AR-43

United States Environmental Protection Agency
Region 5

In Re:	**ArcelorMittal Cleveland Inc.**	)	
	Application for Modification of Previously	)	**Regional Administrator,**
	Granted Section 301(g) Variance from	)	**EPA Region 5**
	Best Available Technology (BAT)	)	**Pursuant to Section 301(g)**
	Requirements of the Clean Water Act	)	**of the Clean Water Act**

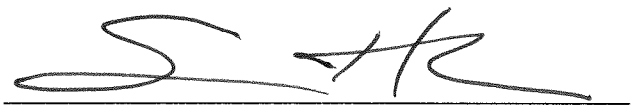
Tentative Decision to Grant Application to Modify Previously Granted Section 301(g) Variance

In accordance with the Remand Order issued by the Environmental Appeals Board, United States Environmental Protection Agency, on June 26, 2012, Region 5, in consultation with the Office of General Counsel and the Office of Water, has reviewed ArcelorMittal Cleveland Inc.'s application to modify the variance previously granted by EPA in 2001 pursuant to section 301(g) of the Clean Water Act, 33 U.S.C. § 1311(b)(2)(A), and the Ohio Environmental Protection Agency's recommended approval of the application.

In accordance with the attached Support Document reviewing the Remand Order and evaluating the merits of ArcelorMittal Cleveland's application, it is my tentative decision: (i) to grant applications to modify previously granted variances under section 301(g) when the application demonstrates that the requirements of that section of the Act would be satisfied; and (ii) to grant ArcelorMittal Cleveland's application in accordance with the terms, conditions, and limitations of the attached Support Document. Ken Kopocis, Deputy Assistant Administrator, has previously concurred in this decision. EPA will make a final decision after reviewing any additional information and comments submitted during the public notice period.

While the decision in (i) above is not limited to this case, the decision in (ii) above is based on evidence specific to ArcelorMittal Cleveland's application, and is not intended to evaluate the appropriateness of such applications by any other industrial facilities discharging to an aquatic environment. The decision in (ii) above is subject to revision on the basis of subsequently acquired information relating to the impacts of the approved modifications on the environment and human health.

11/3/2015
Date



Susan Hedman
Regional Administrator

United States Environmental Protection Agency
Region 5

In Re:	ArcelorMittal Cleveland Inc.	)	
	Application for Modification of Previously	)	Regional Administrator,
	Granted Section 301(g) Variance from	)	EPA Region 5
	Best Available Technology (BAT)	)	Pursuant to Section 301(g)
	Requirements of the Clean Water Act	)	of the Clean Water Act

SUPPORT DOCUMENT
Tentative Decision to Grant Application to Modify
Previously Granted Section 301(g) Variance

TABLE OF CONTENTS

I. BACKGROUND: REMAND ORDER

In 2001, the U.S. Environmental Protection Agency (EPA) granted an application in favor of ArcelorMittal Cleveland's predecessor - LTV Steel Corporation - for a modification (or variance)[1] under Clean Water Act (Act) § 301(g) of the best available technology economically achievable (BAT) requirements of the Act otherwise applicable to discharges of ammonia-nitrogen (ammonia-N) at LTV's Cleveland Works steel plant in Cleveland, Ohio. Since then, EPA has also approved requests to continue the section 301(g) variance through subsequent re-issuances of the NPDES permit for this plant.

On April 13, 2010, ArcelorMittal Cleveland submitted an application to the Ohio Environmental Protection Agency for a modification of the section 301(g) variance originally granted by EPA in 2001.[2] The Ohio Environmental Protection Agency (Ohio EPA) forwarded the application to EPA Region 5 in June 2010 with its recommendation that the application be granted by EPA.

EPA denied the application on June 23, 2011. In denying the application, EPA Region 5: (i) took the position that ArcelorMittal's application was in effect an application for a new variance pursuant to section 301(g), (ii) applied the statutory deadline in section 301(j)(1)(B), and (iii) determined that the application was time-barred.

ArcelorMittal filed an informal appeal with the Environmental Appeals Board (EAB) on August 26, 2011,[3] and EPA Region 5 disputed ArcelorMittal's appeal. The EAB thereafter received several rounds of briefing by the parties and heard oral arguments in the matter on February 28, 2012. The EAB issued a Remand Order on June 26, 2012, remanding the matter back to Region 5 for reconsideration in a manner consistent with the Order, of Ohio EPA's recommendation to approve ArcelorMittal's application.

A. REMAND ORDER

The EAB determined that the Act is silent on the question of whether a previously granted section 301(g) variance may be modified and that it is not the case – as EPA Region 5 had argued - that the plain language of the statutory deadline precluded ArcelorMittal's application.[4] The Board further found that in cases where the statute is silent and where legislative history does not clarify congressional intent, the administrative agency tasked with implementing the statute has some discretion to interpret the statute, citing *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.,* 467 U.S. 837, 844 (1984).

---

1 Throughout this document, the initial modification approved by EPA under Clean Water Act section 301(g) is referred to as a "variance." A subsequent application to revise a previously approved section 301(g) variance will generally be referred to as an application to modify a previous section 301(g) variance unless the context indicates otherwise.

2 While EPA treated the 2010 application as an application for a variance under section 301(g), the application was drafted as a request to the Ohio EPA for a permit modification to modify the section 301(g) variance previously granted by EPA.

3 EPA Region took the position that ArcelorMittal should have filed a petition for review with the EAB under 40 C.F.R. § 124.19 but did not oppose review of the informal appeal by the Board.

