



PERSPECTIVES

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Clean Water Act Jurisdictional Pandemonium

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The Clean Water Act's judicial review provision is poorly drafted and even more poorly interpreted by courts across the country. Unlike the Clean Air Act, which definitively directs all judicial challenges to the United States Court of Appeals for the D.C. Circuit, the Clean Water Act (CWA) disperses judicial challenges across the various circuit courts (through random selection) and district courts (when the CWA judicial review section is not implicated). In many cases, the appropriate venue is entirely unclear. The source of the confusion is this provision:

Review of the Administrator's action (A) in promulgating any standard of performance under section 1316 of this title, (B) in making any determination pursuant to section 1316(b)(1)(C) of this title, (C) in promulgating any effluent standard, prohibition, or pretreatment standard under section 1317 of this title, (D) in making any determination as to a State permit program submitted under section 1342(b) of this title, (E) in approving or promulgating any effluent limitation or other limitation under section 1311, 1312, 1316, or 1345 of this title, (F) in issuing or denying any permit under section 1342 of this title, and (G) in promulgating any individual control strategy under section 1314(l) of this title, may be had by any interested person in the Circuit Court of Appeals of the United States...

CWA § 509(b)(1) (33 U.S.C. § 1369(b)(1)).

Interpreted narrowly, this section describes only certain specific actions and excludes all other possible challenges.

But many judges have reasoned that the intent behind this section was to place most nationally-relevant challenges in circuit court. As courts have attempted to fit each individual case into one of the § 509(b) subsections to achieve this broad interpretation, a convoluted chain of case law has developed that is virtually impossible to apply to a new fact pattern.

The litigation over the newly promulgated definition of "Waters of the United States" (WOTUS" Rule) is an exemplar of the chaos. Because none of the subsections of § 509(b) directly covers a general definitional rule applicable to the CWA as a whole, the litigants were forced to guess whether courts would find § 509(b) applicable. To cover all potentialities, duplicative lawsuits were filed in myriad district courts and courts of appeals across the country. Jurisdictional disputes have now consumed most of the past year and still continue in several circuit courts of appeals and with a recent Petition for Certiorari to the United States Supreme Court. Merits briefing is currently on hold in courts across the country and has been significantly delayed in the Sixth Circuit.¹

I. Relevant Judicial History

The only § 509(b) subsections that could possibly govern the WOTUS Rule litigation are (E), "approving or promulgating any effluent limitation or other limitation under section 1311, 1312, 1316, or 1345," and (F), "issuing or denying any permit under section 1342." On their face, these subsections shouldn't apply, and some courts do limit these and the other § 509(b) subsections to their express terms.

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But other courts interpret these subsections as encapsulating all rules containing any type of express requirement for the regulated community or administering agencies (subsection E) or having similarities with or a close connection to permit issuance (subsection F).

For example, applying a more textualist interpretation, the Eleventh Circuit ruled in *Friends of the Everglades v. EPA*, “It is well established that when the statute’s language is plain, the sole function of the courts—at least where the disposition required by the text is not absurd—is to enforce it according to its terms.”²² EPA argued for a more functional interpretation, but the court declined and dismissed the petitions for lack of jurisdiction.³

Some courts have adopted a broader reading and interpreted subsection (E) as encompassing regulations containing any requirements capable of violation, whether or not they are precisely an “effluent limitation.” For example, in *Virginia Elec. & Power Co. v. Costle*, the Fourth Circuit considered a regulation requiring that “the location, design, construction, and capacity of cooling water intake structures [shall] reflect the best technology available for minimizing adverse environmental impact.”²⁴ The construction of a cooling water intake structure not reflecting the best technology would be a violation of that requirement. Therefore, the court found the regulation fell within § 509(b)(1)(E). Similarly, in *Iowa League of Cities v. EPA*, the Eighth Circuit accepted jurisdiction to review guidance letters “establishing a new prohibition on bacteria mixing zones, one by which [permittees] must abide in the permit application process, [where] failure to conform will bring adverse consequences.”²⁵

The D.C. Circuit considered the comprehensive “consolidated permit program requirements” for four separate environmental statutes challenged in *Natural Res. Def. Council, Inc. v. EPA* (1982).⁶ The regulations established “basic permit requirements,” “the requirements for state programs operated in lieu of EPA,” and “the procedures to be followed in making permit decisions.”²⁷ Again in *Natural Res. Def. Council, Inc. v. EPA* (1981), the D.C. Circuit heard a challenge to regulations allowing for a variance from permitting requirements, but that required certain actions of the discharger to obtain that variance, including monitoring and a “schedule of activities” in addition to making certain showings.⁸ In both instances, the D.C. Circuit maintained jurisdiction, finding the regulations were covered by subsection (E).⁹

