is required, pursuant to their 2018 NPDES Permit (No. NH0001473), to segregate from other waste streams, treat, and meet concentration-based copper and iron limits for chemical and non-chemical metal cleaning waste. Although, PSNH made many of the same comments about the inability to segregate nonchemical metal cleaning waste in response to the Schiller Draft Permit, the facility has been segregating this waste at Schiller Station. *See* AR-1679. These similar facilities further suggest that segregation of metal cleaning wastes is feasible at Merrimack Station.

Furthermore, in the 2011 Fact Sheet, the option of using a combined wastestream formula to develop limits was also presented as an alternative to segregation of metal cleaning wastes prior to entering the slag settling pond. EPA explained in 2011 that it did not have sufficient information to derive a combined waste stream limit. Therefore, the Permittee would have been responsible for submitting such information if a CWF approach to compliance was desired.

Comment IV.3.2	**AR-846, PSNH, pp. 211-214**

Comment: During all outages, the station floor drains are routinely exposed to fireside wastewater or some other nonchemical metal cleaning operation, e.g., condenser and heat exchanger cleanings. Therefore, the floor drain system routinely transfers a combination of LVW and nonchemical metal cleaning wastes from Merrimack Station to the treatment facility during every significant outage. A Unit 2 annual outage might generate a million gallons or more of ash-related washwater. EPA's draft permit would prohibit the commingling of these two wastestreams and would prevent the discharge of LVW to the WTP#1 during the treatment of metal cleaning waste. As explained above, these actions are not physically possible at Merrimack Station since the WTP#1 was designed to centrally treat all wastewaters. EPA's draft permit would prevent the use of the washwater recycling system and increase both the consumption of potable or river water and the generation of significantly more wastewater.

EPA Response: As explained above, Merrimack's NPDES Final Permit does not prevent the use of the washwater recycling system, and in fact, this type of reuse is encouraged by EPA. The use of LVW as washwater for metal cleaning operations is not considered "commingling" or "dilution" of the resulting metal cleaning wastewater. Instead, reuse of LVW for metal cleaning, in effect, transforms LVW into metal cleaning waste. Therefore, the permitting requirements for Outfall 003B can, at least in part, be achieved using the Station's current "washwater recycling system."

In addition, it is EPA's understanding that the Permittee rents Frac tanks during major outages to manage the high volume of metal cleaning wastewater generated. *See* 2011 Fact Sheet, p. 14. EPA also understands that the Station's floor drain system is routinely used to transfer both LVW and nonchemical metal cleaning wastes to WTP#1. Given the reduction in operations at the facility in recent years, the Region believes that with the "washwater recycling system," the use of Frac tanks during major outages, and other scheduling and management techniques, the Permittee should be able to segregate and treat chemical and non-chemical wastewater separately from LVW and other wastestreams. However, EPA acknowledges that if there are still feasibility issues with managing NCMCWs separately from other waste streams, other options may also be explored including but not limited to: 1) the use of boilers to evaporate NCMCW (similar to that done for chemical metal cleaning waste at Schiller Station); 2) the direct piping for NCMCW within the same floor drain system, so as not to occupy additional space; and 3) the use of an alternate holding tank (similar to that which was used at Schiller Station). *See* EPA *Response to Comments Draft National Pollutant Discharge Elimination System Permit No. NH0001473 Schiller Station, Portsmouth, New Hampshire,* April 2018, Response to PSNH Comment V.C.3.c.

If there are instances when the Permittee determines it may not be able to separate these wastestreams prior to treatment, EPA could possibly develop limits based on the use of a combined wastestream formula (CWF). *See* 40 CFR 403.6(e). As previously discussed, this option was made known in the 2011 Fact Sheet. *See* 2011 Fact Sheet, p. 27. Based on some of the practical considerations raised in Comment IV.3.5 and IV.3.6 below, it may be the case that neither a complete segregation of NCMCW nor the direct application of a CWF are complete solutions. If so, EPA suggests the following hybrid approach that may be a simpler and more affordable option.

First, while not all dissimilar flows may be easily segregated from NCMCWs, certainly some of the flows could be segregated simply through schedule changes, as suggested in the Fact Sheet. Next, the remaining dissimilar flows could be sampled (for copper, iron, flow, etc.) and the results used to develop a simplified CWF which only includes those waste streams that cannot be reasonably segregated from NCMCW (and chemical metal cleaning waste). EPA acknowledges that this subset of waste streams may still have highly variable flows and concentrations of copper and iron, but expects that a robust dataset along with some conservative assumptions for volumes and frequencies of certain waste streams could adequately approximate the level of treatment required to comply with the copper and iron

effluent limits. Given the complex nature of this facility, EPA is open to assist the Permittee in developing such an approach, if requested.

EPA understands that the volumes of certain waste streams may need to be estimated in order to develop a reasonable CWF. EPA also acknowledges that these waste streams may vary over time as processes within the facility change. One possible way to develop a CWF is to use the historical flow results from Outfall 003B in order to provide a baseline flow. Assuming the only source of copper and iron are from the metal cleaning waste (a conservative assumption), then the only other necessary information to develop a reasonable CWF would be a comprehensive accounting of flow rates, volume and timing for each wastewater source that is routed to WTP#1. The analysis would also benefit from having specific metals data for each stream (not including the LVW that is reused as metal cleaning wash water) and a detailed flow diagram. Again, LVW used as wash water in any chemical or non-chemical metal cleaning process is no longer considered low volume waste; after reuse, it is considered metal cleaning waste. This data would provide a somewhat conservative baseline dilution factor which could then be modified by implementing schedule changes to segregate certain waste streams and/or by reusing certain waste streams as metal cleaning waste and/or by accounting for other sources of copper and iron from alternate waste streams which do not have copper and iron limits. EPA expects that this type CWF development would not be unnecessarily burdensome to the Permittee and would comply with the relevant regulatory requirements. If the Permittee wishes to apply a CWF in order to comply with the permit, EPA requires that the Permittee provide the above data and work with EPA to develop an accurate CWF. Should EPA approve the CWF, limits may be developed, and the permit modified to include these limits.

Comment IV.3.3	**AR-841, UWAG, pp. 33-36**

Comment: Region 1's purported legal basis for forbidding metal cleaning wastes from being combined with ash and low volume wastes before monitoring is a misreading of EPA's own regulations, as follows:

> It is not acceptable to determine compliance for different wastewater streams after they have been mixed (or diluted) with each other, unless the effluent limits applicable to them are the same…The metal cleaning wastes may not be combined with the ash and low volume wastes prior to compliance monitoring because the metal cleaning wastes are subject to additional effluent limitations for copper and iron.

Fact Sheet at 20. Region 1 relies largely on 40 C.F.R. § 125.3(f), a general provision that says technology-based requirements cannot be met by flow augmentation or in-stream mechanical aerators.

EPA's rules do prohibit "dilution" in lieu of treatment; but they clearly do *not* forbid commingling wastestreams *for* treatment, even if the wastestreams have different limits. The

correct rule is the "combined wastestream" rule in the BAT requirements for the steam electric industry:

> In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property controlled in paragraphs (a) through (g) of this section attributable to each controlled waste source shall not exceed the specified limitation for that waste source.

40 C.F.R. § 423.13(h); *see also* 40 C.F.R. § 423.12(b)(12) (BPT).

Indeed, EPA *encourages* centralized treatment. Its 1980 Steam Electric Development Document says "[c]onsolidation of waste streams to a centralized treatment system is permitted and encouraged." Dev. Doc. at 470. The 1974 preamble to the steam electric guidelines says much the same thing:

> It is also recognized by EPA that, due to the economies of scale, combining similar waste streams for treatment to remove the same pollutants is generally less costly than separate treatment of these waste streams. The employment of cost-saving alternatives in meeting the effluent limitations should not be discouraged.

39 Fed. Reg. 36,186, 36,196 col. 3 (Oct. 8, 1974).

Clearly, 40 C.F.R. Part 423 does not prohibit commingling. Rather, it explains what to do when commingling occurs. Section 423.13(h) prescribes how to apply limits "(i)n the event that waste streams from various sources are combined for treatment or discharge…."

The regulation Region 1 relies on, 40 C.F.R. § 125.3(f), says "[t]echnology-based treatment requirements cannot be satisfied through the use of 'non-treatment' techniques such as flow augmentation…." In the case of Merrimack, the plant and ancillary components were specifically designed to incorporate the maintenance-related waters with routine operational wastewater. The current practice of blending streams is not a "non-treatment" technique that relies on dilution, but part of the original treatment plan and design. In fact, without the ability to mix, Merrimack Station will be forced to abandon the washwater return system that allows ash waters to be recycled back to the cleaning process to reduce overall volume.

EPA also cites the internal limits rule, 40 C.F.R. § 122.45(h), as a reason to prohibit the mixing of wastestreams. But this rule says that internal monitoring points should be imposed only when the final discharge location is inaccessible or the wastes become "so diluted as to make monitoring impracticable":

> **122.45(h) Internal waste streams.**
>
> 40 C.F.R. § 122.45(h)(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 Sec. 122.48 shall also be applied to the internal waste streams.
>
> 40 C.F.R. § 122.45(h)(2)
>
> Limits on internal waste streams will be imposed only when the fact sheet under Sec. 124.56 sets forth the exceptional circumstances which make such limitations necessary, such as when the final discharge point is inaccessible (for example, under 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.

Region 1 has failed to document the "exceptional circumstances" that it believes exist at Merrimack.

Indeed, at Merrimack Station the final discharge point (003) *is* accessible. If EPA contends that the canal and treatment pond waters dilute the metal cleaning wastes to make monitoring "impracticable," then the new 003B outfall can serve as an internal monitoring location of the combined flow from the existing treatment plant when metal cleaning wastes are being discharged. At times when they are produced, the metal cleaning wastes dominate the facility and are the most prevalent wastestream. As such, the dilution from low volume wastes is minor and plainly does *not* make monitoring the metal cleaning wastes impracticable.

EPA Response: EPA disagrees with the commenter's assessment of whether and how commingling of distinct wastestreams is allowed under the regulations and law. Both the 2011 Fact Sheet (p. 27) as well as EPA's Response to Comment IV.1.1. above, explain that commingling distinct wastestreams subject to distinct limits is inappropriate in certain circumstances. EPA never stated, as the commenter suggests, that commingling of distinct wastestreams, here metal cleaning wastes and low volume (and other) wastes, is "forbidden." In fact, as EPA's response to the previous comment makes clear, commingling may be allowed through application of a CWF. *See* Response to Comment IV.3.2. EPA relies on its recitation of the relevant regulations (2011 Fact Sheet, p. 27) and how, collectively, these regulations require segregation of metal cleaning waste from other waste sources for treatment and monitoring at Merrimack Station, unless an EPA-approved CWF is developed and applied. As described in Comment IV.2.1 for LVW, ash water used as wash water in any chemical or non-chemical metal cleaning process would no longer constitute dilution; after reuse, it is considered metal cleaning waste.

The commenter claims that the 1974 Steam Electric ELGs encourage commingling of dissimilar wastestreams with dissimilar limits. This is simply inaccurate as the language quoted itself demonstrates:

> It is also recognized by EPA that, due to the economies of scale, combining similar waste streams *for treatment to remove the same pollutants* is generally less costly than separate treatment of these waste streams. The employment of cost-saving alternatives in meeting the effluent limitations should not be discouraged.

39 Fed. Reg. 36,186, 36,196 col. 3 (Oct. 8, 1974) (emphasis added). While the 1974 preamble may have encouraged combining similar wastestreams, it did so for treatment to "remove the *same* pollutants" (emphasis added). Here, NCMCW and chemical metal cleaning waste are subject to limits for copper and iron, and low volume and other wastes are not. The above language, therefore, does not support combining these dissimilar wastestreams for treatment of *different* pollutants.

