REVISITING THE FERTILIZER INDUSTRY: A RESPONSE TO LOPEZ

by Chris S. Leason

Chris S. Leason is a shareholder at Gallagher & Kennedy, P.A. Prior to the practice of law, he was a practicing chemical engineer in the nuclear industry.

In a recent article in these pages,[1] Jaclyn Lopez with the Center for Biological Diversity (CBD) asserts the U.S. Environmental Protection Agency (EPA) abdicated its statutory authority under the Resource Conservation and Recovery Act (RCRA)[2] to regulate phosphogypsum (PG) and the process wastewater from phosphoric acid production as hazardous wastes. Based on purported risks associated with the management of these two solid wastes, her article advocates for additional regulation under both RCRA and the Toxic Substances Control Act (TSCA).[3]

Although the article identifies Lopez as the co-author of a rulemaking petition pending with EPA,[4] it fails to discuss, much less mention, EPA's thorough review and denial, nine months prior to the article's publication, of the TSCA relief requested pursuant to the petition's invocation of TSCA §21 (citizens' petitions).[5] The article, like the petition on which it is modeled, is built on a cursory and flawed evaluation of (1) EPA's extensive review of PG stacks and process wastewater pursuant to its RCRA "Bevill Amendment" mandate; (2) the thorough work and conclusions of the TSCA Phosphoric Acid Waste Dialogue Committee (TSCA Dialogue Committee), established after EPA's 1991 RCRA regulatory determination to evaluate PG and process wastewater risk management strategies; and (3) the comprehensive federal and state regulations governing PG stacks adopted since EPA's 1991 RCRA regulatory determination. It also fails to acknowledge the significant negotiated measures designed to enhance protection of human health and the environment above and beyond applicable federal and state law, adopted by industry through EPA's RCRA National Enforcement Initiative for Mining and Mineral Processing (MMPI).

As important context, this Comment discusses the significant agricultural benefits afforded by phosphate fertilizers in Part I. Part II then summarizes EPA's thorough review of PG stacks and process wastewater pursuant to the Bevill Amendment, culminating in the Agency's 1991 regulatory determination, and the detailed evaluation of potential phosphoric acid production process changes performed thereafter by the TSCA Dialogue Committee. Part III explains why a "revisitation" of the 1991 regulatory determination is proscribed, and unnecessary in light of the substantial federal and state regulations applicable to PG stacks, and Part IV discusses the significant risk mitigation measures being adopted through EPA's MMPI. Finally, Part V responds to Lopez's assertions regarding the need to regulate PG and process wastewater under TSCA, environmental justice (EJ) concerns, and consideration of PG stacks in National Environmental Policy Act (NEPA)[6] evaluations for phosphate mines.

I. Phosphate Fertilizers Are Responsible for a Stable and Secure Food Supply

The benefits of phosphorus and phosphate fertilizers bear discussing because of their importance to ensuring an abundant, stable, and secure food supply. As noted by the International Plant Nutrition Institute, "[p]hosphorus promotes healthy root growth, promotes early shoot growth,

Author's Note: Since 1993, the author has represented The Fertilizer Institute (TFI) as its environmental, health and safety, and security counsel. He prepared TFI's comments on many of the rulemakings discussed in this Comment, and represented TFI in legal challenges to U.S. Environmental Protection Agency final rules and actions affecting TFI and its members. He was the principal author of TFI's March 29, 2021, opposition to a rulemaking petition filed by several environmental groups, including Jaclyn Lopez's organization, seeking the same relief discussed in her ELR *article.*

1. Jaclyn Lopez, *EPA's Opportunity to Reverse the Fertilizer Industry's Environmental Injustices*, 52 ELR 10125 (Feb. 2022).
2. 42 U.S.C. §§6901-6992k, ELR Stat. RCRA §§1001-11011.
3. 15 U.S.C. §§2601-2692, ELR Stat. TSCA §§2-412.
4. Rachael Curran, People for Protecting Peace River & Jaclyn Lopez, CBD, Petition for Rulemaking Pursuant to Section 7004(a) of the Resource Conservation and Recovery Act; Section 21 of the Toxic Substances Control Act; and Section 553 of the Administrative Procedure Act Concerning the Regulation of Phosphogypsum and Process Wastewater From Phosphoric Acid Production (Feb. 8, 2021) (EPA-HQ-OPPT-2021-0174-0008) [hereinafter Petition].The Fertilizer Institute (TFI) filed an opposition and a supplemental opposition to the Petition. TFI, The Fertilizer Institute's Opposition to the Petition for Rulemaking Pursuant to Section 7004(a) of the Resource Conservation and Recovery Act, Section 21 of the Toxic Substances Control Act, and Section 553 of the Administrative Procedure Act Concerning the Regulation of Phosphogypsum and Process Wastewater From Phosphoric Acid Production (Mar. 29, 2021) (EPA-HQ-OPPT-2021-0174-0003) [hereinafter TFI Opposition]; Letter from Ed Thomas, Director of Regulatory Affairs, TFI, to Michael Regan, Administrator, U.S. EPA, The Fertilizer Institute's Supplemental Opposition to a RCRA/TSCA Rulemaking Petition Regarding Phosphogypsum and Process Wastewater From Phosphoric Acid Production (Apr. 9, 2021) (EPA-HQ-OPPT-2021-0174-0006).
5. Petition for Rulemaking; Denial; Reasons for Agency Response, 86 Fed. Reg. 27546 (May 21, 2021); *see also* Letter from Michal Freedhoff, Principal Deputy Assistant Administrator, U.S. EPA, to Rachael Curran, People for Protecting Peace River & Jaclyn Lopez, CBD (May 6, 2021), https://www.epa.gov/sites/default/files/2021-05/documents/10023-55_letterresponse_esignature_mfreedhoff_2021-may-06.pdf. See *infra* Section III.C, for a discussion of EPA's denial of the TSCA §21 portion of the Petition.
6. 42 U.S.C. §§4321-4370h, ELR Stat. NEPA §§2-209.

speeds ground cover for erosion protection, enhances the quality of fruit, vegetable and grain crops, and is vital to seed formation."[7] Many soils cannot yield crop growth absent the addition of phosphorus, for soils either become depleted of necessary nutrients following a crop yield or they altogether lack the necessary nutrients from the start.[8] Produced from phosphate ore, phosphate fertilizers provide plant roots with a readily available and absorbable form of phosphorus.[9]

Phosphorus is naturally occurring in soil matrices, and phosphate mines are typically located in close proximity to phosphorus reserves. The United States has the ninth-largest phosphate reserve in the world, with Morocco, China, and Egypt having the three largest reserves.[10] In 2021, more than 95% of the phosphate rock mined in the United States was used to produce phosphoric acid and superphosphoric acid, which, in turn, were used in the manufacture of granular fertilizers such as monoammonium phosphate (MAP) and diammonium phosphate (DAP), liquid fertilizers, and animal feed supplements.[11]

Readily available access to fertilizers such as MAP and DAP is vital to ensuring a stable and secure food supply. Raw material supply interruptions, geopolitical conflict, trade barriers, and other events have the potential to disrupt global trade and reduce the accessibility to fertilizers and the resulting crops. The recent events in Ukraine demonstrate these vulnerabilities to the world's food supply. The viability and economic longevity of the U.S. phosphate fertilizer industry is of critical importance to a secure food supply not just in the United States, but in the world.

The U.S. fertilizer industry meets these critical demands. Over the past three years, it invested an average of $2.4 billion annually in capital infrastructure projects. These investments create jobs, increase worker and community safety, and help conserve energy, land, water, and air resources. The United States is the second-largest producer of phosphate fertilizers, generating more than $130 billion in economic benefit annually and providing more than 104,000 direct jobs and 383,000 indirect jobs.