Courts have likewise differed in whether to adopt a narrow or expansive interpretation of subsection (F). The Ninth Circuit in *Nw. Envtl. Advocates v. EPA* considered a rule exempting certain marine discharges from the permitting requirements in CWA Sections 312 and 502.¹⁰ Because the rule was not rooted in Section 402, the court found it did not fall within the actions reviewable in

circuit court under § 509(b)(1)(F). The court “counseled against [§ 509(b)]’s expansive application,” because “[t]he specificity and precision of section 509 ... persuade us that it is designed to exclude EPA actions that Congress did not specify.”¹¹

But some courts have interpreted subsection (F) more expansively to include not only the issuance or denial of Section 402 permits, but also rules that either (1) imposed new requirements on the regulated community such that the rule was akin to an NPDES permit, or (2) directly related to NPDES permitting and EPA’s Section 402 authority. The courts reasoned that in both situations, the rules had “‘the precise effect’ of an action to issue or deny a permit.”¹²

For example, in *Crown Simpson Pulp Co. v. Costle*, the Supreme Court adjudicated EPA’s veto of a state NPDES permit.¹³ Although the permit at issue was a state, not federal, NPDES permit, the court found that EPA’s veto had “the precise effect” of denying a CWA permit under Section 509(b)(1)(F).¹⁴

The Sixth Circuit further stretched subsection (F) when it found EPA’s regulation at issue in *Nat’l Cotton Council of Am. v. EPA* directly implicated the NPDES permitting scheme and was essentially akin to issuing a permit.¹⁵ The regulation incorporated the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) rules into the CWA, such that compliance with FIFRA equaled compliance with the CWA and violations of FIFRA generated CWA penalties.¹⁶ In this way, compliance with FIFRA was the equivalent of an NPDES permit and a violation of FIFRA the equivalent of a CWA violation. And when the Sixth Circuit ultimately struck down the regulation, EPA issued a general permit to cover the use of pesticides, further suggesting a similarity between the regulation and an NPDES permit.¹⁷

II. WOTUS Litigation

This backdrop of ambiguity confronted the petitioners wishing to challenge the new WOTUS Rule, and the confusion was further exacerbated by EPA’s decision not to state a clear position in the Rule itself.¹⁸ On its face, the WOTUS Rule does not fit within any of the § 509(b) subsections. It establishes no “effluent limitations,” “water quality related effluent limitations,” “national standards of performance,” or sewage sludge rules under sections 301, 302, 306 or 405 (subsection E). It is also not the issuance or denial of a permit under section 402 (subsection F).

Rather than falling under any of these specific sections, the WOTUS Rule establishes a threshold definition for the applicability of the entire CWA. As the rule explains, “[t]his final rule does not establish any regulatory requirements. Instead, it is a definitional rule that clarifies the scope of ‘waters of the United States’ consistent with the Clean Water Act (CWA), Supreme Court precedent,

and science.”¹⁹ It “imposes no enforceable duty” on “governments” or “the private sector.”²⁰ By defining “waters of the U.S.,” the WOTUS Rule establishes both when the CWA is implicated and when it is not and, accordingly, whether a regulated entity is subject to the Act’s various requirements or is exempt.

Nevertheless, because of the broad interpretations of § 509(b) in certain circuits, this textual incompatibility with § 509(b) was not conclusive. And because the statute of limitations for a circuit court petition for review of any agency action under the CWA is only 120 days,²¹ gambling that the correct venue was district court was not an option. To cover all possibilities, the petitioners filed both district court challenges under the Administrative Procedure Act and § 509(b) petitions for review in the circuit courts. This protected the petitioners’ rights regardless of the ultimate decision on jurisdiction, as previously recommended by some courts in cases where proper jurisdiction was similarly ambiguous.²²

Petitioners filed dozens of petitions for review and complaints in at least eight different circuit courts and eleven district courts across the country. Under 28 U.S.C. § 2112(a) (3), the circuit court cases were all transferred by random selection to the United States Court of Appeals for the Sixth Circuit. No comparable provision exists for consolidating the district court lawsuits.²³

A. District Court Actions

When several plaintiff groups sought preliminary injunctions of the WOTUS rule, their respective district courts first evaluated jurisdiction and reached different conclusions on the applicability of § 509(b). Coalitions of eleven states in the Southern District of Georgia,²⁴ thirteen states in the District of North Dakota,²⁵ and Murray Energy in the Northern District of West Virginia²⁶ all filed motions for preliminary injunction to prohibit the implementation of the WOTUS Rule pending completion of the legal challenges. Following hearings that hardly touched upon jurisdiction and instead centered around the courts’ skepticism over the WOTUS Rule’s legality, the Southern District of Georgia and Northern District of West Virginia judges issued surprise orders within one day of each other finding they lacked jurisdiction over their cases.²⁷ In neither case had the jurisdictional issue even been briefed.