In fact, the subsequent revisions to the Steam Electric Guidelines make clear that internal monitoring and segregation of separate wastestreams is appropriate to effectuate the Clean Water Act and its regulations. The 1982 ELGs state, in relevant part,

> where the permit contains concentration based limits at the outfall for a combined waste treatment facility (e.g. ash ponds), the permit writer may establish numerical limits and monitoring on the individual, regulated waste stream *prior* to their mixing. *See* 40 CFR 122.63(i). The use of concentration based limits may necessitate the internal monitoring of several waste streams (i.e., cooling tower blowdown, metal cleaning wastes) to ensure that the pollutants of concern are not diluted by other waste streams where commingling occurs.

47 Fed. Reg. 52290, 52300 (Nov. 19, 1982). Additionally, in the 2015 Rulemaking, the Agency stated that in such cases where the CWF is impracticable or infeasible, "the permitting authority should establish internal limitations on the regulated wastestream, prior to mixing of the wastestream with others, as authorized pursuant to 40 CFR 122.45(h) and 40 CFR 403.6.62." 80 Fed. Reg. at 67884. The NPDES Permit Writers' Manual further bolsters this approach. NPDES Manual, p. 5-37, 8-4.[13]

Additionally, in an attempt to argue that 40 CFR § 125.3(f) is inapplicable or irrelevant, the commenter asserts that the Merrimack Station facility was designed to incorporate commingling

[13] The NPDES Manual provides:

- "If a wastewater stream that does not contain a pollutant is combined with another wastewater stream that contains the pollutant (and has applicable requirements in the effluent guidelines or requirements determined by the permit writer using BPJ), the permit writer must ensure that the non-regulated waste stream does not dilute the regulated waste stream to the point where the pollutant is not analytically detectable. If that occurs, the permit writer will most likely need to establish internal outfalls, as allowed under § 122.45(h) and in Step 7 below." p. 5-37.
- "Examples of reasons for requiring designation of internal monitoring locations include the following:
  • Ensuring compliance with effluent guidelines (at non-POTW facilities): When non-process wastewaters dilute process wastewaters subject to effluent guidelines, monitoring the combined discharge might not accurately allow determination of whether the facility is complying with the effluent guidelines. Under such circumstances, the permit writer might consider requiring monitoring for compliance with TBELs before the process wastewater is combined with nonprocess wastewater." p. 8-4.

as a treatment method. The fact that the facility may have intended for dilution to be a part of its treatment process does nothing to negate the regulatory requirement set forth in section 125.3(f) that "Technology-based treatment requirements cannot be satisfied through the use of 'non-treatment' techniques such as flow augmentation." That Merrimack would categorize its dilution as "treatment" is without legal import. Dilution of metal cleaning wastes through commingling with low volume and other wastes, a form of flow augmentation, does not satisfy technology-based treatment requirements at Merrimack Station, without the application of a CWF.

Importantly, EPA agrees that when combining wastestreams from various sources for treatment and discharge "the quantity of each pollutant … attributable to each controlled waste source shall not exceed the specified limitation for that waste source." 40 CFR § 423.13(n). For the 2011 Draft Permit, limits derived using the CWF was offered as an alternative to segregating different waste streams. However, the Region did not have sufficient information to develop limits at that time. *See* 2011 Fact Sheet. If and when the Permittee provides the necessary information, the Region can modify the permit to include copper and iron limits determined using the CWF.

Furthermore, as explained in the 2011 Fact Sheet and Response to Comment IV.1.1 above, the compliance point for 003B in the 1992 Permit was in error because it allowed technology-based limits for iron found in the Steam Electric ELG's for chemical metal cleaning discharges to be met using dilution provided by the slag settling pond water (the chemical metal cleaning waste is treated upstream at WTP#1 and is reported to amount to only a tiny fraction of the total flow from the pond). The 2011 Fact Sheet explains that the error must be corrected for the renewed permit because "[a]pplying the copper and iron limit of 1.0 mg/L to the combined waste streams from the Slag Settling Pond would potentially allow the Permittee to 1) comply by diluting the metal cleaning waste stream rather than treating it, and 2) discharge a total mass of copper and iron in excess of that authorized by the NELGs." 2011 Fact Sheet, p. 27. The Region may have neglected to cite the regulation but the implication is the same: "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." 40 CFR § 122.45(h)(2). Therefore, the Region did provide the explanation and rationale required to satisfy § 122.45(h)(2).

Regarding the new internal waste stream 003B (after WTP#1) with the commenter states that "[a]t times when they are produced, the metal cleaning wastes dominate the facility and are the most prevalent wastestream. As such, the dilution from low volume wastes is minor and plainly does *not* make monitoring the metal cleaning wastes impracticable." The Region agrees that metal cleaning wastes may be the most prevalent wastestream at times, but this circumstance would likely make it easier for the Permittee to segregate metal cleaning waste.

Comment IV.3.4	AR-846, PSNH, pp. 211-214

Comment: EPA's rationale for prohibiting this requirement is based on 40 C.F.R. § 125.3(f), which prohibits dilution in lieu of treatment. PSNH recognizes that dilution is not an option. However, EPA's regulations do not forbid commingling of wastestreams. Specifically, EPA regulations state:

> In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property…attributable to each controlled waste source shall not exceed the specified limitations for that waste source.

40 C.F.R. 423.13(h). EPA's guidelines make this point even more clear:

> It is also recognized by EPA that, due to economies of scale, combining similar waste streams for treatment to remove the same pollutants is generally less costly than separate treatment of these waste streams. The employment of cost saving alternatives in meeting the effluent limitations should not be discouraged.

39 Fed. Reg. 36,186, 36,196 (Oct. 8, 1974). Other sections of EPA's regulations explain how EPA will address limits if wastestreams are combined for treatment. See 40 C.F.R. § 423.13(h). This clearly acknowledges that the regulations do not prohibit the commingling of wastestreams.

EPA Response: See Response to Comment IV.3.3 above.

Comment IV.3.5	AR-1548, PSNH, pp. 208-210

Comment: Requiring changes in current plant processes to segregate and treat NCMCWs would be difficult, if not impossible. The processes and engineering modifications suggested in the 2011 Fact Sheet are based on nothing more than unfounded assertions. EPA has not visited nor tried to visit Merrimack Station to determine whether such modifications are even plausible. If it had, it would see that current infrastructure and processes employed would need to be extensively overhauled in order to attempt to segregate and treat NCMCWs from other low volume wastes. Even then, complete segregation from other low volume waste streams prior to treatment may not be possible.[799]

EPA attempts to gloss over these operational realities by proposing that PSNH can monitor chemical and nonchemical metal cleaning wastewater for compliance with copper and iron limitations separate from other waste streams.[800] It is an unrealistic assumption that PSNH can eliminate or divert all other low volume waste streams whenever NCMCWs are being generated and treated or that the facility can divert isolated NCMCWs to another treatment process before commingling the waste stream with other low volume waste streams.[801] These abstract statements ignore the fact that Merrimack Station was specifically designed to handle and treat smaller and less infrequent waste streams, like NCMCWs, in a centralized manner for the sake of efficiency. Attempting to overhaul this decades-long practice does not take place by

the push of a button or a change in operational procedure.

As currently proposed, any wash water that comes in contact with any "metal process equipment" constitutes NCMCWs, according to EPA's broad definition.[802] At Merrimack Station, this includes all wash water utilized to pressure wash boilers, air heaters, precipitators, and stacks, among other associated process equipment. Within the industry, the primary treatment system for wastewaters of this kind is designed to operate in a centralized manner, *i.e.*, to mix streams and manage them together in order to be efficient.[803] Merrimack Station is no different.

For instance, wastewaters from boiler blowdown, demineralizer regenerations, and floor drains (collectively considered low volume wastes) are commingled at Merrimack Station, both out of necessity and by design. Even during other shorter outages, Merrimack Station's floor drains are routinely exposed to fireside wastewater or some other nonchemical metal cleaning operation, *e.g.*, condenser and heat exchanger cleanings. Therefore, the floor drain system routinely transfers a combination of low volume wastes and NCMCWs from Merrimack Station to the treatment facility.

A mandate to manage NCMCWs separately is not currently possible at Merrimack Station since the wastewater treatment facilities were designed to centrally treat all wastewaters. Such wash waters necessarily end up in floor drains, where they are unavoidably combined with other low volume wastes. Furthermore, even if possible, segregation of NCMCWs from other low volume waste streams would be labor intensive (e.g., construction of isolated berms or other temporary containment structures so that wash water could be contained and held for treatment) and likely lead to upsets and/or recurring operational issues. Although in theory it seems plausible to operate facilities in a neat and tidy manner and ensure NCMCWs are isolated, this is just simply not feasible. PSNH's facilities are operated within the bounds of reality, which makes it not practicable to completely segregate NCMCWs from other low volume waste streams prior to treatment.

Further complicating matters is that the infrastructure retrofits necessary to isolate NCMCWs are generally very expensive and, once installed, necessarily preclude other technologies from occupying the same space, meaning facilities have limited space in which to achieve the maximum environmental benefit from control technologies. The relative infrequency of nonchemical metal cleaning operations at Merrimack Station, the fact the metals in the waste stream settle out easily with the current wastewater treatment systems, and the substantial volume of water generated during a unit wash down (at least under EPA's expansive definition of what constitutes NCMCWs) that would need to somehow be isolated and retained, lead to only one reasonable conclusion: the investment in retrofit technology for the isolated treatment of NCMCWs cannot be justified given all other environmental regulatory initiatives requiring retrofits that compete for the same space within the facility.

Managing NCMCWs in the manner EPA has proposed in the Draft Permit will likely require the addition of a second storage facility at Merrimack Station. Unless a facility has a substantial existing footprint with copious amounts of unused real estate, which Merrimack

Station does not, the most likely option to fit a storage facility would be to reclaim a section of an existing treatment system to construct new basins. This is a costly proposition and would impact the effectiveness of treatment currently provided by reducing retention time in existing treatment systems.

799 *See* AR-608 at 31.
800 *See id.* at 27-28.
801 *See id.* at 31.
802 *See id.* at 28.
803 *See, e.g.,* EPA, Technical Development Document for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, Dock. ID EPA-821-R-15-007, at 8-19 (Sept. 2015) ("The vast majority of plants combine some of their legacy wastewater with each other and with other wastestreams, including . . . metal cleaning wastes, and low volume waste sources in surface impoundments.").

EPA's Response: To start, see EPA's Response to PSNH Comment IV.1.3 above regarding the definition of NCMCWs not being as "broad" as the commenter suggests. Given this clarification, EPA acknowledges that there still may be feasibility issues with managing NCMCWs separately from low volume and other waste streams. If this is the case, EPA notes that the option of using a combined waste stream formula (CWF) to develop limits was also put forward in the 2011 Fact Sheet. EPA explained in 2011 that it did not have sufficient information to derive a combined waste stream limit. Therefore, the Permittee is responsible for developing a CWF approach to compliance, if desired.

Given some of the practical considerations raised in this comment, EPA also notes that other options may also be explored to properly segregate NCMCW in compliance with this permit. These options include, but not limited to, (1) the managed use of one or more of the three 250,000-gallon basins to hold and subsequently treat NCMCWs separately from other waste streams, or (2) the reuse of low volume wastewater as metal cleaning process water as described above in Comment IV.2.1, or (3) using the boilers to evaporate NCMCW (similar to that done for chemical metal cleaning waste at Schiller Station as described in the Schiller Station Fact Sheet at 21), or (4) direct piping for NCMCW within the same floor drain system, so as not to occupy additional space, or (5) the use of an alternate holding tank or FRAC tank to segregate and treat NCMCW. EPA maintains that, given the various options available to the Permittee presented in the Fact Sheet as well as here, proper segregation of NCMCWs and/or sampling for compliance with the permit is both possible and the costs associated with such segregation should be modest. Indeed, segregation of chemical and non-chemical metal cleaning wastes at the nearby Schiller Station have been achieved, even though nearly identical complaints were made regarding feasibility. *See* AR-1679. Furthermore, EPA expects that limited "peaking" operations at the plant will reduce the amount of wastewater generated from all process operations and will therefore facilitate segregation.