II. EPA Performed a Comprehensive Review of PG and Process Wastewater Pursuant to the Bevill Amendment

In October 1980, and prior to the effective date of an EPA final rule[12] implementing the first set of RCRA hazardous waste management regulations under Subtitle C,[13] the U.S. Congress enacted the Bevill Amendment,[14] requiring that EPA defer RCRA Subtitle C regulation of "special wastes" until at least six months following EPA's submission of a report to Congress.[15] Congress included within the wastes to be studied "[s]olid waste from the extraction, beneficiation, and processing of ores and minerals, including phosphate rock."[16] Further, Congress specified eight criteria[17] to be analyzed in EPA's study and resulting report, and required EPA to consider "studies and other actions of Federal and State agencies concerning" the wastes at issue, "with a view toward avoiding duplication of effort."[18] Finally, no later than six months after the report to Congress, EPA was required to issue a regulatory "determination" on whether Subtitle C management of any of the studied wastes was warranted.[19]

EPA's evaluation of PG and process wastewater from phosphoric acid production pursuant to its Bevill Amendment mandate spanned nearly 11 years,[20] including site visits, industry questionnaires, and 11 *Federal Register* notices.[21] EPA's evaluation of phosphoric acid mineral pro-

7. International Plant Nutrition Institute, Nutri-Facts: Phosphorus 1, http://www.ipni.net/publication/nutrifacts-na.nsf/0/1249DC4DC82C318585257CD300561B0C/$FILE/NutriFacts-NA-2.pdf [hereinafter Nutri-Facts: Phosphorus] (describing additional phosphorus benefits of "increas[ing] plant water use efficiency, improv[ing] the efficiency of other nutrients such as [nitrogen], contribut[ing] to disease resistance in some plants, help[ing] plants cope with cold temperatures and moisture stress, hasten[ing] plant maturity and protect[ing] the environment through better plant growth").
8. *Id.* at 2; Markus Heckenmüller et al., *Global Availability of Phosphorus and Its Implications for Global Food Supply: An Economic Overview* 5 (Kiel Institute for the Word Economy, Working Paper No. 1897, 2014) (internal citations omitted), https://www.econstor.eu/bitstream/10419/90630/1/776834355.pdf.
9. *See* Nutri-Facts: Phosphorus, *supra* note 7, at 1-2.
10. U.S. Geological Survey, Mineral Commodity Summaries: Phosphate Rock 2 (2022), https://pubs.usgs.gov/periodicals/mcs2022/mcs2022-phosphate.pdf.
11. *Id.* at 1.
12. Hazardous Waste Management System: General, 45 Fed. Reg. 33066 (May 19, 1980).
13. Subtitle C (RCRA §§3001-3023 (42 U.S.C. §§6921-6939e)) establishes the national hazardous waste management program, and, in part, requires EPA to identify and list hazardous wastes.
14. The Bevill Amendment, named after its sponsor, Rep. Tom Bevill (D-Ala.), prohibited EPA from regulating solid wastes from the extraction, beneficiation, and processing of ores and minerals, including phosphate rock, as hazardous waste until EPA studied "the adverse effects on human health and the environment, if any," associated with these streams and issued a report to Congress and subsequent regulatory determination. *See* 42 U.S.C. §§6921(b)(3)(A)(ii), (b)(3)(C) & 6982(p).
15. *Id.* §6921(b)(3)(A).
16. *Id.* §6921(b)(3)(A)(ii).
17. *See id.* §6982(p)(1)-(8).
18. *Id.* §6982(p).
19. *Id.* §6921(b)(3)(C).
20. See TFI Opposition, *supra* note 4, at 6-14, for a complete discussion of EPA's comprehensive Bevill Amendment activities.
21. Identification and Listing of Hazardous Waste, 45 Fed. Reg. 76618 (Nov. 19, 1980); Mining Waste Exclusion, 50 Fed. Reg. 40292 (Oct. 2, 1985); Regulatory Determination for Wastes From the Extraction and Beneficiation of Ores and Minerals, 51 Fed. Reg. 24496 (July 3, 1986); Mining Waste Exclusion; Withdrawal of Proposed Revision, 51 Fed. Reg. 36233 (Oct. 9, 1986); Mining Waste Exclusion, 53 Fed. Reg. 41288 (Oct. 20, 1988); Mining Waste Exclusion, 54 Fed. Reg. 15316 (Apr. 17, 1989); Mining Waste Exclusion, 54 Fed. Reg. 36592 (Sept. 1, 1989); Mining Waste Exclusion and Definition of Designated Facility, 54 Fed. Reg. 39298 (Sept. 25, 1989); Mining Waste Exclusion; Section 3010 Notification for Mineral Processing Facilities; Designated Facility Definition; Standards Applicable to Generators of Hazardous Waste, 55 Fed. Reg. 2322 (Jan. 23, 1990); Availability of Report to Congress on Special Wastes From Mineral Processing, 55 Fed. Reg. 32135 (Aug. 7, 1990); Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. 27300 (June 13, 1991).

cessing operations[22] concluded with the Agency's June 1991 regulatory determination.[23]

A. EPA Determined PG and Process Wastewater Were Excluded From Subtitle C

EPA thoroughly evaluated both PG and process wastewater under its Bevill Amendment mandate. On September 1, 1989, EPA issued its final rule setting forth the "high volume" and "low hazard" criteria to evaluate mineral processing wastes,[24] concluding that PG met the criteria for temporary deferral of Subtitle C regulation.[25] Following extensive evaluation, in a January 23, 1990, final rule,[26] EPA listed process wastewater as also warranting temporary Subtitle C deferral.[27] In promulgating the January 1990 final rule, EPA announced: "This final rule *completes* the rulemaking regarding the Bevill status of mineral processing wastes until the completion of the required report to Congress and regulatory determination."[28]

EPA next proceeded to fulfill its second Bevill Amendment mandate, a report to Congress on mineral processing waste streams. Similar to its conclusions during the Bevill Amendment rulemakings, in the 1990 report to Congress, EPA concluded "regulation under Subtitle C of RCRA is unwarranted for . . . [p]rocess wastewater from phosphoric acid production [and PG] from phosphoric acid production."[29]

Finally, on June 13, 1991, EPA concluded its statutory duties under the Bevill Amendment with publication of its regulatory determination for 20 "high volume" and "low hazard" mineral processing wastes.[30] Consistent with EPA's conclusion in its report to Congress, the 1991 regulatory determination concluded that Subtitle C regulation was unwarranted for PG and process wastewater.[31] Thus, based on its regulatory determination, EPA codified the exclusion from hazardous waste regulation at 40 C.F.R. §261.4(b)(7)(ii) for both solid wastes.

Having ruled out Subtitle C control, and seriously discounting the possibility of Subtitle D providing a feasible basis for regulation,[32] EPA enumerated a two-pronged approach for PG and process wastewater. First, it would "rely upon existing authorities under RCRA Section 7003 and . . . Section 106 [of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)] to respond effectively to emergency situations that arise."[33] Second, EPA would evaluate potential risk mitigation options under TSCA.[34]

B. EPA's TSCA Dialogue Committee Identified No Alternatives to the Existing Production Process

Lopez's article incorrectly asserts the 1991 regulatory determination "announced the development and future promulgation of a TSCA regulatory program for [PG] and process wastewater."[35] Rather, EPA stated the TSCA evaluation would "focus on developing risk management strategies to reduce or eliminate risks posed by phosphoric acid production wastes."[36] EPA never contemplated a process that would allow it to set aside the Agency's Bevill Amendment RCRA regulatory determination for PG and process wastewater.

EPA's TSCA Dialogue Committee comprised representatives of environmental organizations, state and federal agencies, and industry.[37] The Committee engaged technical consultants to support its evaluation, and met over a 15-month period between 1992-1994.[38]

The Committee evaluated "major opportunities for volume and/or toxicity reduction in the phosphoric acid production process."[39] These evaluations included numerous potential process modifications, practices, and technologies that may be applicable to phosphoric acid production.[40] After a thorough review spanning 15 months, the Committee concluded that no better alternatives to the existing process were available.[41] Thus, EPA's contemplated further study of PG and process wastewater pursuant to its RCRA Bevill Amendment authority was concluded.