The plaintiffs in the Southern District of Georgia case appealed the dismissal to the Eleventh Circuit, where, following briefing and oral argument, the court decided to hold the appeal in abeyance pending the outcome in the Sixth Circuit.²⁸

The District of North Dakota judge found the court has jurisdiction and granted the motion for preliminary injunction, finding the “States are likely to succeed on their claim because (1) it appears likely that the EPA

has violated its Congressional grant of authority in its promulgation of the Rule at issue, and (2) it appears likely the EPA failed to comply with APA requirements when promulgating the Rule.”²⁹

In the Northern District of Oklahoma, where the only motions filed in the two consolidated cases were for stays of the proceedings, the judge dismissed the cases *sua sponte* on jurisdictional grounds.³⁰ Those cases are now on appeal in the Tenth Circuit, where briefing has concluded and oral argument is scheduled for Nov. 17, 2016.³¹ In the Southern District of Ohio, the court dismissed the case because of the binding decision of the Sixth Circuit.³² That case is currently on appeal to the Sixth Circuit, where the court stayed the appeal pending the outcome of the other Sixth Circuit proceedings.³³ Most of the other district court actions have now been stayed, formally or informally, pending the outcome in the Sixth Circuit.

B. Sixth Circuit Proceedings

To resolve the threshold jurisdictional question after several petitioners moved for dismissal on jurisdictional grounds, the Sixth Circuit motions panel requested briefing from all petitioners on the court’s jurisdiction.³⁴ Meanwhile, the Sixth Circuit issued a stay of the WOTUS Rule pending further order of the court, finding the “petitioners have demonstrated a substantial possibility of success on the merits of their claims.”³⁵

On Feb. 22, 2016, following briefing and oral argument, the Sixth Circuit motions panel issued a fractured 1-1-1 decision reflecting profound disagreement on the jurisdictional issue. Although the panel retained jurisdiction over the WOTUS Rule challenges, two of the three judges actually concluded § 509(b) should not apply and jurisdiction should be in district court.

Judge McKeague, the author of the majority opinion, was the only judge to conclude the WOTUS Rule litigation belongs in circuit court. His opinion was largely governed by policy concerns rather than finding the WOTUS Rule litigation fit squarely within any of § 509(b)’s subsections.³⁶ He explained, “[D]irect review in the circuit court would best comport with the congressional goal of ensuring prompt resolution of challenges to EPA’s actions, [while the addition of another level of judicial review would likely cause delays in resolving disputes under the Act.”³⁷

Both the concurrence and the dissent sharply disagreed. In his concurrence Judge Griffin concluded, “[T]he question is whether Congress in fact created jurisdiction in the courts of appeals for this case. I conclude that it did not.”³⁸ Nevertheless, he explained circuit precedent obligated him to retain jurisdiction over the case, reasoning, “In my view, it is illogical and unreasonable to read the text of either [§ 509(b)] subsection (E) or (F) as creating jurisdiction in the courts of appeals for these issues. Nonetheless, because

National Cotton held otherwise with respect to subsection (F), I concur in the judgment, only.”³⁹ Further, “[w]ere it not for *National Cotton*, I would grant the motions to dismiss.”⁴⁰ Because Sixth Circuit rules preclude a motions panel from overturning the court’s precedent, Judge Griffin considered himself powerless to decide otherwise.⁴¹ His direct reference to the en banc process suggested full court review was forthcoming, but the petitioners’ requests for en banc review were denied.⁴²

In his dissent Judge Keith “agree[d] with Judge Griffin’s reasoning and conclusion that, under the plain meaning of the statute, neither subsection (E) nor subsection (F) of 33 U.S.C. § 1369(b)(1) confers original jurisdiction on the appellate courts.”⁴³ However, unlike Judge Griffin, Judge Keith did not find *National Cotton* compelled the court to keep the case.⁴⁴ Therefore, two judges of the three-judge motions panel concluded the WOTUS Rule litigation belongs in district court, not in the Sixth Circuit where it currently sits, but nevertheless the Sixth Circuit has maintained jurisdiction over the case.