4 The EAB's Remand Order determined that the statutory deadline in section 301(j)(1)(B) of the Act for the application for the initial section 301(g) variance itself does not apply to subsequent applications to review and modify a section 301(g) variance after it is granted. In this respect, an application to review and modify a previous section 301(g) variance is not a request for a new section 301(g) variance.

The Board found that EPA had not yet adopted an authoritative interpretation of the statute or an Agency policy about whether EPA may approve applications to modify previously granted variances under section 301(g) of the Act and found that EPA retains discretion to interpret the statute and to develop appropriate policy and direction on this matter. The Board concluded that EPA and the Region have the responsibility to exercise their policy-making discretion to make a reasoned decision regarding ArcelorMittal's application consistent with all applicable statutory goals and requirements and the current provisions of the Agency's regulations. The Board noted, however, that Congress afforded the Agency this discretion, provided that the Agency is satisfied that the water-quality related conditions of section 301(g)(2) are met.

B. TENTATIVE DECISION IN FAVOR OF GRANTING APPLICATIONS TO MODIFY PREVIOUSLY GRANTED 301(G) VARIANCES

The Act authorizes the EPA administrator, in specified circumstances and with the concurrence of the State, to modify the requirements of the BAT requirements otherwise applicable to discharges of pollutants.

EPA has exercised its authority under section 301(g) not only to grant section 301(g) variances, but also to approve continuations of a section 301(g) variance when a permit is renewed,[5] and to modify a section 301(g) variance if the variance no longer meets the requirements of section 301(g)(2).[6]

ArcelorMittal's application now poses the question whether a discharger may ask the EPA to modify a previously granted section 301(g) variance upon a demonstration that the modified effluent limitations proposed in the application satisfy all the requirements of section 301(g). As determined by the Board, EPA has not yet addressed this issue directly by rulemaking, guidance or policy. EPA Region 5 has reviewed the matter in light of the Board's decision that the statutory deadline in section 301(j)(1)(B) does not apply to applications to modify a previous variance. As explained further below, as a result of that review, EPA Region 5 now proposes that it will grant applications like that of ArcelorMittal Cleveland to modify a previously granted section 301(g) variance provided that: (i) the pollutant for which a modification is sought is a nonconventional pollutant to which section 301(g) applies; (ii) the State concurs with the proposed modification, and (iii) the modification satisfies the requirements stated in section 301(g)(2) of the Act.

C. BALANCE OF COMPETING STATUTORY GOALS FAVORS GRANTING SUCH APPLICATIONS

The Remand Order requires that EPA Region 5 make "a reasoned decision on ArcelorMittal's application

---

[5] EPA has taken the position that such continuations are approvable only if the permittee demonstrates that the variance continues to satisfy the requirements of section 301(g)(2).

[6] *See, e.g.*, EPA Region 9's final 301(g) variance decisions for the City of Los Angeles Department of Water and Power for the Haynes Generating Station, the Harbor Generating Station, and the Scattergood Generating Station, "Variance Terms and Conditions," p. 19, ¶ 4: "This 301(g) approval can be reviewed and revised by EPA at any time if subsequent information indicates that the PMEL [i.e., modified effluent limitation proposed in an application for a variance under section 301(g)] will not result in compliance with all 301(g) criteria."

consistent with all the applicable statutory goals and requirements and the current provisions of the Agency's regulations."[7]

Congress enacted the Federal Water Pollution Control Act Amendments of 1972 (1972 Amendments) to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. §1251(a). To that end, the Act declared as a national goal "that the discharge of pollutants into navigable waters be eliminated by 1985 . . . ." 33 U.S.C. § 1251(a)(1). To help accomplish these goals, Congress directed EPA to establish two sets of technology-based pollutant discharge limitations that point sources would be required to meet for all pollutants: 1) effluent limitations based on the best practicable control technology currently available (BPT) to be achieved by 1977, and 2) the more stringent effluent limitations based on the best available technology economically achievable, which result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants (BAT), to be achieved later.

These technology-based effluent limitations were intended to be uniform national standards applicable to all industrial point sources within a particular category without regard to the water quality of the receiving water. Uniformity was important to achieving the goals of the 1972 Amendments by improving enforceability, by creating a level playing field, and by precluding "owners and operators of industrial facilities from moving their facilities to a location with less stringent water quality control requirements." House Consideration of the Report of the Conference Committee, October 4, 1972, Remarks of Rep. Clausen, *reprinted in* Legislative History of the Water Pollution Control Act Amendments of 1972, V. 1 at 263 (Comm. Print 1973), prepared by the Environmental Policy Division of the Congressional Research Service of the Library of Congress.

By 1977 there was general agreement in both houses of Congress that a mid-course correction to the 1972 Amendments was necessary in order to refocus efforts on the control of toxic pollutants.[8] Representative Roberts, the author of the conference report for the 1977 Clean Water Act,[9] described the shortcomings of the 1972 law during the House Debates in December 1977 as: "Underregulation, or the lack of ability to regulate rationally in the case of toxic pollutants, and overregulation in terms of excessive and burdensome regulation in the case of conventional pollutants at costs not even remotely commensurate with environmental benefits in terms of water quality." House Debate, December 15,

---

[7] Remand Order, at 25. While 40 C.F.R. § 122.21(m)(2)(i), which requires that applications for section 301(g) variances be submitted to both the Regional Administrator and the State Director, does not directly apply to applications to modify a previously granted section 301(g) variance, Remand Order at 20, EPA expects that for facilities in states that have approved NPDES programs such applications to modify a previous variance shall be submitted both to the State and to EPA for review and recommendation. In addition, consistent with the requirements in 40 C.F.R. § 124.62(e) and (f), EPA will not grant such requests for facilities in such states unless the State Director has forwarded the request with the State's written concurrence. For such applications that are forwarded to EPA with the State's written concurrence, EPA expects to either grant or deny the application in accordance with the principles outlined in this decision. Consistent with 40 C.F.R. § 124.51(b), EPA expects that decisions on such applications will be decided through the same notice and comment procedures that apply to issuance and modification of the basic permit.