22. The two solid wastes referenced in the article—PG and process wastewater—result from mineral processing operations.
23. *See* Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. 27300.
24. *See* Mining Waste Exclusion, 54 Fed. Reg. 36592.
25. *Id*. at 36631. Throughout its rulemaking, EPA consistently viewed PG as being "high volume," "low hazard." *See* Mining Waste Exclusion, 50 Fed. Reg. at 40294; Mining Waste Exclusion, 53 Fed. Reg. at 41296; Mining Waste Exclusion, 54 Fed. Reg. at 15342.
26. Mining Waste Exclusion; Section 3010 Notification for Mineral Processing Facilities; Designated Facility Definition; Standards Applicable to Generators of Hazardous Waste, 55 Fed. Reg. 2322.
27. *Id*. at 2338, 2341-42, tbl.2. Similar to PG, EPA consistently viewed process wastewater as being "high volume," "low hazard." *See* Mining Waste Exclusion, 54 Fed. Reg. at 15342, 15344 (tbl.2); Mining Waste Exclusion, 54 Fed. Reg. at 36631 (tbl.2); Mining Waste Exclusion and Definition of Designated Facility, 54 Fed. Reg. 39298, 39305 (Sept. 25, 1989).
28. Mining Waste Exclusion; Section 3010 Notification for Mineral Processing Facilities; Designated Facility Definition; Standards Applicable to Generators of Hazardous Waste, 55 Fed. Reg. at 2323 (emphasis added).
29. U.S. EPA, Report to Congress on Special Wastes From Mineral Processing, Summary and Findings 11-12 (1990) (EPA/530-SW-90-070B), https://www.epa.gov/sites/default/files/2015-05/documents/10001aze.pdf.
30. Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. 27300 (June 13, 1991).
31. *Id*. at 27316.
32. *Id*.
33. *Id*. Although the article cites to these provisions (Lopez, *supra* note 1, at 10137), there is no recognition that EPA has invoked RCRA §7003 in regulating PG and process wastewater operations as part of the MMPI (*see infra* Section IV of this Comment). 42 U.S.C. §§9601-9675, ELR Stat. CERCLA §§101-405.
34. *Id*.
35. Lopez, *supra* note 1, at 10137.
36. Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. at 27316.
37. *See* Memorandum from Greg Bourne, Committee Facilitator, Southeast Negotiation Network, to Phosphoric Acid Waste Dialogue FACA Committee Members 16, 74 (Sept. 29, 1995) [hereinafter TSCA Dialogue Committee Report]; see also TFI Opposition, *supra* note 4, at 14-15, for a thorough discussion of the Committee's work.
38. TSCA Dialogue Committee Report, *supra* note 37, at 1.
39. *Id*. at 20-21.
40. *Id*. at 76-81.
41. *Id*. at 63.

C. *Reversing the 1991 Regulatory Determination Is Unnecessary, Unwarranted, and Contrary to RCRA*

Lopez's article concludes by claiming additional regulation of PG and process wastewater is needed under RCRA.[42] In particular, it urges EPA to "reverse" its 1991 regulatory determination regarding PG and process wastewater and "list[ ] the wastes as hazardous."[43] However, such action by EPA is precluded by the plain language of RCRA. Further, such action is unnecessary and unwarranted based on the comprehensive regulation of the phosphoric acid industry under federal and state regulations, many of which have been adopted after the 1991 regulatory determination, and the significant supplemental environmental and human health protection measures adopted in the context of EPA's MMPI.

The article claims that "[w]hile the Bevill Amendment only requires one study and report to Congress for each special waste, nothing precludes EPA from conducting additional study or revisiting the initial determination at a later date when more information about the present potential hazard becomes known."[44] The 1991 regulatory determination was not an "initial" determination; it is a "final" determination of the RCRA regulatory status of mineral processing streams mandated by the Bevill Amendment. This conclusion is confirmed by clear congressional language[45] and contemporaneous and explicit EPA statements regarding the one-time nature of its Bevill Amendment obligations.[46] The U.S. Court of Appeals for the District of Columbia (D.C.) Circuit also has rejected this argument, concluding that "[t]he statutory provision directing EPA to study Bevill wastes suggests by its terms that a one-time study is sufficient."[47] Further, at least two federal courts have held that a RCRA regulatory "determination" is not a "regulation" or "rule" subject to reopening under traditional rulemaking procedures.[48]

The article attempts to avoid these conclusive pronouncements by asserting that EPA has revisited Bevill determinations in the past.[49] However, the facts state otherwise.

First, the article[50] points to EPA's 2000 regulatory determination for coal combustion residuals (CCRs).[51] While this regulatory determination explicitly recognized the exclusion of CCRs from Subtitle C and development of Subtitle D standards, it also indicated the Agency may "revise this determination accordingly" and impose Subtitle C standards if the results of its further studies suggested a need to do so.[52] By contrast, EPA's 1991 regulatory determination regarding PG and process wastewater expressly concluded that Subtitle C regulation was unwarranted.[53] EPA only indicated that it would "revisit" its 1991 regulatory determination regarding PG and process wastewater "[i]f information obtained or findings developed *during the TSCA investigation are such that RCRA could better handle this matter*."[54] This condition precedent was not met during the extensive evaluation performed by the TSCA Dialogue Committee.

Second, the article claims that in a 1997 EPA supplemental proposed rule, the Agency "suggested it would revisit its Bevill regulatory determinations for certain 'high-risk' mining wastes."[55] EPA did no such thing. In the supplemental proposed rule, EPA never suggested "it would revisit" its 1991 regulatory determination; rather, EPA solicited comment on purported "damage" cases associated with the management of certain mineral processing streams.[56] Industry responded with evaluations of these cases, and comments regarding the one-time nature of EPA's 1991 regulatory determination.[57] In the final rule,

42. Lopez, *supra* note 1, at 10152.
43. *Id.* at 10140.
44. *Id.* at 10139.
45. RCRA §8002(p) (42 U.S.C. §6982(p)) contemplates a "detailed and comprehensive *study*" (emphasis added). RCRA §3001(b)(3)(A)(ii) (42 U.S.C. §6921(b)(3)(A)(ii)) prohibits EPA from regulating any mineral processing waste under Subtitle C "until at least six months after the date of the submission of the applicable *study*" as required by RCRA §8002(p) (emphasis added). Finally, RCRA §3001(b)(3)(C) (42 U.S.C. §6921(b)(3)(C)) mandates that EPA "either *determine* to promulgate regulations [under Subtitle C] or *determine* that such regulations are unwarranted," and requires EPA to do so within "six months after the date of submission of the applicable *study* required to be conducted under [RCRA §8002(p)]" (emphasis added).
46. Mining Waste Exclusion, 53 Fed. Reg. 41288 (Oct. 20, 1988) (stating "this reinterpretation and the subsequent Report to Congress and regulatory determination represent the *final* stages of EPA's response to the provisions of RCRA section 8002(p); *there will be no further studies or regulatory determinations* related to ore and mineral processing wastes as a group") (emphasis added); Mining Waste Exclusion, 54 Fed. Reg. 15316, 15337-38 (Apr. 17, 1989) (stating Congress had directed EPA to conduct "a single study" "over a fixed time period," with the result being a "one-time" determination); Mining Waste Exclusion, 54 Fed. Reg. 36592, 36596 (Sept. 1, 1989) (noting the Agency's Bevill activities were "one-time" events "over a fixed period of time"); Mining Waste Exclusion and Definition of Designated Facility, 54 Fed. Reg. 39298, 39300 (Sept. 25, 1989) (EPA "will take *final action* on the proposed wastes by January 15, 1990. At that time, the *final boundaries* of the Bevill exclusion for mineral processing wastes will be established.") (emphasis added); Mining Waste Exclusion; Section 3010 Notification for Mineral Processing Facilities; Designated Facility Definition; Standards Applicable to Generators of Hazardous Waste, 55 Fed. Reg. 2322, 2323 (Jan. 23, 1990) ("This final rule *completes* the rulemaking regarding the Bevill status of mineral processing wastes *until the completion* of the required report to Congress and Regulatory Determination.") (emphasis added).
47. Solite Corp. v. Environmental Prot. Agency, 952 F.2d 473, 491, 22 ELR 20376 (D.C. Cir. 1991) (citing 42 U.S.C. §6982(p) ("The Administrator shall conduct a detailed and comprehensive *study* . . . and shall publish a report of such *study* . . . .") (emphasis added)).
48. American Portland Cement All. v. Environmental Prot. Agency, 101 F.3d 772, 775, 27 ELR 20535 (D.C. Cir. 1996) (noting "the text of the Bevill Amendment juxtaposes the terms 'determin[ation]' and 'regulation,' signifying that, consistent with the principle that effect must be given to each word of a statute, the two terms were intended to have distinct meanings"); Appalachian Voices v. McCarthy, 989 F. Supp. 2d 30, 53, 43 ELR 20243 (D.D.C. 2013) (concluding "the Bevill Amendment carves out a distinct regulatory process for Bevill wastes that does not fall within the EPA's routine regulatory authority under the RCRA").
49. Lopez, *supra* note 1, at 10139.
50. *Id.*
51. Notice of Regulatory Determination on Wastes From the Combustion of Fossil Fuels, 65 Fed. Reg. 32214 (May 22, 2000).
52. *Id.* at 32215.
53. Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. 27300, 27316 (June 13, 1991).
54. *Id.* (emphasis added).
55. Lopez, *supra* note 1, at 10139.
56. Land Disposal Restrictions Phase IV: Second Supplemental Proposal on Treatment Standards for Metal Wastes and Mineral Processing Wastes, Mineral Processing and Bevill Exclusion Issues, and the Use of Hazardous Waste as Fill, 62 Fed. Reg. 26041, 26054 (May 12, 1997).
57. *See, e.g.*, TFI, Comments to the United States Environmental Protection Agency by The Fertilizer Institute Concerning EPA's Proposed Rule on Land Disposal Restrictions (Aug. 12, 1997) (F-97-2P4P-FFFFF).