Although EPA visited the facility many years ago, the permit renewal application should include the information necessary to develop permit limits. Generally, EPA also issues CWA Section 308 information requests when more information is necessary. Therefore, EPA concludes that it has all necessary information to develop permit limits for NCMCW and other wastestreams.

Finally, as previously mentioned, EPA notes that other power plants have been able to manage their waste separately, as required for Merrimack Station. *See* Response to Comment IV.3.1.

Comment IV.3.6	**AR-1548, PSNH, pp. 210-212**

Comment: Use of a combined waste stream formula will not work at Merrimack Station. EPA advances the development of a combined waste stream formula as one potential mechanism for handling and treating NCMCWs in the manner it has proposed in the Draft Permit.[804] The agency asserts that electing to comply with the proposed permit limitations utilizing this approach could be less expensive than making engineering modifications at the facility.[805] In reality, use of a combined waste stream for the effective treatment of NCMCWs at Merrimack Station is not practical and would likely result in the use and waste of thousands of dollars of chemical treatments not ultimately necessary to comply with the proposed iron and copper effluent limitations.

This treatment theory is impractical for numerous reasons. For starters, the respective total volumes, frequencies, and concentrations of iron and copper for NCMCWs and each of the current waste streams commingled with NCMCWs are inherently variable. No two volumes of NCMCWs are the same for equipment water washes at Merrimack Station or anywhere in the industry. EPA recognized this as part of its 2015 ELGs rulemaking: "Additionally, some wastestreams have significant variations in flow, such as metal cleaning wastes[.]"[806] Employing EPA's overly-broad definition of NCMCWs, some form of this waste stream may be generated hourly or daily most days and may be continuous for extended periods of time during a planned outage. The generating frequency and volumes of boiler blowdown, demineralizer regenerations, floor drains, and other low volume wastes currently commingled with NCMCWs at Merrimack Station likewise fluctuate a great deal depending upon plant operations and other factors.

Concentrations of iron and copper attributable to each waste stream are likewise impossible to predict or estimate with any degree of certainty and would be further compounded by intake credit issues.[807] PSNH currently has no way of knowing what amount of iron and copper limits are attributable to each isolated low volume waste stream, and given the aforementioned variables, PSNH has serious doubts the concentrations of iron and copper within these isolated low volume waste streams remain consistent. Instead, it is more likely the amount of iron and copper in, for instance, NCMCWs and wastewater entering floor drains fluctuates a great deal depending upon plant and/or personnel operations.

Due to the aforementioned myriad of variables and unknowns, establishing a preset formula to effectively treat NCMCWs at Merrimack Station and ensure compliance with the proposed iron and copper effluent limitations utilizing the combined waste stream theory is not possible. Attempting to rely upon a formula such as this would cause PSNH to either over-treat the combined waste stream with excessive amounts of chemicals to precipitate out the iron and copper constituents at a significant annual cost or, conversely, subject the facility to frequent and repeated exceedances of the proposed effluent limitations due to the great degree of variability in

the makeup of the combined waste stream. Neither scenario is a sensible one. The combined waste stream formula approach should therefore be disregarded as impractical for the regulation of NCMCWs at Merrimack Station.

804 *See* AR-608 at 27.
805 *Id.* at 32.
806 80 Fed. Reg. at 67,855.
807 *See* 40 C.F.R. § 122.45(g) (providing that technology-based effluent limitations shall be adjusted to reflect credit for pollutants in the discharger's intake water under certain conditions).

EPA's Response: The commenter broadly concludes that application of a CWF to ensure compliance with copper and iron limits for metal cleaning wastes is impossible and should be disregarded. EPA, on the other hand disagrees. First, the commenter's repeated suggestion that EPA's definition of NCMCW is "overly broad" is without merit, as the Region has explained in Response to Comment IV.1.3 above. Any reliance on this definition is misguided and not relevant. Moreover, with the appropriate assumptions and analysis, a CWF may be possible as an approach or part of a hybrid approach to addressing metal cleaning waste. *See* Response to Comment IV.3.2. above.

4.0 Longstanding EPA Practice for Nonchemical Cleaning Wastes

Comment IV.4.1	**AR-841, UWAG, pp. 36-38**

Comment: EPA has set BAT limitations guidelines for chemical metal cleaning waste (Part 423.13(e)) but has reserved BAT for nonchemical metal cleaning waste, *e.g.*, ash washwaters (Part 423.13(f)). In the draft Merrimack permit, EPA suggested that the BAT standard for chemical metal cleaning waste applies to nonchemical metal cleaning waste. But EPA did *not* do that in the 1982 ELG's. Instead, it reserved judgment until more information was known regarding the cost and economic impact that would result from requiring the entire industrial category to ensure that nonchemical metal cleaning wastes satisfy the same limits that had been set for chemical metal cleaning wastes. 47 Fed. Reg. 52,290, 52,297 (Nov. 19, 1982). Nonchemical waste is not to have BAT limits applied until more is known about the financial impact.

Moreover, until EPA addresses the question, dischargers are entitled to continue to rely on EPA's 1975 guidance that metal cleaning wastes are those where chemical additives, not just water, are used for washing. In 1975, EPA issued the "Jordan Memorandum," which said that wastestreams produced by metal cleaning without chemical additives would *not* be regulated as "metal cleaning wastes" but rather as low volume wastes. Pursuant to the Jordan Memorandum, wastestreams produced by metal cleaning with only water were not subject to the 1 mg/L iron and copper limitations that apply to metal cleaning wastes.

In 1980, EPA proposed to revise the steam electric guidelines. 45 Fed. Reg. 68,328 (Oct. 14, 1980). In the preamble, EPA renounced future adherence to the Jordan Memorandum (*id*. at 68,333 col. 2), stating that "metal cleaning wastes" are defined broadly enough to include wastes derived from cleaning any metal process equipment.

However, the final regulations tempered this extreme position. Although nonchemical metal cleaning wastes were explicitly regulated under BPT, they remained reserved for future regulation under BAT and NSPS. Furthermore, the preamble to the final guidelines stated that "until the Agency promulgates new limitations and standards, the previous [Jordan Memorandum] guidance policy may continue to be applied in those cases in which it was applied in the past." 47 Fed. Reg. at 52,297 col. 3. Thus, a permit writer may allow those companies that followed the Jordan Memorandum in the past to continue without BPT limits for iron and copper in nonchemical metal cleaning wastestreams.

Nonchemical metal cleaning waste (fireside ash washwater) is similar in quality to other wastewaters that are managed in a power plant on a daily basis. Chemical metal cleaning waste (chemical cleanings), on the other hand, is unique, infrequent, and aggressive. By their nature, chemical cleanings deserve to be in a separate category. Ash washwater needs to be managed like all other wastewater collected at the facility and requires no special provisions.

Just as with closed-cycle cooling and biological treatment, EPA is using its "Best Professional Judgment" to enforce the most stringent controls possible on Merrimack Station with the justification that "PSNH can afford these expenditures given that Merrimack Station is a profitable, baseload power plant." This is an inadequate and superficial justification for imposing new costs on PSNH's customers, and it is also incorrect, in that Merrimack is not a baseload" plant but rather one whose power is dispatched based on economics.

EPA makes a token comment that, "from an engineering standpoint," the ash washwaters can be segregated and treated with some "scheduling adjustments." This conclusion appears to be unfounded. PSNH will be required to make a significant investment to comply with this requirement, including the addition of at least 100-percent more storage capacity. The most unfortunate consequence is that there is no question that the existing technology and practices treat the wastestream to below the copper and iron limits of 1.0 mg/L – the conflict is simply over when the various wastestreams are allowed to mix.

For the above reasons, the nonchemical metal cleaning wastes should continue to be grouped together and monitored with other low volume wastes.

The 003B conditions should continue to only apply to chemical cleanings.

If EPA insists on regulating nonchemical metal cleaning wastes as "chemical," PSNH requests a compliance schedule be established so that sufficient information can be gathered to allow for a combined wastestream formula to be created so that the wastestreams may continue to be commingled and monitored together.

EPA Response: See Response to Comment IV.1.2 above for the Region's discussion of the definition of non-chemical metal cleaning waste, its rationale and approach for regulating this wastestream as a metal cleaning waste rather than a low volume waste, its BPJ-based BAT determination, and the inapplicability of the Jordan Memorandum at Merrimack Station.

The commenter also incorrectly suggests that the Region's site-specific determination of BAT limits for NCMCW was based solely on misguided cost considerations. Contrary to this suggestion, the Region established BAT limits for NCMCW pursuant to an assessment of numerous regulatory factors set forth in both section 304(b)(2) of the CWA and 40 C.F.R. § 125.3(d)(3). 2011 Fact Sheet, pp. 30-33. The commenter ignores this multifaceted analysis, and instead misinterprets EPA's decision as being based solely on cost. On a related note and as a point of clarification, the Region acknowledges that Merrimack Station no longer operates as a baseload plant, and instead operates and plans to continue to operate as a "peaking facility." *See* Response to Comment IV.1.1 and Chapter II of this document. The reduced operations, in fact, will likely reduce the amount of NCMCWs produced and therefore allow for simpler management and segregation of this wastestream. *See* Response to Comment IV.1.1.

Moreover, in response to commenter's assertion that "scheduling adjustments" will not contribute to the facility's ability to manage segregation of metal cleaning wastes, the Region refers the commenter to Response to Comments IV.3.2 and IV.3.6 above, in which the Region identifies numerous different engineering and other approaches that may be taken alone or in combination to successfully manage metal cleaning wastes. Scheduling adjustments may be part of a broader approach to addressing metal cleaning wastes in conjunction with recycling of low volume wastes and use of a CWF.

See Response to Comment IV.1.2 above for the Region's discussion of the definition of non-chemical metal cleaning waste, its rationale and approach for regulating this wastestream as a metal cleaning waste rather than a low volume waste, its BPJ-based BAT determination, and the inapplicability of the Jordan Memorandum at Merrimack Station.

In regard to the commenters request for "a compliance schedule be established so that sufficient information can be gathered to allow for a combined wastestream formula to be created so that the wastestreams may continue to be commingled and monitored together" EPA declines to include such a compliance schedule. See Response to Comment IV.5.6 below.

Comment IV.4.2	**AR-846, PSNH, pp. 211-214**

Comment: EPA arbitrarily and substantially changed PSNH's requirements for discharges via Outfall 003B and should eliminate these requirements in the final permit for Merrimack Station. Specifically, EPA should only include "chemical cleaning waste discharges" in Outfall 003B. Likewise, fireside washes and/or more routine operations should be allowed to combine prior to monitoring and should continue to be managed through Outfall 003A. Since 1985, EPA has addressed metal cleaning waste at Merrimack Station in this manner.

Response: See Response to Comment IV.4.1 and other responses to comments related to non-chemical metal cleaning wastes above.

Comment IV.4.3	AR-846, PSNH, pp. 211-214

Comment: EPA's prohibition of LVW from mixing with metal cleaning water is unwarranted and not required by EPA regulations. EPA wrongly assumed that Merrimack Station was simply diluting metal cleaning water as a treatment technique. This is wrong. Merrimack Station mixes the wastestreams as part of its overall design and efficient operation of the facility. Further, because Merrimack Station's Outfall 003 is accessible and monitoring is practicable, this requirement is unwarranted. EPA's unsupported assumption that PSNH can engineer the solution or make scheduling adjustments to achieve EPA's unreasonable requirements is arbitrary, capricious, and has no factual basis. This is especially true in light of the fact that EPA's assumption would require PSNH to spend significant resources and attempt to increase its storage capacity by approximately 100 percent in an already tight footprint. Simply put, PSNH does not have the extra capacity or space to segregate the wastestreams and EPA's requirements on this issue are arbitrary. Making PSNH spend money for the sake of spending money is never right.