[8] "[The bill] represents the midcourse correction that was promised during consideration of the landmark 1972 amendments to the Fed Water Pollution Control Act." Sen. Debate, December 15, 1977, Remarks of Sen. Muskie, *reprinted* in Legislative History of the Clean Water Act of 1977, prepared by the Environmental Policy Division of the Congressional Research Service of the Library of Congress, V. 3 at 425. It "is a bill which will more sharply focus EPA's limited resources on priority water pollution problems." *Id.*, at 426.

[9] *See Chemical Manufacturers Association v. U.S. EPA,* 870 F.2d 177, 205 (Fifth Cir. 1989).

1977, Remarks of Rep. Roberts, *reprinted* in Legislative History of the Clean Water Act of 1977, prepared by the Environmental Policy Division of the Congressional Research Service of the Library of Congress (hereinafter 1977 Leg. Hist.) , V. 3 at 326. In addition, the Senate Environment and Public Works Committee (Senate Committee) determined that "it was possible that the [BAT] requirements might result in the application of excessive controls to certain kinds of conventional pollutants for which sufficient information was available to make a judgment as between a particular discharge and a particular receiving water quality." Sen. Report No. 95-370, 95th Cong., 1st Sess. (1977), *reprinted* in 1977 Leg. Hist., V. 4 at 674 – 675.

To address this problem, the Senate version of the bill would have authorized EPA to modify the otherwise applicable BAT effluent limitation guidelines for non-toxic, conventional pollutants to make them less stringent, as long as the resulting limitation met specified requirements including that it was at least as stringent as BPT, would not require controls on any other source, would protect public water supplies and recreational activities and would allow propagation of a balanced, indigenous population of shellfish, fish and wildlife. S. 1952, 95th Cong., 1st Sess. (1977), *reprinted in* 1977 Leg. Hist. at 582 – 584.

According to the Senate Committee, "[t]his approach allows the discharger to demonstrate no adverse effect of pollutants in his discharge and have his requirement reduced." S. Rep. No. 95-370, 95th Cong., 1st Sess. (1977), *reprinted in* 1977 Leg. Hist., V. 4 at 674. The Committee's Report explained that the intent of this provision would be to allow modification of the BAT requirements in cases where the BPT requirements have provided a high degree of water quality improvement such that the application of BAT would require treatment not deemed necessary. "In this way treatment for the sake of treatment would be prevented." [*Id.* at 676 – 677.][10]

As eventually passed by Congress, the Clean Water Act of 1977 went further than the Senate bill in readjusting the BAT standards. The 1977 Act completely exempted conventional pollutants, including biochemical oxygen demand, suspended solids, fecal coliform and pH, but not ammonia,[11] from BAT requirements and directed EPA to promulgate a new set of technology-based discharge limitations for conventional pollutants based on the best conventional pollutant control technology (BCT) that would be less stringent than BAT requirements. *See* 33 U.S.C. § 1311(b)(2)(E).

The CWA of 1977 also recognized a third category known as non-conventional pollutants, a class of pollutants that are neither toxic pollutants nor conventional.[12] Non-conventional pollutants remained subject to BAT requirements, but the Senate bill's provision for modifying BAT requirements was incorporated into the 1977 Act at CWA § 301(g) and made applicable only to nonconventional pollutants, rather than to conventional pollutants or toxic pollutant. The procedure in the Senate bill for modifying BAT requirements would not be available for conventional pollutants.

---

[10] "Many industrial dischargers have testified that the best practicable technology effluent limitations required in 1977 have provided a high degree of water quality improvement with the result that BAT requires treatment of conventional pollutants not deemed necessary to meet the 1983 water quality goals of the act. The intent of this section is to allow modification of BAT requirements in cases where this may be true. In this way, treatment for treatment sake would be prevented." S. Rep. No. 95-370, 95th Cong., 1st Sess. (1977), *reprinted in* 1977 Leg. Hist., V. 4 at 676 - 677.

[11] Conventional pollutants include biochemical oxygen demand, suspended solids, fecal coliform, pH, and oil and grease. *See* CWA § 304(a)(4) and 40 C.F.R. § 401.16.

[12] *See, e.g.*, House Debate, December 15, 1977, Remarks of Rep. Roberts, *reprinted* in 1977 Leg. Hist., V. 3 at 331.

Section 301(g) allows a discharger to request modified effluent limitations that are less stringent than BAT requirements provided that the discharger demonstrates, as required by section 301(g)(2), that the modified effluent limitations: 1) will comply with BPT and any more stringent limitations necessary to comply with water quality standards,[13] 2) will not result in additional requirements on another discharger, and 3) would not have an adverse impact on water quality, sources of drinking water, other dischargers, human health, wildlife and aquatic life, and recreational activities.