EPA acknowledged receipt of the comments without indicating any intent to reexamine the Bevill-exempt status of any excluded mineral processing streams.[58]

Finally, as discussed below, the substantial body of federal and state regulations governing these solid wastes since the 1991 regulatory determination, supplemented by further significant measures to protect human health and the environment adopted pursuant to the MMPI, demonstrate that additional regulation of PG and process wastewater is unnecessary and unwarranted.

III. Comprehensive Federal and State Programs Have Been Implemented for PG Stacks

Lopez's article references so-called damage cases it asserts support the need for additional federal regulation of PG and process wastewater.[59] But the article fails to acknowledge that these cases, in large part, pre-date significant enhancements in federal and state regulations applicable to phosphoric acid manufacturing facilities.

In its 1991 regulatory determination, EPA acknowledged that consideration of alternative state regulatory schemes, in addition to existing federal schemes, is contemplated by RCRA §8002(p)(5).[60] Contrary to the article's assertions, EPA and the states have developed robust programs to regulate PG stacks in a manner protective of human health and the environment, even if some of these programs are not specific to PG stacks.

Moreover, EPA already has further and comprehensively evaluated the phosphoric acid industry on two occasions in the past five years as part of its statutory mandate under CERCLA §108(b),[61] and determined there is no need to impose additional federal regulation on the management of PG and process wastewater based on the degree and duration of risk represented by the modern industry. Notably, EPA's evaluation included the "damage" cases cited in the article.

Finally, in response to the environmental groups' petition,[62] and the assertion of jurisdiction under TSCA §21,[63] EPA thoroughly evaluated and rejected the advocated additional regulation of PG and process wastewater under TSCA.[64]

A. A Significant Corpus of Federal and State Regulations Govern PG Stacks

While the article asserts additional regulation is needed for PG stacks,[65] it fails to acknowledge the comprehensive federal and state laws and regulations that are in place for PG stacks to protect public health and the environment. At the federal level, these include the National Emission Standards for Radon Emissions From PG Stacks (PG NESHAP),[66] the Phosphoric Acid NESHAP,[67] and the national pollutant discharge elimination system (NPDES) program[68] under Clean Water Act §402.[69]

The article dismisses the PG NESHAP as not protective of human health.[70] This dismissal is unfounded. As noted in the 1989 PG NESHAP final rule preamble, "EPA strives to provide maximum feasible protection against risks to health from hazardous air pollutants . . . by means of a two-step standard setting approach."[71] The first step in the evaluation determines an "acceptable risk that considers all health information, including risk estimation uncertainty."[72] The second step sets the standard "at a level that provides 'an ample margin of safety' in consideration of all health information."[73]

After thorough evaluation, EPA concluded in 1989 that PG should be managed in stacks or mines to protect human health.[74] In concluding that this practice provided sufficient safety, EPA evaluated health information, and conservatively considered risk estimation uncertainty. Finally, EPA provided an "ample margin of safety" in its standard by requiring that radon emissions from an inactive stack not exceed 20 picocuries, per square meter, per second.[75]

In subsequent amendments to the PG NESHAP, EPA permitted certain outdoor uses of PG as a soil conditioner, indoor PG research and development activities, and alternative PG uses that are approved by EPA on a case-by-case basis.[76] In considering, and ultimately approving, the use of PG as a soil conditioner or for research and development, EPA considered whether these uses are as protective as placing the PG in stacks or mines, the presumptively safe option.[77]

58. Land Disposal Restrictions Phase IV: Final Rule Promulgating Treatment Standards for Metal Wastes; Mineral Processing Secondary Materials and Bevill Exclusion Issues; Treatment Standards for Hazardous Soils, and Exclusion of Recycled Wood Preserving Wastewaters, 63 Fed. Reg. 28556, 28580 (May 26, 1998).
59. *See* Lopez, *supra* note 1, at 10125, 10127-28, 10144 & 10146-47; see also TFI Opposition, *supra* note 4, at 49-51, for a discussion and analysis of these "damage" cases.
60. Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. 27300, 27304-05 (June 13, 1991).
61. 42 U.S.C. §9608(b).
62. *See* Petition, *supra* note 4.
63. 15 U.S.C. §2620.
64. Petition for Rulemaking; Denial; Reasons for Agency Response, 86 Fed. Reg. 27546 (May 21, 2021).
65. *See*, *e.g.*, Lopez, *supra* note 1, at 10140, 10150-51.
66. 40 C.F.R. pt. 61, subpt. R (2021).
67. *Id.* pt. 63, subpt. AA. In addition, EPA regulates emissions from phosphate fertilizer manufacturing facilities under the NESHAP for phosphate fertilizers production plants. *Id.* subpt. BB.
68. *Id.* pts. 122-125.
69. 33 U.S.C. §1342, ELR Stat. FWPCA §402.
70. *See* Lopez, *supra* note 1, at 10134.
71. National Emission Standards for Hazardous Air Pollutants; Radionuclides, 54 Fed. Reg. 51654, 51655 (Dec. 15, 1989).
72. *Id.*
73. *Id.*
74. *Id.* at 51675.
75. *Id.* (codified at 40 C.F.R. §61.202).
76. *See* 40 C.F.R. §§61.204 (2021) (for outdoor agricultural purposes), 61.205 (for indoor research and development), 61.206 (for case-by-case approval of other uses).
77. *See*, *e.g.*, NESHAPS for Radionuclides Reconsideration, 55 Fed. Reg. 13482, 13483-84 (Apr. 10, 1990); National Emission Standards for Hazardous Air Pollutants; National Emissions Standards for Radon Emissions From Phosphogypsum Stacks, 57 Fed. Reg. 23305, 23307-08 (June 3, 1992).