C. Next Steps

Seeking certiorari before the U.S. Supreme Court is complicated for two reasons in addition to the typically long odds. First, the Sixth Circuit’s decision on jurisdiction is not a final ruling on the merits, meaning the parties are requesting a seldom-granted interlocutory petition. Second, at least superficially, the petitioners who wish to challenge the Sixth Circuit’s ruling did not suffer any legal harm from the jurisdictional decision, because it resulted in the Sixth Circuit keeping rather than dismissing their case. The only parties arguably “aggrieved” by the decision are the respondents (EPA and other government parties), but the respondents agree with the Sixth Circuit that jurisdiction belongs in circuit court. To avoid this dilemma, the National Association of Manufacturers (NAM) did not file a petition for review in circuit court but instead intervened as a respondent. Because of its unique posture, NAM is possibly the only party with both standing to challenge the Sixth Circuit’s ruling and an interest to do so. NAM sought certiorari before the U.S. Supreme Court, and the case was docketed on September 7, 2016.⁴⁵ At least three groups of petitioners have filed briefs as respondents in support of the Petition for Certiorari. A decision on the Petition is expected in late 2016 or early 2017.

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(Endnotes)

1 According to the latest briefing schedule, Petitioners’ initial merits briefs are due November

1, 2016. The agencies’ response briefs are due December 23, 2016. Following deadlines for intervenors’ briefs, reply briefs, any other briefs and the appendix, final briefs are due March 8, 2017. Oral arguments will occur thereafter. See *In re Clean Water Rule*, Case No. 15-3751 (6th Cir. Oct. 6, 2016, Doc. 120-2). A decision is not expected until late 2017 at the earliest, provided the process is not again stayed or delayed.

2 699 F.3d 1280, 1286 (11th Cir. 2012).

3 See *id.* at 1288 (The Administrator argues that we should read section 1369(b)(1)(F) to apply to any ‘regulations relating to permitting itself,’ but this interpretation is contrary to the statutory text.).

4 566 F.2d 446, 450 (4th Cir. 1977).

5 711 F.3d 844, 864 (8th Cir. 2013).

6 673 F.2d 400 (D.C. Cir. 1982); 45 Fed. Reg. 33,290 (May 19, 1980) (emphasis added).

7 45 Fed. Reg. at 33,291.

8 656 F.2d 768, 773 (D.C. Cir. 1981).

9 Other examples include *Riverkeeper, Inc. v. EPA*, 358 F.3d 174, 181 (2d Cir. 2004) (requirements for cooling water intake systems); *Com. of Pa., Dep’t of Env’tl. Res. v. EPA*, 618 F.2d 991, 993 (3d Cir. 1980) (regulations establishing standards of performance for new point sources in the coal mining industry); *Appalachian Power Co. v. Train*, 566 F.2d 451, 454 (4th Cir. 1977) (requirements for cooling water intake systems); *California & Hawaiian Sugar Co. v. EPA*, 553 F.2d 280, 282 (2d Cir. 1977) (regulations requiring curtailment of water pollution by crystalline cane sugar refineries); *Am. Paper Inst. v. Train*, 543 F.2d 328, 335 (D.C. Cir. 1976) (final effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources); *Natural Res. Def. Council, Inc. v. EPA*, 537 F.2d 642, 643 (2d Cir. 1976) (effluent limitation guidelines); *E. I. du Pont de Nemours & Co. v. Train*, 528 F.2d 1136, 1137 (4th Cir. 1975) *aff’d*, 430 U.S. 112 (1977) (effluent limitations).

10 537 F.3d 1006, 1011 (9th Cir. 2008).

11 537 F.3d at 1015.

12 *Friends of the Everglades v. EPA*, 699 F.3d 1280, 1287 (11th Cir. 2012), quoting *Crown Simpson Pulp Co. v. Costle*, 445 U.S. 193, 196 (1980).

13 445 U.S. 193 (1980).

14 *Id.* at 194.

15 553 F.3d 927 (6th Cir. 2009); “Application of Pesticides to Waters of the United States in