EPA summarized the effect of the legislative process leading to the codification of section 301(g) as follows:

> The legislative history of the 1977 Amendments to section 301 of the Clean Water Act (CWA) makes it clear that Congress intended relief from promulgated BAT effluent limitations guidelines where warranted. Congress determined that it was possible that the BAT requirements might result in the application of excessive controls to certain kinds of pollutants. Where sufficient information could be generated on these pollutants to make a judgment concerning their effects on receiving water, appropriate relief from unnecessarily stringent limitations should be provided. Congress envisioned that the Administrator would develop a pollutant specific waiver without affecting necessary BAT limitations on the remainder of the pollutants in the discharge. The enactment of section 301(g) was the result of an effort to eliminate "treatment for treatment's sake" for the nonconventional pollutants.

EPA's "Technical Guidance Manual for the Regulations Promulgated Pursuant to Section 301(g) of the Clean Water Act of 1977," at 2 – 3.[14]

EPA's decision under the terms of the Remand Order about whether to consider applications to modify previously granted section 301(g) variances and to grant them in appropriate circumstances necessarily requires the consideration and balancing of the statutory goals of the Federal Water Pollution Control Act of 1972 and the goals of the Clean Water Act of 1977. A decision to review and grant such requests would constitute the further relaxation of otherwise applicable BAT effluent limitations and thus arguably could be inconsistent with the overall statutory goals of "restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters, " 33 U.S.C. §1251(a), and that "the discharge of pollutants into navigable waters be eliminated . . . " At the same time, such a decision would clearly be consistent with the intent of Congress in 1977 by enacting section 301(g) to provide appropriate relief from unnecessarily stringent limitations when a discharger can demonstrate that such relief will not adversely affect the quality of the receiving water.

As noted by the DC Circuit, "[i]t scarcely needs repeating that statutes are rarely, if ever, uni-dimensionally directed towards achieving or vindicating a single public policy. [Citations omitted]. While a broad policy goal may well be the animating force driving the legislation, achievement of actual passage of the measure invariably requires compromise and accommodation." *NRDC v. EPA*, 822 F.2d 104, 113 (DC Cir. 1987).

---

[13] *See* 33 U.S.C. §§ 1311(b)(1)(A) and (C).

[14] EPA proposed regulations for water quality variances under section 301(g) of the Act, 49 Fed. Reg. 31462 (August 7, 1984), but these regulations have not been finalized.

EPA Region 5 concludes in light of the EAB's decision that the general goals of the Federal Water Pollution Control Act of 1972 and the more specific and subsequent goals of the Clean Water Act of 1977 can best be served by granting requests to modify previous section 301(g) variances where the discharger can demonstrate that the modification will result in compliance with the requirements in section 301(g)(2).

In arriving at this decision, EPA Region 5 attempts to give effect not only to the goals of the Federal Water Pollution Control Act of 1972, but also to the goals of the Clean Water Act of 1977. EPA Region 5 has concluded that this decision represents an appropriate balancing of competing Congressional goals reflected in these statutes, is a reasonable exercise of the Agency's authority under section 301(g) to modify otherwise applicable BAT requirements, and is consistent with the Agency's inherent authority recognized by the Supreme Court in Chevron to fill gaps identified in statutory provisions in a reasonable manner.

Consistency with Anti-Backsliding Requirements.

This decision is consistent with the anti-backsliding requirements in section 402(o) of the Act. Whereas the tentative decision taken by Region 5 today would allow modified effluent limits established under section 301(g) to be replaced by less stringent limits, section 402(o) only prohibits replacing limitations under section 402(a)(1)(B) limitations – "best professional judgment (BPJ) effluent limitations – and limitations under section 301(b)(1)(C) or 303 (d) or (e) – water quality based effluent limitations or WQBELs. Even if section 402(o) applied to modified effluent limitations established under section 301(g), section 402(o)(2)(D) contains an explicit exception that applies where the permittee has received a permit modification under section 301(g). *See* CWA § 402(o)(2)(D).

When EPA is the permitting authority, EPA's anti-backsliding regulation at 40 C.F.R. § 122.44(l)(1), would not restrict the renewal, reissuance, or modification of a permit to include less stringent modified effluent limitations under section 301(g).[15] 40 C.F.R. § 122.44(l)(1)[16] establishes the requirement that a renewed or reissued permit must include limitations at least as stringent as the previous permit except in certain conditions. This provision prohibits backsliding unless the circumstances under which the previous permit was issued have materially and substantially changed and such changed circumstances would constitute grounds for permit modification under 40 C.F.R. § 122.62. One ground for modification under section 122.62 is "[w]hen a permittee has filed a request for a variance under CWA section . . . 301(g) . . . within the time specified in 122.21 ..." 40 C.F.R. § 122.62(a)(5). In the case of a request to modify a permit limit based on a modification to a previously granted section 301(g) variance, this condition is satisfied provided the request for the initial variance was submitted within the time specified in 40 C.F.R. § 122.21.

If a state is the permitting authority, EPA will not - pursuant to 40 C.F.R. § 124.62(e) and (f) - approve an application to modify a previously approved variance under section 301(g) unless the State Director has reviewed the application and has forwarded the request to EPA with the State's written concurrence.[17]

---

[15] It is unclear whether section 122.44(l)(1) applies at all in this case because, by its terms, this provision does not refer to permit modifications. Even if section 122.44(l)(1) does apply, permit modifications to include less stringent section 301(g) variances will meet the conditions for an exception to the prohibition.

[16] Section 122.44(l)(2) applies only to effluent limitations established under CWA § 402(a)(1)(B),which does not include effluent limitations established under CWA § 301(g).