EPA utilizes the same evaluation when it considers a request for other proposed PG uses on a case-by-case basis.[78] As noted in the article,[79] on October 20, 2020, EPA approved a request by The Fertilizer Institute (TFI), on behalf of its members, to allow the use of PG in government road construction projects, finding that such a use, with certain conditions, is equally protective of human health and the environment as placing PG in stacks.[80]

In response to EPA's approval, a number of environmental organizations, including CBD, filed an administrative petition for reconsideration of EPA's approval.[81] In addition, these same parties filed a petition for review of EPA's PG approval in the D.C. Circuit.[82] In their PG approval petition, the petitioners critiqued both EPA's process for evaluating and granting the approval, as well as the underlying risk assessment and EPA's evaluation of it.[83]

On June 3, 2021, EPA withdrew its prior approval.[84] Notably, EPA's withdrawal was not based on how the Agency evaluated and responded to TFI's request (without proceeding with notice-and-comment rulemaking), the risk assessment that accompanied the request, nor the Agency's determination that PG use in road construction did not provide the same safety as placement in stacks. Rather, EPA withdrew the prior approval solely because the request did not include some of the administrative information required by 40 C.F.R. §61.206(b).[85]

The article fails to mention or substantively evaluate the 2015 amendments to the Phosphoric Acid NESHAP, addressing PG stacks as part of EPA's most recent eight-year technology review and "residual risk" evaluation under the Clean Air Act (CAA).[86] In performing such evaluations, EPA is required to determine whether its emission standards provide an ample margin of safety to protect public health.[87] In 2015, after completing its most recent evaluation of the Phosphoric Acid NESHAP, EPA enhanced its regulations, requiring additional measures at PG stacks and cooling ponds to reduce potential fugitive hydrogen fluoride emissions (hydrogen fluoride is a CAA hazardous air pollutant).[88]

Finally, the NPDES permit program regulates the discharge of pollutants from any point source into waters of the United States.[89] The NPDES program requires such permits to contain stringent limitations for point source discharges of pollutants based on designated control technologies.[90] Owners and operators of PG stacks with point source discharges are subject to these stringent permits, and must routinely provide information on their discharges and compliance with permit conditions to EPA or the delegated state agency.[91]

Beyond federal regulations, the states where active PG stacks are located also have implemented comprehensive regulations. These state regulations reflect the local geography, geology, and climate of each state, and the states have refined these programs to account for their own specific environmental concerns within each region. Specifically, Florida,[92] Idaho,[93] Louisiana,[94] North Carolina,[95] and Wyoming[96] each have enacted legislation and/or promulgated programs regulating phosphoric acid production facilities and PG stacks in the manner best suited to protect human health and the respective environment of each state.

The article includes only a cursory acknowledgement of the detailed Florida regulations governing PG stacks,[97] and asserts (but neither evaluates nor discusses why) the existing regulations in Idaho, Louisiana, North Carolina, and Wyoming that apply to PG stacks are inadequate.[98] The state legislatures and state environmental agencies are in the best positions to determine the appropriate controls over PG stacks in their states, based on site-specific topographical, geological, and hydrogeological conditions.

78. *See* Approval of the Request for Other Use of Phosphogypsum by the Fertilizer Institute, 85 Fed. Reg. 66550, 66552 (Oct. 20, 2020).
79. Lopez, *supra* note 1, at 10135-36.
80. Approval of the Request for Other Use of Phosphogypsum by the Fertilizer Institute, 85 Fed. Reg. at 66552; *see also* Letter from Andrew R. Wheeler, Administrator, U.S. EPA, to Corey Rosenbusch, President and Chief Executive Officer, TFI (Oct. 14, 2020) (EPA-HQ-OAR-2020-0442-0015).
81. CBD et al., Petition for Reconsideration Under Clean Air Act (CAA), 42 U.S.C. §7607(d)(7)(B) of the Final Action at 85 Federal Register 66550-66552 (Oct. 20, 2020) (Dec. 18, 2020) [hereinafter PG Approval Petition]. In response, TFI filed an opposition to the PG Approval Petition. Letter from Corey Rosenbusch, President and Chief Executive Officer, TFI, to Andrew Wheeler, Administrator, U.S. EPA, Opposition to the Petition for Reconsideration (Jan. 5, 2021); *see also* Lopez, *supra* note 1, at 10136.
82. Center for Biological Diversity v. Environmental Prot. Agency, No. 20-1506 (D.C. Cir. filed Dec. 18, 2020). The author represented TFI as an intervenor in this litigation in support of EPA. On August 30, 2021, the D.C. Circuit issued an order granting petitioners' unopposed motion to dismiss the litigation.
83. *See, e.g.*, PG Approval Petition, *supra* note 81, at 15-36.
84. Withdrawal of Approval for Use of Phosphogypsum in Road Construction, 86 Fed. Reg. 35795 (July 7, 2021); *see also* Letter from Michael Regan, Administrator, U.S. EPA, to Corey Rosenbusch, President and Chief Executive Officer, TFI (June 30, 2021).
85. Withdrawal of Approval for Use of Phosphogypsum in Road Construction, 86 Fed. Reg. 35795 (July 7, 2021).
86. 42 U.S.C. §7412(d)(6), (f)(2), ELR Stat. CAA §112(d)(6), (f)(2).
87. *Id.* §7412(f)(2)(A).
88. Phosphoric Acid Manufacturing and Phosphate Fertilizer Production RTR and Standards of Performance for Phosphate Processing, 80 Fed. Reg. 50386 (Aug. 19, 2015). Specifically, EPA's regulations require the preparation and submission to EPA of a "gypsum dewatering stack and cooling pond management plan" identifying control measures to minimize fugitive hydrogen fluoride emissions. 40 C.F.R. §63.602(d) (2021). For existing PG stacks, at least one control measure must be identified, and for new PG stacks, at least two control measures must be identified, selected from seven options identified by EPA, and based on the Agency's independent technical evaluation and consultation with industry and other stakeholders. *Id.* §63.602(e)(3). The plan must include details on how the facility will implement the plan and show compliance with the selected control measures, and also requires specific EPA approval. *Id.* §63.602(e)(4).
89. 40 C.F.R. §122.1(b)(1) (2021). In many instances, states have applied to EPA for authorization to administer the NPDES program in lieu of EPA.
90. *See id.* §125.3(a)(2).
91. *See, e.g.*, *id.* §127.1.
92. *See* Fla. Admin. Code Ann. r. 62-672.100-.870 (2021), 62-673.200-.650 (2021).
93. *See, e.g.*, Idaho Admin. Code r. 58.01.01.577 (2021), 58.01.01.750-.751 (2021), 58.01.11.301 (2021). In addition, the Idaho Legislature enacted provisions specific to PG stacks. *See* Idaho Code Ann. §§39-176A to 39-176F (2021).
94. *See, e.g.*, La. Admin. Code tit. 33, pt. III, §§301 et seq. (2021), pt. VII, §§709-713, 801-803, 1303-1399 (2021), pt. IX, §§2301 et seq. (2021).
95. *See, e.g.*, 15A N.C. Admin. Code 02L.0101 et seq. (2021), 02Q.0101 et seq. (2021), 02T.0101 et seq. (2021), 05A.0101 et seq. (2021).
96. *See, e.g.*, Wyo. Admin. Code 020.0002.2 §9 (2021), 020.0011.3 §§5-7, 17 (2021).
97. *See, e.g.*, Lopez, *supra* note 1, at 10126 n.20, 10140 n.233, 10144-45.
98. *Id.* at 10144-45.

As discussed in great detail in TFI's opposition,[99] combined with federal regulations, these state regulations provide a comprehensive regulatory scheme with respect to waste, air, surface water, and groundwater protections.