EPA Response: See Response to Comments IV.1.1., IV.2.1, IV.3.2, IV.3.6, and IV.4.1.

Comment IV.4.4	AR-846, PSNH, pp. 213-214

Comment: Also, Region 1 recently issued the Brayton Point facility a permit that authorizes the combined treated wastestream of metal cleaning wastes and LVW, clearly indicating its regulatory authority to do so. Apparently, EPA reasoned that the LVWs have similar characteristics as nonchemical metal cleaning wastestreams. In fact, EPA is correct on this point. Both streams often have similar concentrations of the same metals and it is impractical, costly, and inefficient to manage the two streams separately. EPA should revise these requirements so that Outfall 003B only regulates the discharge of chemical metal cleaning wastes.

EPA Response: The commenter's assessment of EPA's treatment of low volume wastes and metal cleaning wastes in the Brayton Point NPDES is flawed in a few key respects.

First, the approach for metal cleaning that EPA took with the Brayton Point permit is not inconsistent with that taken with Merrimack Station. The 2002 Fact Sheet for Brayton Point shows that EPA applied the regulations and law in the same manner when determining how to define and regulate metal cleaning wastes versus low volume wastes:

> In the current permit, low volume waste sources and metal cleaning wastes are combined under the term "Wastewater Treatment System (WWTS)", Outfall 004. Low volume waste sources consist of wastes from floor drains, water treatment wastes, boiler blowdown, boiler seal water, and future air pollution control equipment. Metal cleaning wastes consist of wastes from air preheater wash, boiler fireside wash, precipitator wash, boiler chemical cleaning, and feedwater heater chemical cleaning. However, according to the technology-based effluent guidelines at 40 CFR §423, low volume waste sources and metal cleaning wastes are independently named waste streams, with separate limits.
>
> Under the existing permit it is possible for the permittee to dilute the metal cleaning wastes with the low volume waste sources in the wastewater treatment system; thereby

> potentially allowing the metals (copper and iron) to be discharged in excess of the limitations at 40 CFR §423. This is because the existing permit established limits and monitoring for the metals after mixing in the wastewater treatment system. Dilution is not an acceptable means of achieving technology-based limitations. In addition, if the metal cleaning wastes are greatly diluted, removal of the pollutant metals in the metal cleaning wastes becomes more difficult and less efficient because of the dilution. The effluent guidelines at 40 CFR §423 were developed to take advantage of the higher removal efficiencies achievable by treating a concentrated waste stream such as metal cleaning wastes.
>
> In order to fully assure compliance with the effluent guidelines, this draft permit develops mass limits for copper and iron (see sections 4.5.6 and 4.5.7 for calculations and reporting methodologies). The limits apply to outfall 004, prior to mixing with any other waste streams. The draft permit requires that the pollutants in metal cleaning wastes be removed to a standard shown to be economically achievable and technically available. Alternatively, the facility may chose [sic] to cease the discharge of metal cleaning waste and instead contain and transport them to an outside facility for treatment and disposal.

2002 Brayton Point Fact Sheet, p. 8 (AR-1677). Still, similar to Merrimack, the Brayton Point Fact Sheet further explains that "[l]ow volume waste sources (LVW) and metal cleaning wastes (MCW) may be combined for treatment provided the effluent limitations for each are individually met." Consequently, EPA effectively derived mass-based limits for copper and iron, assuming there was no contribution of these metals from the LVW. *Id*. at 17-18. However, EPA explains on page VI-3 of the 2003 Response to Comments document for the Brayton Point NPDES Permit, that "[t]his determination was made in the absence of metal composition and concentration data for the other waste streams entering the wastewater treatment facility… [and] [t]he facility has now submitted information indicating that other waste streams entering the WWTF contain metals, such as copper and iron, that are similar in concentration and composition to the metal cleaning waste stream." Merrimack Station has not provided such data.

Notably, the above language demonstrates that EPA concluded that 1) low volume waste and metal cleaning waste (which includes non-chemical metal cleaning waste) are separate wastestreams; 2) dilution is not an acceptable method of treatment or "means of achieving technology-based limitations"; and 3) separate wastestreams (like low volume waste and metal cleaning wastes) may be combined so long as the effluent limitations for *each* are *individually* met. These three principles are the same as those articulated and relied upon in the Merrimack Station Permit. While the use of mass-based limits developed in Brayton Point is one method of ensuring that these principles are employed, it is not the only method. In Merrimack Station, the Region determined that segregation in combination with or in lieu of a CWF or recycling of low volume wastes is the appropriate method of ensuring those same three principles are employed.

Second, the above discussion demonstrates another key point that the commenter fails to acknowledge in its comment, namely, that each permit it distinct and unique. This is particularly so here, where EPA must make a site-specific assessment of BAT limits for non-chemical metal cleaning waste. As stated above, EPA applied the regulations and law in the same manner, but,

given the site-specific information and facts at Merrimack Station, arrived at a different result for how metal cleaning waste shall be regulated.

Finally, the Brayton Point permit identified by the commenter was issued prior to promulgation of the recent 2015 ELGs. As stated throughout EPA's responses above, the 2015 preamble language clarified how the Agency is to assess and determine BAT limits for non-chemical metal cleaning waste, and the Region has been consistent with the preamble language in its regulation of non-chemcial metal cleaning waste at Merrimack Station.

Comment IV.4.5	**AR-1548, PSNH, pp. 188-189**

Comment: Each unit at Merrimack Station has historically treated NCMCWs as a low volume waste, meaning the wastewater stream is not subject to any iron and copper effluent limitations. This is true despite the fact that iron and copper limits apply to the outfall through which this wastewater discharges (Outfall 003A) in the current NPDES permit for the facility. The iron and copper effluent limitations applicable to Outfall 003A serve only to ensure that metals are not present in any unexpected waste stream. NCMCWs should continue to be classified as a low volume waste in the new Final Permit for Merrimack Station. Indeed, this continued classification is mandatory based on the historical permitting record for the facility, as well as the contents of EPA's administrative record for this permit renewal proceeding.

Classifying and treating NCMCWs as a low volume waste (i.e., not subject to any iron and copper effluent limitations), as Merrimack Station does, is standard practice for most of the industry and is also consistent with long-standing EPA guidance set forth in what is commonly referred to as the "Jordan Memorandum."[736] EPA fails to reference the Jordan Memorandum even once in its 2011 Fact Sheet for the Draft Permit. In omitting the discussion of this important document, EPA has ostensibly simplified its ultimate objective of saddling NCMCW discharges with iron and copper effluent limitations at the facility in the new Final Permit. This failure to adequately consider the historical permitting record at Merrimack Station is arbitrary, capricious, and at odds with EPA's directives set out in the final NELGs.

[736] See Memorandum from J. William Jordan, Chemical Engineer, Permit Assistance & Evaluation Division, Office of Enforcement, EPA Headquarters, to Bruce P. Smith, Biologist, Enforcement Division, EPA Region III (June 17, 1975). Hereinafter, references to this document will be cited as "Jordan Memorandum." The Jordan Memorandum is attached hereto as Exhibit 21.

EPA Response: See EPA's Response to Comments IV.1.1 and IV.1.2 above, and other responses to comments related to non-chemical metal cleaning wastes.

Comment IV.4.6	**AR-1548, PSNH, pp. 195-197**

Comment: As stated above, each unit at Merrimack Station has historically treated, and continues to treat, NCMCWs as a low volume waste (*i.e.*, not subject to any iron and copper limits that may exist in its current NPDES permit). This long-standing practice is consistent with the principles of the Jordan Memorandum. As explained in detail below, it is also consistent with the operative language—or lack thereof—in the NPDES permit for this facility.

Notably, NCMCWs are not expressly referenced anywhere in Merrimack Station's existing NPDES permit and its associated Fact Sheet and Response to Comments.[763] Instead, NCMCWs are subsumed in the category of low volume wastes, in accordance with applicable regulations and the principles of the Jordan Memorandum. The relevant analysis of Permit No. NH0001465 centers around a single outfall that has been given two designations: one for normal operations at the plant (Outfall 003A) and the other for operations during the time period when chemical waste from cleaning the boiler tubes enters the process waste treatment plant (Outfall 003B). Consistent with EPA's 1982 regulations, Permit No. NH0001465 includes iron and copper discharge limitations with daily monitoring for discharges from the ash settling pond during chemical cleaning operations.[764] Iron and copper discharge limitations with quarterly monitoring requirements also exist for discharges from the ash settling pond during normal operations at the plant.[765] However, the Fact Sheet for Permit No. NH0001465 provides that these limits and monitoring requirements are included solely to protect against the "possibility that copper [and iron] retained in the pond may be released at times other than chemical cleaning periods."[766] Such limits are not meant to, and accordingly do not, apply to any NCMCWs that are also channeled to the ash settling pond. This fact is confirmed by EPA's synopsis of Comment 8 to Permit No. NH0001465 and the agency's corresponding response:

> COMMENT 8
> The permittee requests that the total copper discharge limit at Outfall 003A be eliminated, *since the ELGs regulate copper discharges for chemical cleaning operations only*, and not for routine-low volume discharges from ash settling ponds, for example.
>
> RESPONSE 8
> *The ELGs do not establish copper limitations on low volume wastes*, ash pile runoff, or storm water runoff (components of the ash pond discharge, Outfall 003A). The maximum total copper limitation of 0.2 mg/l is being maintained in accordance with the anti-backsliding provision of 40 CFR 122.44(1). It is to be noted that . . . this discharge has shown an average total copper concentration of 0.0015 mg/l in the past two years.[767]

The fact that Permit No. NH0001465 only requires quarterly monitoring for iron and copper during normal operations further supports the fact that the numeric limits do not apply to discharges of NCMCWs. If these limits did apply, monitoring would likely be required once per discharge—if not more frequently—as Merrimack Station typically generates NCMCWs more often than once every quarter. In actual fact, the numeric iron and copper discharge limitations applicable to discharges during normal operations serve only as a general safeguard to check these surrogates to ensure that metals are not present in any unexpected waste stream. PSNH's historical record of no such unanticipated iron and copper discharges has allowed it to reduce the required monitoring frequency at each of its plants over time.[768]

In the end, it is clear that NCMCWs at Merrimack Station are "currently authorized without iron and copper limits," within the meaning of the Jordan Memorandum. Therefore, the analysis provided above, coupled with a thorough review of the materials provided with these comments, necessitates a conclusion that NCMCWs at Merrimack Station should be treated as low volume waste—not subject to any iron and copper limits.