[17] *See* n. 7 above.

If the requested modification is not consistent with a state's anti-backsliding requirements, EPA presumes that the State will not forward its written concurrence.

Consistency with Anti-Degradation Requirements

Section 301(g)(2)(A) requires that any modified limitations must "result at a minimum in compliance with the requirements of [sections 301(b)(1)(A) and 301(b)(1)(C)] . . . ." 33 U.S.C. § 1311(g)(2)(A). The reference to section 301(b)(1)(C) means that any alternate effluent limitations under section 301(g) must be as stringent as necessary to meet applicable water quality standards.[18] Water quality standards include designated uses for water bodies, criteria to protect those uses, and an anti-degradation policy. *See, e.g., PUD No. 1 of Jefferson County v. Wash Dept of Ecology*, 511 U.S. 700, 705 (1994); *In re Teck Cominco Alaska Incorporated, Red Dog Mine*, 11 EAD 457, 463-66 (2004). In reviewing a specific request for further modified effluent limits under section 301(g), EPA would need to evaluate whether any modified limitations would fail to ensure compliance with the state water quality standards, including the state's anti-degradation requirements.[19]

II. DECISION REGARDING ARCELORMITTAL'S APPLICATION

A. DECISION CRITERIA

EPA Region 5 will grant applications to modify variances previously granted under section 301(g) provided that the initial 301(g) variance was properly granted, the State concurs in the modification, the modification pertains to a nonconventional pollutant identified in section 301(g) or listed by EPA under section 301(g)(4), and the modified effluent limitations as proposed in such applications (PMELs) satisfy the requirements under section 301(g)(2).

In this case, the record indicates that in 2001 Region 5 granted a section 301(g) variance for discharges from this plant of ammonia-N (a nonconventional pollutant identified in section 301(g)). In addition, Ohio EPA has recommended that EPA approve the proposed variance modification.[20]

As described below, ArcelorMittal Cleveland's proposed modified section 301(g) effluent limitations also satisfy the requirements under section 301(g)(2).

B. FINDINGS AND SUMMARY OF SECTION 301(G)(2) EVALUATION

Section 301(g)(2) provides that a modification shall be granted only upon a satisfactory showing by the owner or operator of a point source that:

> (A) such modified requirements will result at a minimum in compliance with the requirements of subsection (b)(1)(A) or (C) of this section, whichever is applicable;

---

[18] The reference in section 301(g)(2)(A) to section 301(b)(1)(A) refers to the requirement to achieve BPT technology based limitations.

[19] If the requested modification is not consistent with a state's anti-degradation program, EPA presumes that the state will not forward its written concurrence. *See* n. 7 above.

[20] Correspondence, June 14, 2010, George Elmaraghy (Ohio EPA) to Kevin Pierard (EPA).

(B) such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(C) such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

Table 1 below is a summary of EPA Region 5's evaluation about whether ArcelorMittal Cleveland's request to modify its previous section 301(g) variance meets the requirements of section 301(g)(2), as further described in sections II.C through II.F below.

Table 1
Summary of Section 301(g)(2) Evaluation

Will the Proposed Modifications to Prior 301(g) Variance:		
1	Meet the Best Practicable Control Technology Currently Available (BPT) Requirements?	**Yes**
2	Meet State Water Quality Requirements?	**Yes**
3	Require Additional Treatment for any other Point Source or Nonpoint Source?	**No**
4	Protect Downstream Water Supplies	**Yes**
5	Allow Recreational Activities	**Yes**
6	Assure Protection and Propagation of Balanced Populations of Shellfish, Fish and Wildlife?	**Yes**
7	Pose Unacceptable Risk Due to:	
a	Bioaccumulation	**No**
b	Persistence	**No**
c	Acute Toxicity	**No**
d	Chronic Toxicity	**No**
e	Carcinogenicity	**No**
f	Mutagenicity	**No**
g	Teratogenicity	**No**
h	Synergism	**No**

C. SOURCE INFORMATION

ArcelorMittal-Cleveland owns and operates an integrated steel facility located at 3060 Eggers Avenue, Cleveland, Ohio (Cleveland Plant or Plant).[21] The Plant includes "two blast furnaces [furnaces C5 and C6] for the production of iron, two basic oxygen furnaces for the production of steel, and continuous casting and steel finishing processes."[22] The Plant "produces cast, cold-rolled, and zinc plated flat rolled products."[23]

Process operations performed at the Plant in connection with the blast furnaces "are classified by the Standard Industrial Classification (SIC) codes 3312, 'Steel Works, Blast Furnace, Rolling'. Discharges resulting from process operations are therefore subject to Federal Effluent Guideline Limitations, contained in [40 CFR] Part 420, 'Iron and Steel Manufacturing' and Part 433, 'Metal Finishing' Industrial Categories."[24]

Discharges from this Plant are subject to an NPDES permit issued by the Ohio EPA, OEPA Permit No. 3ID00003*OD, Application No. OH0000957.[25]

The existing section 301(g) variance applies to discharges of ammonia-N at internal outfall 604. "Outfall 604 contains blowdown from the common gas cooling and scrubber process water treatment and recycle system for the No. C5 and C6 blast furnaces. The treatment and recycle system includes clarifiers for removal of particulates removed from the blast furnaces gas, a mechanical draft cooling tower for cooling the re-circulating water and ancillary pump stations and sludge dewatering equipment. A portion of the re-circulating water is used for cooling slag generated from the blast furnaces and a low volume blow-down is discharged through Outfall 604. The discharge from Outfall 604 is combined with non-contact cooling water, storm water and groundwater and is discharged via Outfall 005 to the Cuyahoga River."[26]

D. EFFLUENT LIMITATIONS

ArcelorMittal Cleveland has requested a modification to increase the existing section 301(g) variance effluent limitations for ammonia-N discharges at internal outfall 604. Table 2 below shows, among other things: the BPT effluent limitations otherwise applicable for ammonia discharges of this type; the BAT effluent limitations otherwise applicable for ammonia discharges; the alternate effluent limitations established under the previously granted section 301(g) variance; and the proposed modified section 301(g) effluent limitations requested by ArcelorMittal Cleveland.