B. EPA Evaluated Risks and Concluded Additional Regulation Was Unnecessary

Further illustrating the sufficiency of existing federal and state regulation of PG stacks, on two occasions in the past five years, EPA evaluated whether to impose CERCLA §108(b)[100] financial responsibility requirements on the phosphoric acid mineral processing industry, determining on both occasions that further regulation is unnecessary and unwarranted.[101] First, EPA's hard-rock mining rulemaking evaluated the degree and duration of risk associated with both the mining of phosphate ore (i.e., the extraction and beneficiation of the ore) and the "mineral processing" of the beneficiated phosphate ore.[102] EPA extensively evaluated phosphoric acid mineral processing facilities, including the same "damage" cases identified in the article,[103] and other assertions made by environmental organizations regarding the need to impose CERCLA financial responsibility on this sector.[104] EPA concluded that the degree and duration of risk associated with modern hard-rock mining and mineral processing did not warrant imposition of additional financial responsibility requirements for this industry given the federal and state regulatory programs regulating these facilities, industry's modern management practices, and the facility-specific supplemental environmental protections under the MMPI.[105]

Second, similar to its evaluation of the hard-rock mining industry, EPA considered just three years ago whether it should require additional financial requirements under CERCLA §108(b) for the chemical manufacturing industry, including phosphoric acid and phosphate fertilizer manufacturing.[106] Despite already evaluating the degree and duration of risk associated with phosphoric acid mineral processing in the hard-rock mining rulemaking, EPA nonetheless reevaluated the industry once again in its CERCLA §108(b) chemical manufacturing industry proposed rule.[107] In response to EPA's proposed rule, a number of environmental organizations, including CBD, submitted joint comments.[108] In its final action, EPA again concluded the chemical manufacturing industry operates under a modern regulatory framework that does not present a level of risk warranting additional financial responsibility requirements under CERCLA §108(b).[109]

EPA's review of phosphoric acid mineral processing facilities in its two recent CERCLA §108(b) rulemakings already considered potential risks from PG and process wastewater. EPA's conservative analysis of the types of facilities that generate PG and process wastewater from phosphoric acid production, and its decision that further financial assurance under CERCLA §108(b) is unnecessary, buttress the conclusion that additional federal regulation of PG and process wastewater is inappropriate and unnecessary.

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99. *See* TFI Opposition, *supra* note 4, at 29-41 & attach. A.
100. 42 U.S.C. §9608(b) (requiring EPA to promulgate CERCLA financial responsibility requirements for certain classes of facilities based on an analysis of the payment history of Superfund for industrial sectors, and considering the "degree and duration of risk" associated with a sector).
101. *See* TFI Opposition, *supra* note 4, at 51-56 (discussing in detail EPA's evaluation of the phosphate mineral processing sector in both the Agency's hard-rock mining and chemical manufacturing industry CERCLA §108(b) evaluations).
102. Identification of Priority Classes of Facilities for Development of CERCLA Section 108(b) Financial Responsibility Requirements, 74 Fed. Reg. 37213, 37214 (July 28, 2009) (defining the scope of the industry as "facilities which extract, beneficiate *or process* metals . . . and *non-metallic*, *non-fuel minerals* (*e.g.*, asbestos, gypsum, *phosphate rock*, and sulfur)") (emphasis added); Financial Responsibility Requirements Under CERCLA §108(b) for Classes of Facilities in the Hardrock Mining Industry, 82 Fed. Reg. 3388, 3455 (Jan. 11, 2017) ("Any facility that meets the definition of a hardrock mining *or mineral processing facility* . . . would also be subject to the requirements in this proposed rulemaking.") (emphasis added).
103. *See*, *e.g.*, Financial Responsibility Requirements Under CERCLA §108(b) for Classes of Facilities in the Hardrock Mining Industry, 82 Fed. Reg. at 3458-59, 3478 & nn.164, 167; U.S. EPA, National Enforcement Initiative for Mining and Mineral Processing Summary of Activities 2005 to 2016, at 2-3 (2016) (EPA-HQ-SFUND-2015-0781-0390); Press Release, U.S. EPA, Mosaic Fertilizer, LLC Settlement (Oct. 1, 2015) (EPA-HQ-SFUND-2015-0781-2332); U.S. EPA, CERCLA Section 108(b) Hardrock Mining Final Rule—Technical Support Document 13 (2017) (EPA-HQ-SFUND-2015-0781-2832) (discussing the Agrifos phosphoric acid mineral processing facility).
104. *See* Letter from Bonnie Gestring, Northwest Program Director, Earthworks et al., to Scott Pruitt, Administrator, U.S. EPA (July 10, 2017) (EPA-HQ-SFUND-2015-0781-0001).
105. Financial Responsibility Requirements Under CERCLA Section 108(b) for Classes of Facilities in the Hardrock Mining Industry, 83 Fed. Reg. 7556 (Feb. 21, 2018). EPA's methodology to evaluate the "degree and duration of risk" posed by the hard-rock mining industry, and its ultimate conclusion that CERCLA financial responsibility was not required, was upheld by the D.C. Circuit in a case where TFI, represented by the author, participated as an intervenor in support of EPA. Idaho Conservation League v. Wheeler, 930 F.3d 494, 49 ELR 20122 (D.C. Cir. 2019).
106. Financial Responsibility Requirements Under CERCLA Section 108(b) for Facilities in the Chemical Manufacturing Industry, 85 Fed. Reg. 10128, 10134 (Feb. 21, 2019).
107. *Id.* at 10134, 10143; *see also* U.S. EPA, Review of Existing Financial Responsibility Laws Potentially Applicable to Facilities in the Chemical Manufacturing Industry 5, A-2 (EPA-HQ-OLEM-2019-0086-1015) (discussing Florida financial responsibility requirements for the closure, long-term care, and water management associated with stacks receiving PG and process wastewater); U.S. EPA, Summary Report: Federal and State Environmental Regulations and Industry Voluntary Programs in Place to Address CERCLA Hazardous Substances at Chemical Manufacturing Facilities 72 (identifying 40 C.F.R. pt. 60, subpt. T (Standards of Performance for Wet-Process Phosphoric Acid Plants)), 75 (identifying 40 C.F.R. pt. 63, subpt. AA (National Emission Standards for Hazardous Air Pollutants From Phosphoric Acid Manufacturing Plants)) (2020) (EPA-HQ-OLEM-2019-0086-1019).
108. Letter from Amanda Goodin, Staff Attorney, Earthjustice, to Charlotte Mooney, Chief of Cleanup Programs Branch, U.S. EPA, Comments Letter on Financial Responsibility Requirements Under CERCLA Section 108(b) for Chemical Manufacturing Facilities (May 6, 2020) (EPA-HQ-OLEM-2019-0086-1036) (identifying the Earthworks' comments as being submitted on behalf of a number of environmental organizations, including CBD).
109. Financial Responsibility Requirements Under CERCLA 108(b) for Facilities in the Electric Power Generation, Transmission, and Distribution Industry; the Petroleum and Coal Products Manufacturing Industry; and the Chemical Manufacturing Industry, 85 Fed. Reg. 77384 (Dec. 2, 2020). There were no legal challenges to EPA's final action.

C. EPA Recently Reviewed Risks and Rejected the TSCA §21 Petition

As previously discussed, the article misstates that EPA's 1991 regulatory determination "announced the development and future promulgation of a TSCA regulation program" for PG and process wastewater.[110] Instead, EPA stated that the TSCA evaluation would "focus on developing risk management strategies to reduce or eliminate risks posed by phosphoric acid production wastes," including methods to "reduce the toxicity and/or volume of these wastes."[111] Based on a faulty premise, the article urges EPA to (1) issue a test rule under TSCA §4(a)[112] for PG and process wastewater[113]; (2) issue a significant new use rule (SNUR) under TSCA §5[114] for PG used in government road construction projects[115]; and (3) initiate the prioritization process under TSCA §6[116] for PG and process wastewater.[117]

The article fails to acknowledge that EPA already evaluated, and rejected, the article's requested TSCA §4 relief when the Agency evaluated the petition pursuant to TSCA §21.[118] After a thorough evaluation of the petition's assertions regarding the need for a TSCA §4(a)[119] test rule, EPA denied the requested relief.[120] Regarding the TSCA §§5[121] and 6[122] requests, EPA denied these requests under TSCA §21, concluding they were not properly before the Agency under the TSCA §21[123] petition process. But EPA indicated it would instead evaluate them under the Administrative Procedure Act (APA) portion of the petition.[124] Like the article's RCRA arguments, the arguments for additional regulation of PG and process wastewater under TSCA §§5[125] and 6[126] similarly are without merit.