- Compliance With FIFRA,” 71 Fed. Reg. 68,483 (Nov. 27, 2006).
- 16 See Final Brief of Respondent United States Environmental Protection Agency, 2007 WL 5117921, p. 40.
- 17 See U.S. EPA, 2011 NPDES Pesticides General Permit Fact Sheet, available at https://www.epa.gov/sites/production/files/2015-09/documents/pgp_final_factsheet_2.pdf (In response to the Court’s decision, EPA proposed a general permit on June 4, 2010 to cover certain discharges resulting from pesticide applications.); 2011 NPDES Pesticides General Permit, available at https://www3.epa.gov/npdes/pubs/final_pgp.pdf.
- 18 See 80 Fed. Reg. at 37,104 (Section 509(b)(1) of the CWA provides for judicial review in the courts of appeals of specifically enumerated actions of the Administrator. The Supreme Court and lower courts have reached different conclusions on the types of actions that fall within section 509.).
- 19 80 Fed. Reg. at 37,054.
- 20 *Id.* at 37,102.
- 21 33 U.S.C. § 1369(b)(1).
- 22 See, e.g., *Inn. Co. Inst. v. Bd. of Governors of Fed. Reserve*, 551 F.2d 1270, 1280 (D.C. Cir 1997) (If any doubt as to the proper forum exists, careful counsel should file suit in both the court of appeals and the district court or, since there would be no time bar to a proper action in the district court, bring suit only in the court of appeals.).
- 23 EPA unsuccessfully attempted to use the ill-fitting multidistrict litigation process to accomplish that task. See *In re: Clean Water Rule: Definition of “Waters of the United States,”* MDL No. 2663, “Order Denying Transfer” (Oct. 13, 2015).
- 24 *State of Georgia, et al. v. McCarthy, et al.*, CV 215-79 (S.D. Ga.).
- 25 *States of North Dakota, et al. v. EPA*, No. 3:15-cv-59 (D.N.D.).
- 26 *Murray Energy Corp. v. EPA*, No. 1:15CV110 (N.D. W. Va.).
- 27 *State of Georgia, et al v. McCarthy, et al.*, No. CV 215-79, 2015 WL 5092568 (S.D. Ga. Aug. 27, 2015); *Murray Energy Corp. v. EPA*, No. 1:15CV110, 2015 WL 5062506 (N.D. W. Va. Aug. 26, 2015).
- 28 See *State of Georgia, et al v. McCarthy, et al.*, Case No. 15-14035 (11th Cir.).
- 29 *N. Dakota, et al. v. EPA*, 127 F. Supp. 3d 1047, 105.1 (D.N.D. 2015).
- 30 See *State of Oklahoma ex rel. Pruitt v. EPA*, No. 15-CV-0381, 2016 WL 3189807, at *1 (N.D. Okla. Feb. 24, 2016).
- 31 See *Pruitt v. EPA, et al.*, Case No. 16-5038 (10th Cir.).
- 32 *State Of Ohio, et al. v. EPA, et al.*, 2:15-cv-2467, “Order” (S.D. Oh. Apr. 25, 2016)
- 33 *State Of Ohio, et al. v. EPA, et al.*, No. 16-3564 (6th Cir.)
- 34 See *In re Clean Water Rule*, Case No. 15-3885, “Order” (6th Cir. Sept. 16, 2015, Doc. 22-2).
- 35 See *In re Clean Water Rule*, Case No. 15-3751 (6th Cir. Oct. 9, 2015, Doc. 49-2), p. 4.
- 36 See *In re Clean Water Rule*, 817 F.3d 261, 264 (6th Cir. 2016) (Congress’s manifest purposes are best fulfilled by our exercise of jurisdiction to review the instant petitions for review of the Clean Water Rule.).
- 37 *Id.* at 270 (quoting *Crown Simpson Pulp Co. v. Castle*, 445 U.S. 193, 196–97 (1980)).
- 38 *Id.* at 275.
- 39 *Id.*
- 40 *Id.*
- 41 See *id.* (It is a well-established rule in this Circuit that a panel of this court may not overrule a prior published opinion of our court absent en banc review...).
- 42 See *In re Clean Water Rule*, Case No. 15-3751, “Order” (6th Cir. Apr. 21, 2016, Doc. 92-1).
- 43 *In re Clean Water Rule*, 817 F.3d 261, 283 (6th Cir. 2016).
- 44 *Id.* at 283-84.
- 45 See *National Association of Manufacturers v. U.S. Dep’t of Defense, et al.*, U.S. Supreme Court No. 16-229.

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Get the Lead Out!: Implementing the Lead and Copper Rule in Georgia

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The details of the Flint, Michigan drinking water crisis are familiar by now. Following a switch from using Detroit's water supply to treating water pumped from the Flint River, corrosion caused lead to leach from pipes throughout Flint's system into its drinking water. Similar events in other cities, such as the switch in 2007 to bottled water in Baltimore, Maryland schools after concerns were raised about lead content,¹ have made plain that addressing lead in drinking water is not just a problem for Flint, but a national one. This article examines the underlying legal structure already in place to prevent lead from reaching unsafe levels in the nation's water supplies, and how those requirements should be implemented in Georgia for new sources of drinking water serving large water systems.

History of Lead Pipes

As far back as the time of the ancient Romans,² lead has been used in pipes because it is readily available, resists leaks, and can be molded into a variety of shapes. In modern plumbing, lead was also a component of chrome and brass bath fixtures for many years.³ Over time, water that is acidic or has certain mineral properties can cause the lead to leach from these pipes and fixtures into drinking water.⁴ Elevated blood lead levels are especially dangerous for children, resulting in damage to the brain and nervous system, and impaired growth, learning, behavioral, hearing, and speech development.⁵ Recognizing this threat, in 1986 Congress banned the use of lead in public water systems and residential or non-residential plumbing that is connected to a public water system.⁶

The 1986 Congressional ban on lead use in pipes did not require, however, the wholesale removal of lead pipes and lead solder already in place. To do so would be a massive and expensive undertaking, averaging \$3,200 to replace each individual lead service line between a public water pipe and individual residential or non-residential structures.⁷ Although replacement of all lead pipes and fixtures was not required, the U.S. Environmental Protection Agency (EPA) took other measures to ensure the safety of public water supplies. In 1991 EPA promulgated the Lead and Copper Rule (LCR),⁸ which in part mandates implementation of corrosion control technology at public water treatment plants to ensure that the water will not cause lead to leach from existing pipes and fixtures.