E. RECEIVING WATER INFORMATION

The Plant discharges to the Cuyahoga River at various points between River Mile (RM) 7.0 and RM 4.7, as measured from the mouth of the Cuyahoga River at Lake Erie.[27]

---

21 "Fact Sheet Regarding an NPDES Permit to Discharge to Waters of the State of Ohio for ArcelorMittal Cleveland Inc., OEPA Permit No. 3ID00003*OD, February 5, 2008 (2008 Fact Sheet), pp. 1 and 7.

22 *Id.*, p. 7.

23 *Id.*

24 *Id.*, p. 7.

25 NPDES Permit OH0000957 (3ID00003*OD), dated June 30, 2008.

26 NPDES Permit Modification Request, Section 301(g) Variance for Ammonia-N, Outfall 604, ArcelorMittal Cleveland Inc., April 13 2010 (Permit Modification Request), at 3.

27 2008 Fact Sheet, p. 6 and p. 25 (Figure 2).

At RM 7.0 and downstream, the Cuyahoga River is designated for the following uses: "For RMs 7.0 to 5.6, the Cuyahoga River is designated Warmwater Habitat (WWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Primary Contact Recreation (PCR). For RMs 5.6 to 0.0 (the Cuyahoga Ship Channel ["Ship Channel"]), the Cuyahoga River is designated Limited Resource Water (LRW - navigation maintenance) during the months of June through January, and any remaining months when the river flow at the USGS stream gage at Independence (RM 13.0) is less than 703 cubic feet per second (CFS). During the months of February through May, whenever the river flow at the Independence gage is greater than or equal to 703 CFS, the aquatic life use is Fish Passage (FP). Other designated uses that apply to the Cuyahoga Ship Channel are Industrial Water Supply (IWS) and Primary Contact Recreation (PCR)."[28]

Outfalls 005/604 discharge into the Cuyahoga River at RM 5.39, within the Ship Channel.[29] The Ship Channel "is a federally maintained navigation channel," maintenance of which "is important to commerce and the economic well-being of the Cleveland area. The channel averages two hundred seventy feet in width, is maintained at a uniform depth of twenty-three feet and is vertically sheet piled along the vast majority of its length. The physical configuration of the channel results in a ten-day time of travel for a mass of water entering the ship channel at critical low flow conditions."[30]

The capacity of the Ship Channel to support aquatic life has been significantly degraded by the hydrologic modifications necessary to build it. "Modeling projections of water quality in the channel have shown that levels of oxygen demanding materials found in natural waters are sufficient to depress dissolved oxygen below the warmwater habitat criteria. The modeling simulations also indicate that the existing loads of oxygen demanding materials could maintain the warmwater habitat dissolved oxygen criteria if the river depth was decreased to twelve feet. However, this would preclude the use of the channel for commercial navigation. The physical habitat of the channel and the prevailing background dissolved oxygen regime are insufficient to support any resemblance of the warm water habitat aquatic life use designation."[31] In addition, "[r]ecent studies by the Cuyahoga River RAP [Remedial Action Plan], indicate significant die-off of larval fish in the navigation channel," but "Ohio EPA sampling indicates that adult fish are able to utilize the navigation channel for passage upstream to suitable habitat to continue their lifecycles.[32]

In the Ship Channel, "cumulative loadings and flows from the 21 ArcelorMittal [Cleveland] outfalls make it one of the largest point source dischargers in the Cuyahoga River basin."[33] Other potential impacts from the Plant "were generally masked by conditions upstream and the poor habitat and water quality in the navigation channel. Poor and very poor biological communities coincide with the lack of suitable habitat, low dissolved oxygen, and chronically elevated ammonia and zinc levels between ArcelorMittal and Lake Erie. While ArcelorMittal appears to be a major source of zinc loadings, anaerobic decomposition of organic compounds in sediments may contribute to elevated ammonia-N levels. Under summer pH and temperature conditions, the average level of ammonia-nitrogen downstream

---

28 2008 Fact Sheet, 2008, pp. 1 and 6.

29 2008 Fact Sheet, p. 25.

30 Ohio Admin. Code 3745-1-26(E)(1).

31 Ohio Admin. Code 3745-1-26(E)(1).

32 2008 Fact Sheet, p. 10.