763 *See* AR-236; AR-242; Permit No. NH0001465, Response to Comments (June 24, 1992). This document is attached hereto as Exhibit 22 and, hereinafter, references to it will be cited as "1992 Response to Comments."
764 AR-236 at 11.
765 *Id.* at 10.
766 AR-242 at 5. The Fact Sheet associated with PSNH's existing NPDES permit for Merrimack Station only expressly explains that numeric copper limitations have been placed on discharges from the ash settling pond during normal operations to address the possibility that copper entering the pond following chemical metal cleaning operations may be released at other times. *See id.* This reasoning must apply equally to the numeric iron limitations applicable to that outfall during normal operations. It would be inconsistent to place numeric iron limits in an NPDES permit to regulate NCMCW discharges and not place such limits on copper discharges—or vice versa. The Fact Sheet substantiates this conclusion. Nowhere in the discussion of the numeric iron discharge limitations are NCMCWs mentioned. *See generally id.* Instead, only chemical metal cleaning wastes, as well as the prevalent background concentration of iron in the Merrimack River, are discussed. In fact, the Fact Sheet identifies these sources as the only two from which iron discharges may originate: "EPA concludes that iron (*whether from intake water or chemical cleaning operations*) in the slag pond discharge . . . ." *Id.* at 5 (emphasis added). Consequently, the only rational conclusion is that numeric iron limitations were included in Permit No. NH0001465 to address the possibility that iron entering the pond following chemical metal cleaning operations may be released at other times. This fact is also confirmed by the initial Fact Sheet drafted by EPA Region 1 in 2009 as a part of the NPDES permit renewal for PSNH's Merrimack Station, which was eventually issued for public notice and comment in September 2011. *See* AR-474. With respect to the 1.0 mg/L total recoverable iron limitation included in PSNH's existing permit, EPA Region 1 provided that "[i]t is surmised the 1.0 mg/L iron limit for Outfall 003A is to limit any iron discharged from WWTP No. 1 to the Slag Settling Pond when treating metal cleaning wastes." *Id.* at 6. In other words, as explained above, a numeric iron limitation was only included for Outfall 003A (*i.e.*, normal operations), to enable PSNH and EPA to detect if and/or when residual iron concentrations originating from chemical metal cleaning wastes are discharged during normal operations. These limits were not imposed to regulate NCMCWs.
767 1992 Response to Comments at 4 (emphases added).
768 *See, e.g.,* U.S. EPA, Region 1, NPDES Permit No. NH0001601 and associated Fact Sheet for Newington Station (Sept. 30, 1993), attached hereto as Exhibit 23, wherein EPA discusses this safeguarding measure and explains the impact of the facility's history of compliance:

> The effluent limits for Outfall 01C are identical with those for 01A; however, the monitoring frequencies differ. For Outfall 01A the monitoring frequency in the current permit is weekly. A review of past permitting-period monitoring data, during normal operation of the wastewater treatment system; indicates treated-wastewater loading levels consistent with an efficient operation of the wastewater treatment facility. Consequently, the sampling frequency for Outfall 01A is being reduced from weekly to monthly in the draft permit.

Id., Fact Sheet at 4.

EPA Response: EPA disagrees that non-chemical metal cleaning waste should be treated as a low volume waste. First, for the reasons identified above in Response to Comment IV.1.1 and IV.1.2, EPA concludes that the historical permitting record does not demonstrate that non-chemical metal cleaning waste has been regulated as a low volume waste in the past and that it would not be appropriate to regulate it as a low volume waste within this Final Permit.

Notably, nowhere in the 1992 Merrimack Station permit does EPA define NCMCW as low volume waste. What the 1992 permit *does* include, however, is copper and iron effluent

limitations that are applicable to the outfall through which NCMCWs are discharged. The commenter's reference to Comment-and-Response 8 from the Merrimack permit record does not change this assessment. This colloquy only states that copper limits are not applied to low volume wastes, it does not establish that NCMCWs are classified as low volume wastes.

Additionally, the comment suggests that quarterly monitoring for copper and iron in the existing Merrimack Station permit somehow indicates that these limits must not be based on NCMCWs because such wastes are typically generated more frequently than once per quarter. Yet, the monitoring frequency for effluent limitations is often less frequent than the expected discharge frequency for the target pollutants. For example, the 1992 Merrimack Station permit contains monthly monitoring requirements for oil & grease limits at Outfall 003A, even though the expected discharge frequency at this outfall is greater than once per month.

5.0 EPA's BAT Analysis for Iron and Copper Limitations

Comment IV.5.1	AR-1548, PSNH, p. 189

Comment: EPA's BAT analysis for determining iron and copper effluent limitations for NCMCWs in the Draft Permit is arbitrary and capricious, as well. Upon information and belief, the agency has no data of isolated NCMCW discharges generated at Merrimack Station that would allow it to competently complete the required BAT determination. There is certainly no such data in the administrative record EPA has compiled for the Draft Permit. Moreover, EPA declined to establish NCMCW effluent limitations for the entire industry due, at least in part, to the fact there has never been defensible data on the constituents found in NCMCW discharges that are representative of the industry or on the cost industry would incur if more stringent effluent limitations were established for this waste stream. EPA's BAT analysis is further flawed inasmuch as it inadequately evaluates and grossly underestimates the significant costs and/or logistical problems that regulation of NCMCWs in this manner would present at Merrimack Station. Section 304(b)(2)(B) of the CWA and EPA's own regulations require EPA to take these and other factors into consideration when adopting site-specific effluent limitations.

EPA's Response: EPA disagrees with the commenter's claim that its BAT analysis for NCMCWs is arbitrary and capricious. On the contrary, as set forth in the Fact Sheet and expanded upon below, EPA's assessment is consistent with the regulations and the law and supported by available data.

EPA acknowledges that the data available is limited but EPA reviewed the discharge monitoring report (DMR) data available in the record and this data in conjunction with the entire administrative record supports our BAT analysis.

Additionally, EPA notes that this requirement and the underlying ELG are technology-based and not water quality-based effluent limits. Therefore, site-specific water quality data is not necessarily required in setting permit limits (*see Am. Petroleum Inst. V. EPA*, 858 F.2d 261, 265-66 (5th Cir. 1988)), but the regulations instead state that EPA use "all available information" to determine the appropriate BAT technology applicable to the applicant. 40 CFR § 125.3(c)(2)(i).

The 2011 Fact Sheet and the administrative record demonstrate that EPA utilized available data specific to Merrimack Station as well as to the industry to determine that the selected BAT is economically achievable, reasonable, and is consistent with the goals of the Clean Water Act.

EPA uses all available information and determines which of that information is applicable and relevant to the case-specific BPJ determination. The 2011 Fact Sheet makes clear that the Agency based its BPJ analysis on both the site-specific information (as it relates to each of the regulatory and statutory factors) and model technology at similar facilities such as Mystic Station, in Everett, Massachusetts. *See* AR-608 (2011 Fact Sheet), p. 31 (citing to the Mystic Station NPDES Permit No. MA0004740). Moreover, to the extent that EPA relied on the records supporting past ELG rulemakings, EPA acknowledges that some of the past data was incomplete or was not sufficiently robust to support an *industry-wide* BAT determination for NCMCWs.[14] This does not mean that 1) all the data and records supporting past rulemakings are invalid for consideration in this permit proceeding, and 2) that this data and record would be inapplicable or insufficient to inform a *site-specific*—as opposed to an *industry-wide*—BPJ analysis, such as this one for NCMCWs at Merrimack Station.

EPA maintains that its assessment of costs in developing appropriate BAT limits based on its BPJ was both adequate and in accordance with the law and regulations. This assessment took into account the nature and scope of the costs that the Permittee would incur coming into compliance with the proposed limits. EPA is not required to develop a precise calculation of costs as part of its cost assessment. *See BP Expl. & Oil v. EPA*, 66 F.3d 784, 803 (6th Cir. 1995) (citing *Nat. Res. Def. Council, Inc. v. EPA*, 863 F.2d 1420, 1426 (9th Cir. 1988)) ("According to EPA, the CWA not only gives the agency broad discretion in determining BAT, the Act merely requires the agency to consider whether the cost of the technology is reasonable. EPA is correct that the CWA does not require a precise calculation of BAT costs."). Moreover, the commenter, PSNH, did not provide EPA with precise, facility-specific numbers for cost in its Comments to the Draft Permit or throughout the permitting process.

See, also, EPA's Responses to Comments IV.3.1, IV.3.2, IV.3.5, IV.3.6 for further discussion on the logistics and implementation of segregating and/or managing NCMCW and other wastestreams.

Comment IV.5.2	**AR-1548, PSNH, pp. 197-198**

Comment: NCMCWs at Merrimack Station should continue to be treated as low volume wastes. Even if EPA erroneously rejects this regulatory course of action, the agency is authorized to establish effluent limitations for this waste stream only after it completes a thorough BAT

[14] "EPA explained in the preamble to the Steam Electric Power Plant NELGs, promulgated in 1982, that it was 'reserving' the specification of BAT standards for nonchemical metal cleaning wastes 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 the *entire industrial category* to ensure that nonchemical metal cleaning wastes satisfy the same limits that had been set for chemical metal cleaning wastes. See 47 Fed. Reg. 52297 (Nov. 19, 1982)." AR-608 (2011 Fact Sheet), p. 29 (citing 47 Fed. Reg. 52297 (Nov. 19, 1982)) (emphasis added).

analysis utilizing its BPJ.[769] The BAT analysis set out in the Fact Sheet for the Draft Permit is deficient and will not pass judicial scrutiny. Indeed, EPA's half-hearted attempt at a BPJ-based BAT analysis is riddled with conclusory statements that lack substantive analysis. The information necessary to complete a defensible BPJ-based BAT analysis is simply not in the administrative record.

EPA lacks essential data regarding the makeup of NCMCW discharges at Merrimack Station necessary to identify the constituents of concern in the waste stream, much less the quantities of each. Furthermore, EPA has failed to adequately consider the changes in current processes employed at Merrimack Station, as well as the costs necessary to achieve these changes, that would be required to comply with new effluent limitations applicable to this waste stream. Thus, the agency has no way of knowing whether its proposed effluent limitations are reasonable and/or cost-effective.

Because the agency's current BPJ-based BAT determination is wholly inadequate, arbitrary, and capricious, EPA cannot legally impose iron and copper effluent limitations on NCMCW discharges at Merrimack Station.

EPA's Response: See Response to Comment IV.5.1 above.

Comment IV.5.3	**AR-1548, PSNH, pp. 198-201**

Comment: To conduct a legally-defensible BAT analysis in accordance with § 304 of the CWA, EPA must first identify "available" technologies by "survey[ing] the practicable or available pollution-control technology for an industry and assess[ing] its effectiveness."[770] Once identified, EPA must evaluate the following factors for each technology to determine which constitutes BAT: the age of equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; the cost of achieving such effluent reduction; and non-water quality environmental impacts (including energy requirements).[771] EPA also must consider "[t]he appropriate technology for the category or class of point sources of which the applicant is a member, based upon all available information" and "[a]ny unique factors relating to the applicant."[772] No one factor is determinative; instead, EPA must balance all of the factors in determining BAT.

EPA's analysis of the BAT factors and its determination that the corresponding effluent limitations are economically and technologically achievable must be reasonable.[773] EPA ultimately bears the burden of demonstrating a reasonable basis for its conclusions that the chosen effluent limitations are achievable and a failure to do so renders the limitations arbitrary, capricious, and "not the result of reasoned decisionmaking."[774] Effluent limitations simply will not pass muster if they are "based on a flawed, inaccurate, or misapplied study."[775] Likewise, EPA is required to do more than merely make assumptions without any analysis supporting such claims. A failure to evaluate any one of the aforementioned BAT factors,[776] and/or demonstrate the effectiveness of the chosen BAT,[777] automatically renders EPA's BPJ-based effluent limitations arbitrary and capricious.

Cost of the technology and retrofit is especially important. Indeed, the CWA specifically recognizes that BAT must be economically achievable,[778] and requires the "cost of achieving such effluent reduction"[779] to be similarly evaluated.[780] Therefore, the cost determination is two-fold: cost must be considered in the six-factor BAT analysis, and the resulting effluent limitations must be economically achievable.[781] It makes sense that cost is such an important factor in the BAT analysis because "at some point extremely costly more refined treatment will have a de minimis effect on the receiving waters."[782] Thus, EPA is authorized to "balance factors such as cost against effluent reduction benefits" and, courts have upheld EPA's decision to reject a technology based on high economic impacts that might otherwise have been the most effective pollution control technology.[783]

EPA has repeatedly contended it need not conduct a cost-benefit analysis as part of its BAT determination. Even if EPA's assertion is correct—which PSNH does not concede[784]—this does not mean that cost is not important in the BAT analysis and the establishment of effluent limitations. EPA must implicitly consider the costs of the technology and the corresponding benefits received from the technology because of the duty to consider all of the factors in the BAT analysis. Additionally, the final BAT effluent limitations that are established must be economically achievable for the source.[785] In fact, the BPJ analysis requires a further step: the chosen technology must also be appropriate for point sources like the point source subject to the BPJ, based on all available information.[786] "All available information" certainly includes the costs of implementing the proposed BAT at similar facilities. Furthermore, EPA cannot solely rely on the fact that a facility or the public can "afford" a treatment technology as a basis for determining whether it is cost-effective.[787] The cost-benefit evaluation must be more than pretextual.