In addition to the LCR, the federal Safe Drinking Water Act (SDWA), the Georgia Safe Drinking Water Act (GA SDWA), and Georgia Environmental Protection Division of

the Department of Natural Resources (EPD) Regulations all contain provisions designed to prevent lead contamination of drinking water. Drinking water providers can prevent lead contamination before switching to a new source of drinking water by following these laws and regulations to employ mandatory corrosion control technology.

The Federal Safe Drinking Water Act

The SWDA was enacted in 1974 and governs public water systems across the country. It "authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards."⁹ Although the SWDA is a federal statute, as with many federal environmental laws, EPA can delegate primary enforcement responsibility to the states, provided that certain prerequisites are met. Forty-nine states have been granted this authority, including Georgia.

The SWDA's regulations set forth compliance obligations for public water systems generally and for the state agencies to which EPA has delegated primacy. For contaminants that may be harmful to human health, the SWDA mandates that the EPA establish a maximum contaminant level goal (MCLG) for that constituent in drinking water.¹⁰ EPA reviews health effects data for constituents of concern, and then establishes by regulation the MCLG, which is an unenforceable level below which there is no known or expected risk to health, and the Maximum Contaminant Level (MCL), which is the highest level of contaminant allowed in the drinking water and is enforceable. MCLs are intended to be as close to MCLGs as is practicable. These regulations are known as National Primary Drinking Water Regulations, and over 90 contaminants are currently on that list—including lead.¹¹

Another vital SWDA regulation relevant to preventing lead in drinking water is the LCR. The LCR "establish[es] a treatment technique that includes requirements for corrosion control treatment [and] source water treatment" that is designed to ensure drinking water traveling through pipes meets parameters designed to prevent lead leaching.¹² Specifically, the "goal of the LCR is to provide maximum human health protection by reducing lead and copper levels at consumers' taps as close to the MCLGs as is feasible. To accomplish this goal, the LCR establishes requirements for community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) to optimize corrosion control and conduct periodic monitoring."¹³

One such requirement is to install corrosion control treatment. Large water systems serving over 50,000 people were required to have optimal corrosion control treatment (OCCT) in place by 1998.¹⁴ Optimal corrosion control treatment is defined in the Code of Federal Regulations as “the corrosion control treatment that minimizes the lead and copper concentrations at users’ taps while insuring [*sic*] that the treatment does not cause the water system to violate any national primary water regulations.”¹⁵ For the most part, this management is put in place at a public water system’s treatment plant as part of the overall process of treating raw water to make it ready to drink.

The LCR regulations are largely structured to address bringing already-existing full-time systems into compliance with OCCT. Consequently, the LCR does not directly lay out the steps that must be followed in situations where a system changed its full-time water source. Nonetheless, a reading of several different provisions in concert plainly shows that water systems must implement and maintain OCCT when undertaking a change in water source.

The LCR requires water systems that have demonstrated optimized corrosion control continue to operate and maintain that treatment in order to minimize lead and copper levels in drinking water.¹⁶ Further, the LCR states that the only way a large water system can avoid going through the steps to analyze and implement OCCT is if the agency with primary enforcement responsibility for drinking water makes a specific finding, based on data supply by the water system, that it has undertaken “activities equivalent to the corrosion control steps” required by the LCR.¹⁷ Before implementing long-term changes, the system must notify the primacy agency, which then must designate required modifications to OCCT made necessary by the fact of the change.¹⁸ Accordingly, all large water systems must have corrosion control in place and maintain that control—including any requisite changes to OCCT—when implementing major long-term changes.¹⁹

Georgia’s Safe Drinking Water Act and Rules for Safe Drinking Water

Establishment of Georgia’s Laws and Regulations

Before EPA could delegate to Georgia primary enforcement responsibility for drinking water compliance, Georgia was required to demonstrate that it had a fulsome system in place to manage public drinking water systems, as well as regulations no less stringent than the National Primary Drinking Water Regulations.²⁰ As part of this process, Georgia enacted the GA SDWA in 1977, which charges EPD with the responsibility of ensuring “adequate water of the highest quality for water-supply purposes.”²¹ To that end, the GA SDWA requires EPD to “(1) [e]stablish by rule or regulation standards of quality for water that will be distributed in public water systems; and (2) [e]stablish by rule or regulations such policies, requirements, or standards governing the source...,

purification, [and] treatment...of water for public water systems as it deems necessary for the reasonable and proper use thereof.”²²

Such primary drinking water regulations must be no less stringent than “the complete interim or revised national drinking water regulations adopted pursuant to the [SDWA].”²³ The regulations established by Georgia in response require the water supply in all public water systems to be “of such quality that with reasonable treatment it will meet the Safe Drinking Water Rules” in Chapter 391-3-5 of the Georgia Rules and Regulations.²⁴ Georgia’s rules include provisions expressly applicable to choosing a new source of water and treating for lead.