The article asserts that EPA must promulgate a TSCA §5[127] SNUR for PG used in government road construction projects.[128] However, as noted in the article, on June 3, 2021, EPA withdrew its approval of the use of PG in these projects.[129] Putting aside whether such a PG use would mandate a SNUR, since PG use in government road construction is not occurring in the United States, there is no basis for EPA to promulgate a SNUR for this use.

The article also encourages EPA to commence the risk prioritization process for PG and process wastewater under TSCA §6,[130] based on EPA's "indicat[ion] almost 30 years ago that phosphoric acid production wastes would be subject to a future TSCA regulatory program."[131] This is wrong. As previously discussed, EPA's 1991 regulatory determination never contemplated a mandatory TSCA regulatory program for these solid wastes.

Putting aside this misstatement, the article fails to recognize that both solid wastes are not eligible for prioritization and, in any event, do not satisfy the key criteria for prioritization.[132] The prioritization process established in TSCA §6[133] and EPA's implementing regulations[134] applies to chemical substances and, where appropriate, categories of chemical substances, not mixtures.[135] PG and process wastewater are mixtures of different component substances[136] and, as mixtures, they are not listed as "active" substances on the TSCA Inventory. Because they are mixtures and not chemical substances, PG and process wastewater are not eligible for prioritization.

However, even if they somehow were eligible for "discretionary" prioritization by EPA, PG and process wastewater do not satisfy EPA's criteria for prioritization of non-TSCA Work Plan for Chemical Assessments substances. For example, the regulations provide that in selecting candidates for prioritization, "it is EPA's general objective to select those chemical substances with the greatest hazard and exposure potential first, considering reasonably available information on the relative hazard and exposure of potential candidates."[137]

110. Lopez, *supra* note 1, at 10137.
111. Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. 27300, 27316 (June 13, 1991).
112. 15 U.S.C. §2603(a).
113. Lopez, *supra* note 1, at 10150-52.
114. 15 U.S.C. §2604.
115. Lopez, *supra* note 1, at 10152.
116. 15 U.S.C. §2605.
117. Lopez, *supra* note 1, at 10151-52.
118. 15 U.S.C. §2620.
119. *Id.* §2603(a).
120. Petition for Rulemaking; Denial; Reasons for Agency Response, 86 Fed. Reg. 27546, 27548-50 (May 21, 2021). Because the Petition lacked specificity, EPA evaluated the need for a test rule under both TSCA §4(a)(1)(i)(I) and §4(a)(1)(ii)(I) and, in addition, evaluated the requested relief under both a mixture and individual chemical substance approach. *See id.* Notably, none of the petitioners filed a legal challenge to EPA's denial of the TSCA §21 portion of their Petition.
121. 15 U.S.C. §2604.
122. *Id.* §2605.
123. *Id.* §2620.
124. Petition for Rulemaking; Denial; Reasons for Agency Response, 86 Fed. Reg. at 27547. As an alternative to TSCA §21 (15 U.S.C. §2620), the Petition also invoked APA §553 (5 U.S.C. §553) for the requested TSCA relief. *See* Petition, *supra* note 4, at 6.
125. 15 U.S.C. §2604.
126. *Id.* §2605.
127. *Id.* §2604.
128. Lopez, *supra* note 1, at 10152.
129. *Id.* at 10136; Withdrawal of Approval for Use of Phosphogypsum in Road Construction, 86 Fed. Reg. 35795 (July 7, 2021).
130. 15 U.S.C. §2605.
131. Lopez, *supra* note 1, at 10150.
132. Neither PG nor process wastewater are listed in the 2014 update to the TSCA Work Plan for Chemical Assessments (TSCA Work Plan). *See* U.S. EPA, TSCA Work Plan for Chemical Assessments: 2014 Update (2014) [hereinafter TSCA Work Plan], https://www.epa.gov/sites/default/files/2015-01/documents/tsca_work_plan_chemicals_2014_update-final.pdf. Similarly, the primary component of PG, calcium sulfate dihydrate, and the trace chemical components found in PG (elements (metals) associated with sulfate, phosphate, or hydroxyl groups (like metal silicates or fluorosilicates)) are not listed in the TSCA Work Plan. *See* U.S. EPA, Potential Uses of Phosphogypsum and Associated Risks—Background Information Document 2-6 (1992) (402-R92-002), https://www.epa.gov/sites/default/files/2015-07/documents/0000055v.pdf (discussing the primary, significant, and "appreciable" components of PG); *see also* TSCA Work Plan, *supra*. Trace components found in process wastewater, including cadmium, selenium, and chromium, are similarly not listed in the TSCA Work Plan. *See* TSCA Dialogue Committee Report, *supra* note 37, at 4; *see also* TSCA Work Plan, *supra*.
133. 15 U.S.C. §2605.
134. 40 C.F.R. pt. 702 (2021).
135. *See* 15 U.S.C. §2602(2)(B)(i) (defining the term "chemical substance" as excluding "any mixture"); *see also* 40 C.F.R. §702.1 (2021) (identifying EPA's authority to commence prioritization on a "category of chemical substances").
136. *See supra* note 132.
137. 40 C.F.R. §702.5(a) (2021).

Importantly, exposure to PG and process wastewater in the Unites States is very limited. These materials are contained in a limited number of PG stacks located in a handful of states, and they are not used in consumer products, including products marketed to children. And while PG has limited actual and constrained potential commercial use in the United States under the PG NESHAP, process wastewater is used exclusively within the phosphoric acid manufacturing process to utilize the phosphate, other nutrients, acid, and water values. Thus, critical criteria for prioritization under TSCA §6[138] are not satisfied by PG and process wastewater, reinforcing the conclusion that prioritization of PG and process wastewater is not warranted.

IV. EPA's MMPI Provides Additional Regulatory Oversight

Lopez's article devotes merely one paragraph to EPA's extensive and comprehensive evaluation of phosphoric acid manufacturing facilities under the MMPI, neglecting to acknowledge the significant environmental and human health measures being adopted, and already in place, pursuant to agreed settlements with EPA and, in most instances, relevant state environmental agencies.[139] Given CBD's submission of comments on two MMPI consent decrees,[140] the article's lack of substantive discussion of the MMPI is peculiar. These agreed measures address any potential risks associated with releases to the environment, and supplement existing federal and state requirements governing PG stacks and process wastewater, including enhanced measures governing stack and pond system design, operation, maintenance, closure and post-closure care (backed by financial assurance), and corrective action measures where appropriate.[141]

EPA's MMPI has entailed (1) comprehensive inspections of each phosphoric acid facility; (2) a series of comprehensive judicial consent decrees, negotiated and approved by EPA and the U.S. Department of Justice (DOJ), and entered by federal courts after notice and consideration of public comments, clarifying the applicability of the hazardous waste regulations to a facility's operations and setting forth in extraordinary detail the obligations of the covered facilities to adopt measures to enhance protection of human health and the environment; and (3) for certain facilities, entry of RCRA §§3013[142] and 7003[143] consent orders detailing similar environmental protection enhancements and corrective action measures.

EPA's utilization of RCRA §7003 is consistent with the Agency's 1991 regulatory determination, identifying this RCRA provision as a statutory basis to address any potential emergency situations.[144] RCRA §7003 allows EPA to take action to abate any actual or threatened imminent and substantial endangerment to human health or the environment from PG or process wastewater. This broad authority allows EPA to take action before any damage has occurred, provided the requisite findings are made.