Once EPA determines BAT on a case-by-case basis based on its BPJ, EPA takes the technology standards established under the factors described above and applies that BAT to create actual effluent discharge limitations under § 304 of the CWA. It is through the creation of these effluent limitations that EPA imposes technology-based treatment requirements into permits.[788]

769 *See* 80 Fed. Reg. at 67,863.
770 *Nat'l Wildlife Fed'n v. EPA*, 286 F.3d 554, 561 (D.C. Cir. 2002) (quoting *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 131 (1977)).
771 40 C.F.R. § 125.3(d)(3)(i)-(vi).
772 40 C.F.R. § 125.3(c)(2)(i)-(ii).
773 *See BP Exp. & Oil v. EPA*, 66 F.3d 784, 794 (6th Cir. 1996).
774 *Ass'n of Pac. Fisheries v. EPA*, 615 F.2d 794, 820 (9th Cir. 1980); *see Chem. Mfr's Ass'n v. EPA*, 885 F.2d 253, 265 (5th Cir. 1989); *Reynolds*, 760 F.2d at 559.
775 *Texas Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 935 (5th Cir. 1998).
776 *See, e.g., id.* at 934-35 (noting that a failure to consider the age of the equipment and the facilities involved when determining BAT would constitute an abuse of discretion); *Am. Iron & Steel Inst. v. EPA*, 526 F.2d 1027, 1048 (3d Cir. 1975) (remanding effluent limits because EPA did not consider the age of the facilities involved and the impact that age would have on the cost and feasibility of retrofitting older facilities).
777 *Ass'n of Pac. Fisheries*, 615 F.2d at 819; *Chem. Mfr's Ass'n*, 885 F.2d at 265.
778 33 U.S.C. § 1311(b)(2)(A)(i) (emphasis added).
779 40 C.F.R. § 125.3(d)(3)(v).
780 *See Texas Oil & Gas Ass'n* 161 F.3d at 936 (noting cost refers to a consideration of the cost of the

technology itself).
781 *See Ass'n of Pacific Fisheries,* 615 F.2d at 819-20 (finding that EPA's failure to adequately consider the cost of land acquisition in the determination of whether a technology is an achievable technology is an example of unreasonable decision-making).
782 *Id.* at 818; *see also Am. Petroleum Inst. v. EPA*, 787 F.2d 965, 972 (5th Cir. 1986) (providing that "EPA would disserve its mandate were it to tilt at windmills by imposing BAT limitations which removed de minimis amounts of polluting agents from our nation's waters, while imposing possibly disabling costs upon the regulated industry.") (citing *Alabama Power Co. v. Costle,* 636 F.2d 323, 360-61 (D.C. Cir. 1979) and *Appalachian Power Co. v. Train*, 545 F.2d 1351 (4th Cir. 1976)).
783 *See e.g., BP Exp.*, 66 F.3d at 796 (rejecting a technology as BAT, in part, because of the cost of the technology).
784 Importantly, neither does the Supreme Court. Specifically, in *Entergy,* the Court responded to a petitioner's argument that a "cost-benefit analysis is precluded under the [BAT] test" by stating that "[i]t is not obvious to us that [this] proposition is correct, but we need not pursue that point, since we assuredly [agree with other points]." *Id.* at 221-22. Likewise, Executive Order 13,563 mandates such a cost-benefit consideration on significant regulatory matters. *See* 76 Fed. Reg. 3821 (Jan. 16, 2011) (providing, in relevant part that "[o]ur regulatory system . . . must be based on the best available science . . . must promote predictability and reduce uncertainty. It must identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends. It must take into account benefits and costs, both quantitative and qualitative" and that "each agency must, among other things: (1) propose or adopt a regulation only upon a reasoned determination that its benefits justify itscosts (recognizing that some benefits and costs are difficult to quantify)"). Furthermore, President Trump's Executive Order 13,777 requires that each agency consider repealing, replacing, or modifying existing regulations in which the costs exceed the benefits. *See* 82 Fed. Reg. 12,285, 12,286 (Feb. 24, 2017) (providing that "[e]ach agency shall establish a Regulatory Reform Task Force . . . to evaluate existing regulations . . . and make recommendations to the agency head regarding their repeal, replacement, or modification[.]" The order requires that the Regulatory Reform Task Force at a minimum "attempt to identify regulations that [among other things] impose costs that exceed benefits[.]").
785 *Texas Oil & Gas Ass'n*, 161 F.3d at 934.
786 40 C.F.R. § 125.3(c)(2).
787 *See Seabrook,* 1977 WL 22370, at *7. If this were the case, EPA would be able to forego rigorous analyses of what technology is necessary for a particular site, and just rely on whether the owner of that facility is a Fortune 100, 500, or 1000 company ostensibly with deep pockets.
788 *See* 40 C.F.R. § 125.3(c). EPA does not require the permittee to use this exact technology, and instead the permittee may use whatever technology it desires as long as the technology can achieve the effluent limits. *See, e.g., Nat'l Wildlife*, 286 F.3d at 561. However, application of EPA's chosen technology is generally the only way to achieve the effluent limitations.

EPA's Response: In this subpart of the comment, the commenter, PSNH, presents its view of how EPA should determine BAT limits on a site-specific, BPJ basis. PSNH comments that EPA must consider and balance the multiple factors, including cost, that are specified in the CWA and EPA regulations, that no single factor is determinative in that balancing, and that EPA's determination that a particular technology is technologically and economically available must be reasonable. EPA agrees with the commenter that EPA must consider the variety of factors, including cost, that are specified in the applicable provisions of the statute and regulations, that EPA must balance these factors together in a reasonable way, and, importantly, that the law does not dictate that any particular factor is determinative in all cases.

At the same time, the commenter suggests that cost is an "especially important" factor in the BAT determination. What the commenter intends by this comment is not entirely clear to EPA. As the commenter previously stated, no single factor is necessarily determinative in every case.

Furthermore, CWA case law and legislative history indicates that cost should not necessarily be regarded as the most important factor in determining the BAT in a particular case. As one court explained, "for 'BATEA' [i.e., BAT] standards, cost was to be less important than for the BPCTCA= [i.e., BPT] standards, and that for even the 'BPCTCA' standards, cost was not to be given primary importance." *American Iron & Steel Inst. v. EPA*, 526 F.2d 1027, 1052, n. 51 (3d Cir. 1975), *modified in other part*, 560 F.2d 589 (3d Cir. 1977), *cert. denied*, 435 U.S. 914 (1978) (industry challenge to EPA regulations implementing BAT limits for iron and steel industry point sources). If the commenter's point, however, is simply that cost must be considered, and it could be an important factor in a particular site-specific, BPJ determination of the BAT for a specific facility, then EPA agrees with this comment.

EPA further notes that neither the statute, regulations, nor case law, dictate precisely how EPA must balance the various factors together, and, thus, EPA has the discretion to do so in any reasonable manner. *See BP Expl. & Oil v. EPA*, 66 F.3d 784, 800 (6th Cir. 1995) ("Congress intended that EPA have discretion 'to decide how to account for the consideration factors, and how much weight to give each factor.'"). In site-specific, BPJ determinations of technology standards, the relative importance of the various factors to be considered may vary based on the facts of each case.

At the same time, EPA agrees with the commenter that the technology selected as the BAT (and the effluent limits derived from projected use of that technology) must be economically and technologically achievable. This is apparent from the fact that the CWA's BAT standard calls for the best *available* technology *economically achievable* for making reasonable progress toward the statute's goal of eliminating point source discharges of pollutants. *See* 33 U.S.C. §§ 1311(b)(1)(A), 1314(b)(2)(B). *See also* 40 CFR § 125.3(d)(3).

As set forth in the 2011 Fact Sheet (pp. 29-33), EPA considered the relevant factors, including costs, in a manner consistent with the Clean Water Act and the accompanying regulations. *See* 33 U.S.C. § 1342(a)(1)(B); 40 CFR §§ 125.3(d)(3). EPA has found, and explained in its findings, that the BAT specified for Merrimack Station control of non-chemical metal cleaning waste discharges is technologically and economically achievable. Additionally, the fact that EPA promulgated national effluent BPT limitations for *all* metal cleaning wastes that were equal to Region 1's BAT limits, further supports a finding that these limits are economically achievable.

The commenter notes that EPA stated in the Fact Sheet that it is not legally required to conduct a cost-benefit analysis in support of this BPJ, site-specific BAT determination for the Merrimack Station permit. While the commenter states that it does not concede this point, it does not make a case that cost-benefit analysis *is* required. It only further argues that cost must be considered along with all the other enumerated factors, that cost is an important factor, and that a BAT technology must be technologically and economically feasible. EPA has already addressed these points and has, for the most part, agreed with them. EPA also maintains that it is not required to conduct a cost-benefit analysis in determining BAT limits, notwithstanding the sources cited in the commenter's footnote 784. Neither the Supreme Court's decision in *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208 (2009) (cost-benefit analysis is permitted for

setting CWA § 316(b) standards), nor Executive Order 13,563, 76 Fed. Reg. 3821 (Jan. 16, 2011) (directing agencies to consider cost-benefit analysis in developing *significant* regulations), nor the referenced Executive Order dictate that EPA must include cost-benefit analysis in a site-specific, BPJ determination of the BAT for setting effluent limits for a specific NPDES permit. *See also EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 71 (1980); *Tex. Oil & Gas Ass'n v. EPA,* 161 F.3d 923, 936 n.9 (5th Cir. 1998).

The commenter also suggests that EPA is obligated to assess the costs of using the same BAT technology at *other facilities* in the same industrial category. EPA disagrees with this comment to the extent that it suggests that the Agency must determine the costs of a technology at other facilities in the context of a site-specific, BPJ determination for a particular facility. While EPA agrees that it can consider available information about the use of various technologies at other facilities, requiring EPA to conduct an industrial category-wide analysis for a site-specific, BPJ decision would defeat the purpose of providing for BPJ analysis in the absence of national guidelines. In this case, however, EPA did consider the available information regarding technological approaches at several other facilities. *See* 2011 Fact Sheet, p. 31 (discussion of Mystic Station).

Furthermore, it is essential to remember that a site-specific, BPJ determination of BAT limits for a specific facility will not be determinative for or binding upon the industry as a whole in any subsequent rulemaking that sets nationwide standards or in any future BPJ evaluation.

Ultimately, EPA found that compliance with the application of this BAT analysis could be done with existing technology at a "modest" and "relatively insignificant" cost. *See* 2011 Fact Sheet, p. 32. Furthermore, the other options for achieving compliance (*i.e.,* combined wastestream formula and wastewater recycling/reuse), which EPA discusses above (*see* EPA Responses to Comments IV.1.1, IV.3.2, IV.3.3, IV.3.5, and IV.3.6) and outlines in the Final Permit, are even less costly than the anticipated costs associated with segregation of NCMCW through existing infrastructure (with minor engineering modifications) and schedule changes.

Hence, this analysis adequately addresses cost and concludes that the proposed treatment is indeed economically achievable. There is no basis, therefore, to invalidate EPA's BAT analysis based on a lack of consideration of cost or any other necessary factor.