To ensure these requirements are followed, and that Georgia citizens are “assured adequate, safe drinking water of the highest quality,” it is unlawful for any person to own or operate a public water system, except in compliance with a permit from EPD.²⁵ No person may operate any public water system, or make substantial modifications to purification or treatment components, without first securing EPD’s approval of “the source of water supply [and] the means and methods of treating [and] purifying...said water.”²⁶

Water Source Selection

Before identifying a new source of water for a public water system, the water “must be of such quality that with reasonable treatment it will meet the [relevant EPD Regulations].”²⁷ The following procedures and requirements must be met before approval of a surface water source:

- Raw water samples from the proposed source shall be collected by the supplier or designee and submitted to a certified laboratory for microbiological analysis for the period of time and frequency specified by the EPD.
- The supplier shall have the water from the proposed source analyzed for the physical, chemical and radiological parameters specified by the EPD in a laboratory acceptable to the EPD and shall furnish a copy of the results of the analysis to the EPD.
- For an impoundment source, allowance must be made for water losses including required releases, evaporation, seepage and siltation. Available stream flow and weather records must be used in estimating the yield of the source.
- Bathing, water skiing, boating, fishing, or other activities in or upon any natural lake, artificial reservoir or impoundment used as a source of water supply must be prohibited, unless evidence is presented to the EPD that the drinking water quality will not be adversely affected by these activities and prior written approval for such activity is obtained from the EPD.

- A Source Water Assessment Plan (SWAP) for the proposed surface water source intake must be developed in accordance with the Division's *Source Water Assessment and Protection Implementation Plan for Public Drinking Water Sources*, as outlined in Section 391-3-5-.42 of the EPD Regulations.²⁸

Once a source of surface water has been identified, the proposed surface water treatment plant “must be of such design and capacity to provide for the required treatment of the raw water so that the drinking water will comply with the [EPD Regulations],” including those specific primary drinking water rules for lead.²⁹

Treatment for Lead

In Georgia, the MCLG for lead is zero and the action level is exceeded if the concentration of lead in more than 10 percent of tap water samples collected during any monitoring period is greater than 0.015 mg/L.³⁰ Any public water system serving more than 50,000 persons must complete the corrosion control treatment steps in the EPD Regulations, unless it is deemed to have OCCT, to meet the primary drinking water requirements for lead.³¹ The required OCCT is defined in Georgia as “the corrosion control treatment that minimizes the lead...concentrations at user’s taps while insuring that the treatment does not cause the water to violate any national primary drinking water regulation.”³² In order to be deemed to have optimized corrosion control, a public water system serving more than 50,000 persons must either:

- demonstrate to EPD’s satisfaction is has “conducted activities equivalent to the corrosion control steps applicable to such systems under [the EPD Regulation];” or
- submits results of tap water monitoring and source water monitoring that “demonstrates for two consecutive six-month monitoring periods that the difference between the 90th percentile tap water lead level computed under [EPD Regulation] Section 391-3-5-.25(1)(c)3, and the highest source water lead concentration, is less than the Practical Quantitation Level for lead specified in [EPD Regulation] Section 391-3-5-.25(10).”³³

Violations and Emergency Measures

If a public water system fails to comply with the EPD Regulations, including a failure to comply with a maximum contaminant level, the owner or operator of that system must “notify the local public health department, the [EPD] director and communications media serving the area served by the system, of the nature, extent and possible adverse health effects of such situation.”³⁴ Should the EPD director find an emergency exists where there is a danger to providing safe drinking water the EPD director may take actions to provide safe drinking water where it is not available.³⁵ This authority includes issuing an order, without notice or hearing, “reciting

the existence of such an emergency and requiring that such action be taken as he deems necessary to meet the emergency.”³⁶

Georgiaville Hypothetical

To demonstrate how these rules and regulations should be followed when undertaking a change in water source, consider the following hypothetical. Georgiaville, a bustling town of 70,000 people, received its drinking water from Water County for many years pursuant to a contract between the two jurisdictions. The source of drinking water for Water County is the River of Pristine Quality, and the Water County Water Department ensured the water was treated in accordance with all applicable rules and regulations before distributing it to its drinking water customers, including the citizens of Georgiaville. Although Georgiaville has its own water treatment plant capable of treating water from the River of Questionable Quality, an alternative source of water closer to Georgiaville, it had not operated in many years.