Further, the MMPI consent decrees are backed by financial assurance to ensure appropriate PG stack closure, and the cost estimates for closure and long-term care are updated annually.[145] As examples, in two consent decrees entered between the United States and Mosaic Fertilizer, LLC covering eight facilities,[146] Mosaic agreed to financial assurance obligations of $630 million in cash trust funds, as well as a $50-million letter of credit, that would be invested until reaching the estimated cost to close and care for the PG stacks at those facilities (initially, $1.8 billion), with the balance covered by a parent guarantee. In another consent decree, J.R. Simplot Co. agreed to provide financial assurance to cover closure and long-term care needed at its PG stack in Wyoming.[147]

The operating phosphoric acid facilities not presently subject to consent decrees are in active negotiations with EPA, DOJ, and relevant state environmental agencies, similar to those that led to the consent decrees already entered. Many of the measures contemplated by these settlement negotiations already have been implemented or are pending implementation subject to technical study; further, most of these facilities already have agreed to significant environmental and human health protection measures pursuant to enforceable RCRA consent orders.

V. The Article's EJ Concerns Are Unfounded, and the Eleventh Circuit Rejected CBD's NEPA Argument

Lopez's article asserts that "[t]he proximity of massive volumes of [PG] and process wastewater to vulnerable communities is an environmental injustice."[148] Specifically, it

138. 15 U.S.C. §2605.
139. *See* Lopez, *supra* note 1, at 10129.
140. *See* Motion to Approve Consent Judgment, App. 1, Response to Public Comments and Attachment A Thereto, cmt. 89, United States v. Mosaic Fertilizer, LLC, No. 8:15-cv-02286 (M.D. Fla. filed June 17, 2016) [hereinafter Response to Public Comments on Mosaic Consent Decrees]. *See also* Motion to Approve Consent Judgment, App. 1, Response to Public Comments and Attachment A Thereto, cmt. 89, United States v. Mosaic Fertilizer, LLC, No. 2:15-cv-04889 (E.D. La. filed June 24, 2016). The same Response to Public Comments on Mosaic Consent Decrees document was filed in each case, encompassing both decrees. Comment 89 was submitted on behalf of a group that included CBD. Lopez was identified on behalf of CBD.
141. The extent of the MMPI and its significant results are discussed in great detail in TFI's Opposition, *supra* note 4, at 41-49.
142. 42 U.S.C. §6934.
143. *Id.* §6973.
144. Final Regulatory Determination for Special Wastes From Mineral Processing (Mining Waste Exclusion), 56 Fed. Reg. 27300, 27316 (June 13, 1991).
145. *See*, *e.g.*, Consent Decree, United States v. Mosaic Fertilizer, LLC, No. 8:15-cv-02286 (M.D. Fla. entered Aug. 5, 2016); Consent Decree, United States v. Mosaic Fertilizer, LLC, No. 2:15-cv-04889 (E.D. La. entered July 6, 2016); Consent Decree, United States v. J.R. Simplot Co., No. 20-CV-125 (D. Wyo. entered Sept. 4, 2020).
146. Consent Decree, United States v. Mosaic Fertilizer, LLC, No. 8:15-cv-02286 (M.D. Fla. entered Aug. 5, 2016); Consent Decree, United States v. Mosaic Fertilizer, LLC, No. 2:15-cv-04889 (E.D. La. entered July 6, 2016).
147. Consent Decree, United States v. J.R. Simplot Co., No. 20-CV-125 (D. Wyo. entered Sept. 4, 2020).
148. Lopez, *supra* note 1, at 10145.

points to asserted EJ considerations near the Mosaic New Wales and Riverview facilities in Florida, and Uncle Sam facility in Louisiana.[149] However, these same assertions were raised by its author and others during the public comment period for the two Mosaic MMPI consent decrees, and were appropriately addressed by EPA's response to public comments.[150]

In particular, commenters raised concerns about the purported disparate impact of PG stacks and asserted health effects associated with same on disadvantaged communities.[151] In response, EPA performed EJ evaluations for the communities surrounding each facility,[152] concluding that the Riverview and Uncle Sam facilities "could be viewed as potential EJ areas of concern," but determined, after thoroughly reviewing the EJ concerns and the substantial process modifications agreed to under the decrees, that these concerns were addressed by the decrees.[153]

Further, as part of the public comment process, commenters requested the funding of additional epidemiological and human health studies to assess the risks associated with the management and storage of PG.[154] In response, EPA noted that the phosphate industry had already been the subject of "numerous epidemiological studies," which "found no statistical link between the phosphate industry and the studied adverse health effects."[155] As EPA explained at the time, these and other studies were "consistent with EPA's study and determination in the 1989 and 1990 Bevill rulemakings that process wastewater and phosphogypsum from phosphoric acid production, although high in volume, are low in toxicity."[156]

The article also asserts that the U.S. Army Corps of Engineers (the Corps) must consider the indirect and cumulative impacts of PG stacks as part of the NEPA process when issuing Clean Water Act §404[157] permits for phosphate mines, and cites to a dissenting opinion in the U.S. Court of Appeals for the Eleventh Circuit to support its position.[158] As noted in the majority opinion, however, "[w]hile it is true that the Corps must consider indirect environmental effects, the Supreme Court has made clear that indirect effects must be proximate, and do not include effects that are insufficiently related to an agency's action."[159]

Against this standard, the majority opinion concluded that any PG-related effects "are, at most, tenuously caused by the discharge of dredge and fill material allowed by the Corps' permit."[160] And further, that such effects are subject to regulatory oversight by federal and state agencies other than the Corps, which "has no subject matter expertise in that area."[161] Thus, the Eleventh Circuit affirmed an earlier decision by the U.S. District Court for the Middle District of Florida rejecting the plaintiffs-appellants' arguments.[162]

VI. Conclusion

Lopez's article fails to recognize many important developments since EPA's 1991 regulatory determination regarding PG and process wastewater. These developments include (1) the expansive regulation of PG and process wastewater at the federal and state levels since the 1991 regulatory determination, and (2) the requirements resulting from the MMPI, including binding commitments by phosphate mineral processing producers to fund financial assurance for the closure and post-closure care of PG stacks. Further, the article fails to mention EPA's thorough evaluation of CERCLA §108(b) financial responsibility requirements relative to the phosphate mineral processing industry on two separate occasions in the past five years. In both instances, EPA determined additional regulation is unnecessary and unwarranted, because the above actions mitigated the degree and duration of risk associated with this industry.

In sum, the article advocates for additional regulation of PG and process wastewater under both RCRA and TSCA. However, the requested RCRA relief is simply unnecessary, and unavailable under relevant law. And the requested TSCA relief has already been denied by EPA, is moot, or is not applicable to PG and process wastewater.

149. *Id.* at 10146-47.
150. *See* Response to Public Comments on Mosaic Consent Decrees, *supra* note 140, cmts. 89, 102.
151. *See id.* at 20-21.
152. *See id.* at 20.
153. *Id.* at 21 (noting "the populations around Mosaic['s] facilities will be the primary beneficiaries of the proposed settlement, thus serving EJ goals").
154. *Id.* cmts. 89, 102.
155. *Id.* at 8. *See also* TFI Opposition, *supra* note 4, at 47 n.231 (discussing these studies in more detail).
156. Response to Public Comments on Mosaic Consent Decrees, *supra* note 140, at 9.
157. 33 U.S.C. §1344.
158. Lopez, *supra* note 1, at 10138-39.
159. Center for Biological Diversity v. U.S. Army Corps of Eng'rs, 941 F.3d 1288, 1292, 50 ELR 20176 (11th Cir. 2019) (internal citations omitted).
160. *Id.* at 1294-95.
161. *Id.* at 1296 ("Whatever federal regulatory powers there are over [PG]-related effects, Congress granted to the EPA, leaving the bulk of the control over phosphate mining and fertilizer production to the states. . . . Requiring the Corps to enter those regulatory spheres not only offends congressional design but risks duplicative, incongruous, and unwise regulation.").
162. *Id.* at 1306, *aff'g* Center for Biological Diversity v. U.S. Army Corps of Eng'rs, No. 8:17-cv-618-T, 2017 WL 6387977 (M.D. Fla. Dec. 14, 2017).