Comment IV.5.4	**AR-1548, PSNH, pp. 204-207**

Comment: There is no NCMCW discharge data in the current administrative record. Central to any BPJ-based BAT determination is a keen understanding of the waste stream to be regulated. Knowledge of both the kind and quantity of constituents found within that waste stream is fundamental inasmuch as it provides the only foundation upon which to assess the costs and economic achievability of any proposed regulation of the wastewater. EPA lacks the necessary information regarding NCMCWs generated at Merrimack Station. This is so regardless of the precise definition of the waste stream advanced by the agency. Specifically, a review of the administrative record for this permit renewal proceeding reveals EPA does not possess any data analyzing isolated discharges of NCMCWs at Merrimack Station. Instead, what EPA does

possess is limited data of constituents discharged through Outfall 003A, in accordance with the terms and conditions of the current permit. NCMCWs comprise only a small, relatively infrequent, and varying fraction of the total volume of wastewater discharged through this internal outfall. It is therefore improper for EPA to attempt to rely upon this data as representative of constituents found in isolated NCMCW discharges at Merrimack Station.

The reality is that currently there is no data analyzing isolated NCMCWs generated at Merrimack Station due to the fact that PSNH historically has relied upon the Jordan Memorandum and commingled this waste stream with other low volume waste streams periodically generated at the facility. PSNH never needed to analyze this isolated waste stream due to this longstanding practice; nor has EPA ever requested any analyses of isolated NCMCWs over the 50+ year life of this facility. This is true despite the agency's inexplicable attempt to alter the regulatory requirements applicable to this waste stream in this permit renewal proceeding. This data is indispensable in establishing reasoned BPJ-based BAT effluent limitations. The agency's current BAT analysis is therefore necessarily arbitrary, capricious, and "not the result of reasoned decisionmaking" given it ultimately is EPA's burden to demonstrate a reasonable basis for its conclusions that its chosen effluent limitations are achievable.[794]

Collecting a representative sample of NCMCWs at Merrimack Station could prove difficult, if not impossible, due to the current configuration and operation of the facility. EPA's supposition in the Fact Sheet that PSNH can prospectively monitor chemical and nonchemical metal cleaning wastewater for compliance with copper and iron limitations separate from other waste streams simply does not reflect reality given wastewater treatment at the facility was designed to centrally treat all wastewaters, meaning commingled treatment of NCMCWs with other low volume wastes is unavoidable.[795]

EPA has not, and indeed cannot, adequately evaluate the requisite BAT factors and establish BPJ-based effluent limitations for NCMCW discharges at Merrimack Station without representative data of isolated NCMCWs generated at the facility. The agency's attempt to do so in this permit renewal proceeding is arbitrary, capricious, and a violation of the CWA and EPA's implementing regulations.

Although not mentioned in the Statement, Fact Sheet, or the administrative record, it likewise would be improper, arbitrary, and capricious for EPA to attempt to rely upon any NCMCW data compiled by EPA for use in formulating its NELGs for the industry. This is prohibited when generating site-specific effluent limitations utilizing BPJ.[796] Furthermore, even if reliance on industry data were acceptable, the data EPA has collected over the years is of limited or no utility. EPA admits as much in its latest NELGs:

> EPA based [its 2013 NCMCWs BAT] proposal on EPA's understanding, from industry survey responses, that most steam electric power plants manage their chemical and non-chemical metal cleaning wastes in the same manner. Since then, based in part on public comments submitted by industry groups, the Agency has learned that plants refer to the same operation using different

> terminology; some classify non-chemical metal cleaning waste as such, while others classify it as low volume waste sources. Because the survey responses reflect each plant's individual nomenclature, the survey results for non-chemical metal cleaning wastes are skewed. Furthermore, EPA does not know the nomenclature each plant used in responding to the survey, so it has no way to adjust the results to account for this. Consequently, EPA does not have sufficient information on the extent to which discharges of non-chemical metal cleaning wastes occur, or on the ways that industry manages their non-chemical metal cleaning wastes. Moreover, EPA also does not have information on potential best available technologies or best available demonstrated control technologies, or the potential costs to industry to comply with any new requirements. Due to incomplete data, some public commenters urged EPA not to establish BAT limitations for nonchemical metal cleaning wastes in this final rule. Ultimately, EPA decided that it does not have enough information on a national basis to establish [BAT] requirements for non-chemical metal cleaning wastes. The final rule, therefore, continues to "reserve" [BAT] for non-chemical metal cleaning wastes, as the previously promulgated regulations did.[797]

Data from the agency's 1974 and 1982 rulemakings is also unsuitable. There was no representative or verified data of isolated NCMCW discharges in the record of the 1974 ELG rules. And, the agency's 1982 record contained only limited data on fireside washes that, if anything, demonstrated applying iron and copper limits to NCMCWs is unnecessary and would be extremely expensive, and ultimately led EPA to conclude the available "data were too limited to make a final decision" in that rulemaking initiative.[798]

These collective realities compel the conclusion that EPA lacks sufficient data on the waste characteristics of NCMCWs to adequately assess the feasibility and costs of controlling the waste stream at Merrimack Station by and through the imposition of new BPJ-based effluent limitations. Its attempt to do so in the Draft Permit without this imperative data is arbitrary and capricious. Furthermore, despite the fact that the agency refused to set BAT effluent limitations in the NELGs due to incomplete data and information, EPA is attempting here to impose BPJ-based limitations with no data. This too is arbitrary and capricious.

[794] *See, e.g., Ass'n of Pac. Fisheries*, 615 F.2d at 820.
[795] *See* AR-608 at 27.
[796] *See, e.g.,* AR-746 at 5-44 through 5-47 (listing a facility's NPDES application form and discharge monitoring reports as sources of permissible information about constituents found in a given waste stream and further providing that without such data, "[t]he permit writer might need to establish a monitoring-only requirement in the current NPDES permit to identify pollutants of concern and potential case-by-case limitations for the subsequent NPDES permit renewal.").
[797] 80 Fed. Reg. at 67,863; *see also* NELGs Response to Comments, Part 7 of 10 at 7-179 (providing that "[b]ecause EPA lacks solid baseline information about what the current practices are, which is the foundation for assessing costs and economic achievability, as well as the other factors required to be assessed for BAT the final rule continues to reserve [BAT] for non-chemical metal cleaning wastes, as the previously promulgated regulations

did.").
798 *See* 47 Fed. Reg. at 52,297.

EPA's Response: See Response to Comment IV.5.1 above.

As for the commenter's suggestion that any data used in past Steam Electric ELG rulemakings, including the most recent in 2015, is irrelevant or inappropriate for this BPJ BAT determination, EPA finds it overly broad and incorrect. First, as stated previously, EPA uses all available information, and determines which of that information is applicable and relevant to the case specific BPJ determination. Nowhere in the 2011 Fact Sheet, EPA's 2017 Statement of Substantial New Questions for Public Comment (2017 Statement), or administrative record does EPA explicitly base this BPJ determination on the data compiled in support of the 2015, 1982, and 1977 national rulemakings, and the commenter even acknowledges this fact. Instead, the 2011 Fact Sheet makes clear that the Agency based its BPJ analysis on both the site-specific information (as it relates to each of the regulatory and statutory factors) and model technology at facilities such as Mystic Station, in Everett, Massachusetts. *See* AR-608 (2011 Fact Sheet), p. 31 (citing to the Mystic Station NPDES Permit No. MA0004740). Moreover, to the extent that EPA did rely on the records supporting past ELG rulemakings, EPA acknowledges that some of the past data was incomplete or was not sufficiently robust to support an *industry-wide* BAT determination for NCMCWs. *See, e.g.,* AR-608, p. 29. Again, this does not mean that all the data and records supporting past rulemakings are invalid for consideration in this permit proceeding, or that this data and record would be inapplicable or insufficient to inform a *site-specific*—as opposed to an *industry-wide*—BPJ analysis, such as this one for NCMCWs at Merrimack Station.

Finally, EPA disagrees with the claim in this comment that PSNH has historically relied on the Jordan Memorandum. This is discussed in more detail in Response to Comment IV.1.2 above.

Comment IV.5.5	**AR-1548, PSNH, pp. 212-217**

Comment: EPA did not even attempt to evaluate the cost of its proposed regulation of NCMCWs. "[R]elatively modest" is the term used within EPA's fleeting discussion of the anticipated costs to comply with the regulatory requirements applicable to NCMCWs set out in the Draft Permit.808 The agency's attempt to convert its cost-effectiveness analysis into a cursory "affordability" determination is impermissible, wholly inadequate, and legally insufficient.809

EPA failed to even estimate in its 2011 Fact Sheet or in the administrative record the actual monetary amount required for PSNH to comply with its anticipated regulation of NCMCWs under any of its proposed scenarios.810 It is the agency's burden to demonstrate a reasonable basis for its conclusions that the chosen effluent limitations are achievable. More is required than its speculative and conclusory analysis here.811 For instance, with no data on isolated NCMCWs generated at Merrimack Station and no estimates on the costs to retrofit the plant to adequately isolate and manage the wastewater, how can EPA assess the costs and incremental benefits (*i.e.*, $/TWPE) its proposed regulatory requirements would yield? It cannot.
PSNH has never undertaken to estimate the costs associated with attempting to isolate

NCMCWs at Merrimack Station. Indeed, there has never been a reason to do so given the longstanding classification of this waste stream as a low volume waste, in accordance with the Jordan Memorandum. Even without the benefit of a detailed analysis, PSNH can offer the following comments that adequately demonstrate that the costs required to attempt to reconfigure the facility to separately manage NCMCWs would not be "relatively modest" and, in fact, would be substantial enough to grossly outweigh whatever benefits EPA expects to arise from the isolation of this waste stream.

Ensuring that NCMCWs would never be commingled with boiler blowdown, demineralizer regenerations, floor drains, and other low volume wastes at Merrimack Station could likely require the design and installation of a collection system, supporting pumps and pipes, lined basin, and chemical precipitation treatment system capable of capturing and transporting the maximum quantity of NCMCW produced during a multi-day or multi-week outage and processing NCMCWs within a 30-day period. The estimated capital costs for modifications of this kind at facilities within the industry can range from a few million dollars to in excess of $32 million.[812] And, annual operation and maintenance costs would also likely be substantial.

EPA's belief that "these costs [associated with the required engineering modifications] are relatively modest and that PSNH can afford [them]" is vague and wishful thinking.[813] Admittedly, all things are possible with endless resources and finances. However, since PSNH does not exist in such a reality, EPA should not automatically assume that it is "feasible" for Merrimack Station to bear the total costs to comply with the regulatory requirements applicable to NCMCWs set out in the Draft Permit.