33 2008 Fact Sheet, p. 10.

from the ArcelorMittal complex could exceed chronic toxicity levels although no recent [water quality] exceedences have been documented at the monthly NAWQMN station downstream from ArcelorMittal."[34]

F. APPLICATION OF STATUTORY SECTION 301(G) CRITERIA

1. State Concurrence

The Ohio EPA has recommended approval of the requested modification of the previous section 301(g) variance.[35]

2. The pollutant for which the modification is sought must be nonconventional

Ammonia is one of the pollutants specifically identified in section 301(g) as a non-conventional pollutant that is subject to section 301(g). EPA Region 5 previously granted ArcelorMittal Cleveland's predecessor a variance under Section 301(g) for Ammonia-N. Ammonia-N is a measure of ammonia in wastewater and is thus a non-conventional pollutant eligible for section 301(g) variances. Ammonia-N is neither a section 307(a) toxic pollutant nor a section 304(a)(4) conventional pollutant. Ammonia-N is not on the list of 65 toxic pollutants or pollutant classes designated pursuant to section 307(a)(1) of the Act at 40 C.F.R. § 401.15, nor is it on the list of conventional pollutants designated at 40 C.F.R. § 401.16 pursuant to section 304(a)(4) of the Act.

3. The modification must at a minimum result in compliance with BPT and State Water Quality Standards

Table 2 shows that the PMELs as proposed by ArcelorMittal-Cleveland are more stringent than the otherwise applicable BPT limits and the waste load allocations calculated to attain water quality standards that were derived by Ohio EPA for the outfalls in question. As long as the WLAs are met, water quality standards will be protected. Therefore, the PMELs will not cause or contribute to exceedences of water quality standards.

Table 2
Comparison of Requested Limits to Current Section 301(g) Limits, BPT Limits, BAT Limits and WQBELs

	Internal Outfall 604	
Effluent Limitations	30 Day Average	Daily Maximum
BAT[36]	24.5 kg/day	73.6 kg/day
BPT[37]	451 kg/day	1,353 kg/day

34 2008 Fact Sheet, p. 10.

35 Correspondence, George Elmaraghy to Kevin Pierard, June 14, 2010.

36 2008 Fact Sheet, Attachment "Effluent Guideline Calculations and 301(g) Variance Analysis," commencing at 96, Table titled "ArcelorMittal 301(g) Variance Review."

37 *Id.*

Ohio EPA WLAs[38] Summer Winter	 N/A N/A	 3135 kg/day 2472 kg/day
Existing PMELs[39] Summer Winter	 62.4 kg/day 81.6 kg/day	 85.6 kg/day 211 kg/day
Proposed PMELs[40] Year-round	 224 kg/day	 294 kg/day

Comparison of the proposed effluent quality to State water quality standards is difficult because the designated uses for the Ship Channel do not necessarily align on a calendar basis with the ammonia water quality criteria (OAC 3745-1, tables 7-2 and 7-5). The designated uses for the Ship Channel change to fish passage between February and May when flows exceed 703 cfs, whereas the warmwater habitat ammonia criteria have two applicable periods, one from March through November and the second December through February. In order to address this mal-alignment, an analysis was conducted using month-specific pH and temperature statistics as measured at USGS monitoring station 04208000. The monthly water quality criteria for ammonia were compared to the expected effluent quality resulting from the proposed PMELs. At no time would the water quality criteria for ammonia be exceeded if the proposed PMELs are implemented.

4. The modification must not result in additional requirements on other point and non-point sources.

EPA has determined that the modification will not result in additional requirements on other point and non-point sources. This issue is addressed by the Ohio EPA waste load allocation for internal outfall 604 referenced in the 2008 Fact Sheet. Because the WLAs for outfalls 604 are so much higher than the PMELs expressed as loads, the proposed modification of the previous variance does not result in additional requirements on other dischargers. (The PMELs are approximately 10% of the WLAs.)

5. The modification will not interfere with the attainment or maintenance of water quality which shall assure protection of public water supplies.

---

38 *Id.* These waste load allocation (WLA) values for ammonia discharges were assigned by Ohio EPA to ArcelorMittal's outfall 005, were incorporated by Ohio EPA into the 2008 Fact Sheet, and were cited by ArcelorMittal in its application to modify its section 301(g) variance. Ohio EPA subsequently revised the waste load allocations in the 2008 Fact Sheet, resulting in lower WLA values for ammonia discharges for ArcelorMittal Cleveland. According to Ohio EPA, the revised values did not change ArcelorMittal's analysis. Email, Eric Nygaard (Ohio EPA) to Sreedevi Yedavalli (EPA), 08/02/2010.

39 Correspondence, George Elmaraghy (Ohio EPA) to Kevin Pierard (EPA), June 14, 2010.

40 *Id.*

Public water supplies in Ohio are protected by drinking water standards applicable at the point of water withdrawal. As is the case in most states, there are no applicable drinking water standards for ammonia-N in Ohio.

A potential impact of the PMELs is the nitrification of ammonia to nitrite and nitrate, which are concerns for public water supply source waters. However, the nearest public water supply intake is located in Lake Erie about three miles off-shore and more than eight miles from the subject discharge. Because of the distance and dilution available from Lake Erie there is no reasonable expectation that the modification will affect attainment of drinking water standards at the Lake Erie intake.

6. The modification will not interfere with the attainment of that water quality which shall allow recreational activities in and on the water.

State water quality criteria for recreational use designations are found in 3745-1-07, table 7-13. The only parameters of concern are fecal coliform and *Escherichia coli* (*E. coli*). Nationwide ammonia and its degradates (nitrite and nitrate) have not been considered pollutants of concern for recreational uses and no risk assessments or numeric water quality criteria have been developed to restrict ammonia concentrations in ambient waters to protect recreational uses.

7. The modification will not interfere with the attainment or maintenance of that water quality which shall assure the protection and propagation of a balanced population of shellfish, fish and wildlife.