The table below, submitted by Utility Water Act Group ("UWAG") in its comments to EPA's 2013 proposed rule for the NELGs, itemizes costs actually incurred at a facility that installed necessary infrastructure to capture and treat its combine low volume wastes to achieve the 1.0 mg/L copper and iron limits for NCMCW discharges with zero redundancy:[814]

Equipment/Product /Task	**Cost**
Internal & External Engineering Cost	$ 475,235
Exiting Tank Retrofits & Refurbishment - Clarifier Tank & Clean Effluent Tank (Q1emical Clean Tank)	$ 1,148,568
Collection Package Civil - Collect Trenches and Wash Sump Construction; Neutralization Basin Closure	$ 1,615,712
Material & Equipment Purchases - Pump Sumps (Qty-4); Sludge Recycle Pumps (Qty-2) Sludge Disposal Pumps (Qty-2): Clarifier Conversion Internals; Rake Drive Reaction Tank	$ 2,568,508

Electrical & Control & Instrumentation Install VFDs (Qty-8); MCCs; AllenBradley PLC w,HMI; Remote I/O; Chemical Skids (Qty-2); Instrumentation(All); Cable; Conduits; Lighting	$ 1,022,971
Mechanical Install Installation of Interconnecting Piping; Supports; Reaction Tank, Clarifier Tank-Walkways-Rake-Truss	$ 1,735,273
Reaction Tank Foundation - Concrete and Steel Supports	$ 222,204
Metal Wash Startup Support/Training	$ 5,394
Metal Wash Startup Support/Training	$ 2,343
Total of Current Expenditures	$ 8,796,208
Additional Planned Improvements	$ 350,000
Planned Total Expenditures	**$ 9,145,208**

Contrasted with Merrimack Station's two generating units, the facility has three units. The facility's operator installed a metal cleaning wastewater collection system on each unit with piping directing the wastewater to a common treatment system. Solids generated in the system are sent to the facility's existing solid waste processing system. The treated effluent is sampled to demonstrate compliance prior to being piped to and mixed with the facility's low volume wastewater collection/treatment system for discharge.[815] Importantly, some of the infrastructure needed for this project was already available at the facility and only needed to be re-purposed or required repairs or modification. Had the operator not been able to reuse this equipment, use the existing solid waste processing system, and use covered areas for equipment that needed to be indoors, the capital expenditures would have been much greater.[816]

The aforementioned comments demonstrate EPA's current assessment of costs necessary to isolate and treat NCMCWs at Merrimack Station is grossly inadequate. The CWA and EPA's own regulations require a more rigorous analysis that, at a minimum, includes competently comparing the anticipated benefits and the relative cost of achieving those benefits before imposing BPJ-based effluent limitations in a permit. Had the agency undertaken such an analysis, it would have been apparent the costs associated with regulating NCMCWs in this manner grossly outweigh whatever benefits EPA expects to yield by its proposed changes to the permit for the facility.

Collectively, these comments, the administrative record, and a reasoned evaluation of the factors that must be considered in a BAT analysis, demonstrate EPA cannot impose iron and copper effluent limitations on NCMCW discharges at Merrimack Station and the agency's current BPJ-based BAT determination is wholly inadequate, arbitrary, and capricious and must

be revisited prior to issuing the Draft Permit as final.

808 *See* AR-608 at 32.
809 *See Seabrook,* 1977 WL 22370, at *7.
810 Again, EPA cannot attempt to rely upon any data or information EPA has collected or generated as part of its recent NELGs rulemaking because the agency has stated time and again that the data pertaining to NCMCWs it has collected is insufficient and does not accurately reflect how this waste stream is handled within the industry:

> At the time of the final rule, EPA acknowledge[d] not having sufficient information to perform a nationwide BAT evaluation for non-chemical metal cleaning wastes. Information such as:
> • identification of potential treatment systems that represent BAT for non-chemical metal cleaning wastes;
> • cost information for BAT technologies;
> • wastewater characterization data for untreated non-chemical metal cleaning wastes; and
> • treatment system performance data for the treatment of non-chemical metal cleaning wastes.

NELGs Response to Comments, Part 7 of 10 at 7-393.
811 *See Ass'n of Pac. Fisheries*, 615 F.2d at 820 (finding that a failure to explain and justify a BAT determination renders the resulting effluent limitations arbitrary, capricious, and "not the result of reasoned decisionmaking"); *see also* NELGs Response to Comments, Part 7 of 10 at 7-179 (providing that "the CWA requires EPA to make a reasonable assessment of costs. Without a baseline of what is the status quo, it is difficult to make a reasonable assessment of the cost of additional controls.").
812 These monetary figures were compiled by and through a review of public comments submitted by the industry in response to EPA's 2013 proposed rulemaking for the now final NELGs. *See* EPA, Rulemaking for the Steam Electric Power Generating Effluent Limitations Guidelines, Dock. ID EPA–HQ–OW–2009–0819.
813 *See* AR-608 at 32.
814 Utility Water Act Group, Comments of the Utility Water Act Group (UWAG) on EPA's Proposed Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category (40 C.F.R. Part 423), Docket ID Nos. EPA-HQ-OW-2009-0819 and EPA-HQ-RCRA-2013-0209, at 269-270 (Sept. 20, 2013). The relevant excerpt from UWAG's comments is attached hereto as Exhibit 24.
815 *See id.* at 269-70.
816 See *id.* at 270.

EPA's Response: EPA maintains that its assessment of costs in developing appropriate BAT limits based on its BPJ was both adequate and in accordance with the law and regulations.

The commenter first suggests that EPA failed to identify or make any specific cost estimates for coming into compliance with the proposed BAT limits of 1.0 mg/L. EPA did assess, using all information available, the changes and steps necessary for the Permittee to achieve compliance with the proposed BAT limits, and then further assessed whether such changes would require PSNH to incur costs, given the existing infrastructure and historical processes at the facility. This assessment took into account the nature and scope of the costs that the permittee would incur coming into compliance with the proposed limits. EPA is not required to develop a precise calculation of costs as part of its cost assessment, as the commenter suggests. *See BP Expl. & Oil v. EPA*, 66 F.3d 784, 803 (6th Cir. 1995) (citing *Nat. Res. Def. Council, Inc. v. EPA*, 863 F.2d 1420, 1426 (9th Cir. 1988)) ("According to EPA, the CWA not only gives the agency broad discretion in determining BAT, the Act merely requires the agency to consider whether the cost of the technology is reasonable. EPA is correct that the CWA does not require a precise calculation of BAT costs."). Moreover, the commenter, PSNH, has not provided EPA with

precise, facility-specific numbers for cost in its Comments to the Draft Permit or throughout the permitting process, as will be discussed in more detail below.

The commenter also seems to again suggest that EPA failed to assess costs and identify "anticipated benefits" in its BAT determination. Please see Responses to Comments IV.5.1 and IV.5.3, above, for a discussion of the factors requiring examination for a BAT analysis.

The drastic process changes and facility upgrades mentioned in this comment are indeed beyond the scope of changes considered necessary in EPA's analysis. It is unclear if PSNH is suggesting that the itemized cost estimate table and accompanying cost assessment presented in this comment is a reasonable cost estimate for Merrimack Station, which already has the technology and ability to segregate and treat or otherwise dispose of chemical metal cleaning wastewater (PSNH has not disputed the existence of such technology). The Permittee points to a cost estimate table and general cost estimates associated with a different facility to demonstrate high costs associated with Region 1's proposed BAT limits. The estimates do not specify where this facility is located, any details (other than that the facility has three generating units and an existing solid waste processing system) about the facility, or when these estimates were developed. The comment does not even provide the name of the facility. The cost estimates identified in this comment are extracted from Utility Water Act Group's (UWAG) 2013 Comments on EPA's Proposed Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category. *See* UWAG Comment, DCN EPA-HQ-OW-2009-0819-4655 (Sept. 20, 2013), pp. 268-71. UWAG, like the commenter here, fails to provide any detail as to where this data came from or how it was compiled. As a result, EPA cannot assess whether and to what extent this cost information[15] is applicable to the Merrimack Station facility. The commenter does not provide any explanation to enable such an assessment, and further does not provide additional documentation *specific* to potential costs that would be incurred at Merrimack Station. Ultimately, EPA does not find this information to be applicable to a site-specific assessment for costs at Merrimack Station.[16]

It is assumed, as stated in the Fact Sheet, that compliance can be achieved using existing treatment systems and either schedule changes or the combined waste stream formula. As described in the previous Response to Comment IV.3.2, EPA also proposes a hybrid approach that utilizes a combination of these relatively inexpensive options as well as the potential for water reuse/recycling. EPA maintains that the cost for complying with these permit requirements would not require significant investment in facility upgrades and would be modest.

EPA recognizes, however, the complex nature of this type of facility and the possibility of some additional expenses as described in the comment. Therefore, EPA recommends that by the

[15] The commenter's estimate of the range of costs associated with the type of upgrades necessary to comply with the proposed BAT limits (*see* footnote 812) is likewise based on information that is not specific to Merrimack Station. Furthermore, the commenter fails to describe or characterize this information in a manner that demonstrates its specific applicability to Merrimack Station.

[16] While this information is not applicable to Region 1's assessment of cost for Merrimack Station, this table does show however that other facilities are meeting the regulatory requirement to segregate metal cleaning waste.

effective date of the permit, the Permittee fully evaluate and begin to implement these low-cost options to the best of its ability in compliance with the permit. If a combined waste stream formula is utilized, the Permittee must submit the details of this formula to EPA for approval and permit modification.

As a final note, footnotes 810 through 812 of the above comment contain references to EPA's Responses to Comments for the 2015 Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category. In the 2015 responses related to NCMCWs, EPA acknowledged that it had insufficient information with respect to several analyses required to evaluate BAT for NCMCWs, cost analysis being one. The commenter wishes to conflate that acknowledgement into the conclusion that information does not exist to support *any* site-specific BAT determination for NCMCWs. Rather, the 2015 rulemaking was a *national* rulemaking. EPA may have been without sufficient information to make a categorical, national standard (*see* Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category: EPA's Response to Public Comments, Part 7 of 10 at 7-393 (Sept. 2015) ("EPA acknowledges not having sufficient information to perform a *nationwide* BAT evaluation for non-chemical metal cleaning wastes.") (emphasis added)), but this insufficiency solely applies to the national rulemaking context. The cost information required for a national rulemaking is not identical to that required for a site-specific BPJ BAT determination. Therefore, the language included in the 2015 Response to Comments does not support a finding that EPA failed to sufficiently analyze cost in its BAT evaluation for NCMCWs at *Merrimack Station*. *See also* EPA Responses to Comments IV.5.1 and IV. 5.3 above.

Comment IV.5.6	**AR-1548, PSNH, p. 217**

Comment: If EPA Erroneously Elects to Impose Iron and Copper Limits on NCMCWs, It Should Allow PSNH Sufficient Time to Comply. The Draft Permit does not specify when PSNH would be required to comply with the proposed iron and copper limits for the NCMCW stream. Should the agency ultimately buck the historical handling of NCMCWs at the facility as low volume waste and impose iron and copper limits, adequate time to comply must be provided. As explained above, to comply with these new effluent limitations PSNH would have to extensively modify pipes, sumps, and treatment systems so as to collect isolated NCMCW discharges and treat them by chemical precipitation for iron and copper. The facility would also likely have to perform extensive excavation of existing sumps and piping and install new pipes and treatment tanks. This work in isolation could take two years or more to complete and could be even further complicated or prolonged due to any approvals and/or permits that may be required.

For the reasons stated above, EPA must not—and indeed cannot based on the current permitting record—impose iron and copper effluent limitations on NCMCW discharges at Merrimack Station and should allow such wastewaters to continue to be classified as a low volume waste stream and commingled with other similar low volume waste streams.

EPA's Response: As mentioned in the previous responses, the Permittee is not expected to perform any significant facilities upgrades in order to comply with the revised NCMCW

requirements. If the Permittee elects not to segregate NCMCW fully or in part and instead seeks to utilize a CWF, EPA expects that a formula (as described in EPA Responses to Comments IV.1.1, IV.3.2, IV.3.3, IV.3.5, IV.3.6) could be developed with the assistance of EPA if requested. Subsequently, the Permittee could evaluate and implement the necessary combination of schedule changes, water reuse/recycling options, and other minor process modifications to achieve consistent compliance with the permit beginning on the effective date of the permit.

Given the variety of cost-effective options for compliance described in the responses above, EPA recognizes that the Permittee will need to decide which approach to compliance to pursue. Depending upon the selected approach, the Permittee may potentially find that it is unable to fully comply with the copper and iron limits for a period of time immediately following the effective date of the permit. In anticipation of this possibility, EPA is unable to implement a compliance schedule for a technology-based limit directly in the permit. *See* 40 CFR Part 122.47(a)(1). Rather, EPA would work with the Permittee after the effective date of the permit to develop an appropriate compliance schedule through a mechanism such as an administrative order by consent. This compliance schedule would allow the Permittee to have additional time to achieve proper compliance with the limits without penalty during the agreed to time period for achieving compliance.