As described in Section II.E. of this decision document, the discharge is to a shipping channel that was built through hydrologic modification to the lower reach of the Cuyahoga River. The exceptional modification and attendant dredging and use (e.g., prop wash) has left the Ship Channel irreparably damaged and unable to support and sustain a healthy aquatic community, with or without pollution.[41] Nevertheless, the Channel can be used for fish passage because the length of the Channel is relatively short (approximately 5.7 miles). Ohio has therefore designated uses and water quality criteria with the more limited goal of protecting fish during passage in spring months to upstream spawning grounds.[42] As discussed in paragraph F.3 above, the PMELs proposed by ArcelorMittal Cleveland satisfy these water quality criteria.

Generally, EPA will not accept a demonstration that the PMELs meet state water quality criteria as compliance with the requirement in this paragraph F.7 unless those criteria are aimed at achieving and maintaining that water quality that will assure the protection and propagation of balanced populations of aquatic life.[43] In the limited circumstances of the facts of this case, however, in which a water body has been so altered to facilitate commercially vital navigation and shipping that it is no longer capable of supporting balanced populations of aquatic life, with or without pollution, EPA will accept a demonstration of compliance with state water quality criteria designed to ensure protection of fish

---

41 See the findings of the State of Ohio regarding the modification of the lower Cuyahoga River to make the Ship Channel, and its inability to support communities of aquatic life, at OAC 3745-1-26(E)(1).

42 Ohio Admin. Code 3745-1-26(E)(2).

43 *See, e.g.*, Technical Guidance Manual for the Regulations Promulgated Pursuant to section 301(g) of the Clean Water Act of 1977 (Draft), at 14-16; and EPA's Proposed Rule for Water Quality Variances, 49 Fed. Reg. 31462, 31464 – 31465 (August 7, 1984).

during passage to upstream spawning grounds that do or could support balanced populations of aquatic life, as compliance with the requirement in this paragraph E.7. [44]

8. The modification will not result in the discharge of pollutants in quantities that may reasonably be anticipated to pose an unacceptable risk to human health or the environment

There are no applicable water quality standards for ammonia to protect human health for the Ship Channel and Lake Erie. Ammonia is not expected to pose an unacceptable risk to human health. As stated in Section II.F.3 the applicable aquatic life water quality standards will not be exceeded as a result of these PMELs.

Nitrite and nitrate are a concern at public water supply intakes. Drinking water standards exist for both. As stated in Section II.F.5, the drinking water standards for nitrite and nitrate will not be exceeded at the intake located in Lake Erie.

a. Bioaccumulation

Ammonia, nitrite, and nitrate do not bioaccumulate.

b. Persistency in the environment

Ammonia, nitrite, and nitrate do not persist in the environment.

c. Acute toxicity

Aquatic life water quality standards for ammonia exist for the Ship Channel and will not be exceeded as a result of these PMELs. There are no water quality standards for ammonia to protect human health from acute exposures to ammonia. Ammonia is not expected to be acutely toxic to people through exposure through the water.

Nitrite and nitrate are a concern at public water supply intakes. Drinking water standards exist for both. As stated in Section II.F.5, the drinking water standards for nitrite and nitrate will not be exceeded at the intake located in Lake Erie as a result of these PMELs.

d. Chronic toxicity

---

[44] *See also* EPA's Proposed Rule for Water Quality Variances, 49 Fed. Reg. 31462, 31471 (August 7, 1984), which defines "[b]alanced population of shellfish, fish, and wildlife" as "an ecological community which: (1) Exhibits characteristics similar to those of nearby, healthy communities existing under comparable but unpolluted environmental conditions; or (2) May reasonably be expected to be established in the polluted water body segment if sources of pollution were removed." Because of the unique characteristics of the engineered Ship Channel, there are no ecological communities that satisfy the requirement in (1). In addition, based on the findings of the State of Ohio in OAC 3745-1-26(E), it is not reasonably expected that any ecological communities would be established in the polluted water body segment if pollution were removed.

Aquatic life water quality standards exist for the Ship Channel and will not be exceeded as a result of these PMELs. There are no water quality standards for ammonia to protect human health from chronic exposures to ammonia. Ammonia is not expected to be toxic to people through chronic exposure through the water.

i. Carcinogenicity

There is no scientific evidence that ammonia or its degradates are carcinogenic.

ii. Mutagenicity

There is no scientific evidence that ammonia or its degradates are mutagenic.

iii. Teratogenicity

There is no scientific evidence that ammonia or its degradates are teratogenic.

e. Synergistic propensities

Ammonia does not act synergistically with any other pollutants.

III. CONCLUSION

EPA Region 5 tentatively concludes, based upon available information, that ArcelorMittal Cleveland's PMELs for internal Outfall 604 will comply with the requirements of section 301(g), as amended. EPA Region 5 tentatively proposes to grant ArcelorMittal Cleveland's application to modify the effluent limits for ammonia-N that were approved by EPA Region 5 in 2001 by replacing them with the proposed PMELs cited in Table 2 above. This tentative decision will be noticed for public comment. Following the close of public comment, EPA will make a final decision on ArcelorMittal's application to modify the existing section 301(g) variance effluent limits for ammonia-N.

IV. VARIANCE TERMS AND CONDITIONS

The requirements of section 301(g) are continuing requirements. This proposed modification of the effluent limits applicable to discharges of ammonia-N at internal outfall 604 as described above may be reviewed and revised by EPA at any time if information indicates that the PMELs will not result in compliance with the requirements in section 301(g).