One day the Mayor of Georgiaville decided they were paying Water County too much money for their water and decided Georgiaville should provide water directly to its own citizens. Rather than negotiate a lower water rate with Water County, the Mayor of Georgiaville decided to bring the water treatment plant online full time to treat water from the River of Questionable Quality. The Mayor of Georgiaville ordered their water treatment plant be brought online immediately before consulting with any experts in the fields of drinking water treatment. Unbeknownst to the Mayor of Georgiaville, the water treatment plant lacked the required OCCT.

When the Commissioner of the newly created Georgiaville Water Department received word that the Mayor wanted the water treatment plant brought online immediately, the Commissioner ran straight into the Mayor’s office to object. The Commissioner had been consulting with Georgiaville’s City Attorney, an expert in drinking water regulations, who had explained all the steps required to take before using the River of Questionable Quality as a source of drinking water. The Commissioner explained to the Mayor that the Water Department must first get a permit to operate the water treatment plant from the EPD in order to ensure the water from the River of Questionable Quality was of such quality that it could be treated to meet the EPD Regulations.

The Georgiaville Mayor took heed and requested the Commissioner begin implementing the required procedure to get a permit from EPD to begin operating the water treatment plant as soon as possible. The Commissioner used all resources of the Georgiaville Water Department to collect the raw water samples from the River of Questionable Quality and submit them to EPD for review. Upon review of the samples, EPD notified Georgiaville that the water from the River of Questionable Quality could only be used if it was treated to meet EPD Regulations related to lead.

At once the Commissioner again consulted with the

City Attorney for guidance on what is required to treat for lead. Since the City Attorney knew the Water Department had not conducted any tap water monitoring, the City Attorney recommended the Water Department conducted activities equivalent to the applicable corrosion control steps required by the LCR and the EPD Regulations. Upon receiving this sage advice, the Commissioner implemented the necessary steps at the water treatment plant. EPD deemed the Georgiaville water system to have the required OCCT in place, and issued a permit for Georgiaville to provide clean drinking water from the River of Questionable Quality to its citizens.

(Endnotes)

- 1 See <http://www.wboc.com/story/7325427/lead-prompts-shift-to-bottled-water-at-baltimore-schools>.
- 2 See, e.g., <http://www.romanbaths.co.uk/walkthroughs/sacred-spring-and-associated-objects> (use of lead in piping at the Roman baths in Bath, United Kingdom).
- 3 <https://www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water#getinto>.
- 4 *Id.*
- 5 See <http://www.cdc.gov/nceh/lead/data/learnmore.htm>.
- 6 42 U.S.C. § 300g-6.
- 7 Richard Rabin, *The Lead Industry and Lead Water Pipes “A MODEST CAMPAIGN”*, *Am J Public Health*. 2008 September; 98(9): 1584–1592 (available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2509614/#r89>).
- 8 40 CFR Part 141, Subpart I.
- 9 <https://www.epa.gov/laws-regulations/summary-safe-drinking-water-act>.
- 10 42 U.S.C. § 300g-1.
- 11 40 C.F.R. Part 141.
- 12 40 C.F.R. § 141.80(b).
- 13 EPA Lead and Copper Rule 2007 Short-Term Regulatory Revisions and Clarifications State Implementation Guidance – Final June 2008 (available at <https://www.epa.gov/dwreginfo/lead-and-copper-rule-compliance-help-primacy-agencies>).
- 14 40 C.F.R. § 141.81(d).
- 15 40 C.F.R. § 141.2.
- 16 40 C.F.R. § 141.82(g).
- 17 40 C.F.R. § 141.81(b)(2).
- 18 40 C.F.R. § 141.81(b)(3).
- 19 See also EPA Memorandum, “Lead and Copper Rule Requirements for Optimal Corrosion Control Treatment for Large Drinking Water Systems,” November 3, 2015.
- 20 42 U.S.C. § 300g-2.
- 21 O.C.G.A. § 12-5-171.
- 22 O.C.G.A. § 12-5-174(a).
- 23 O.C.G.A. § 12-5-177(b).
- 24 Ga. Comp. R. & Regs. 391-3-5-.06(1)(b).
- 25 O.C.G.A. § 12-5-179(a); Ga. Comp. R. & Regs. 391-3-5-.01.
- 26 Ga. Comp. R. & Regs. 391-3-5-.04(1).
- 27 Ga. Comp. R. & Regs. 391-3-5-.06(1)(b).
- 28 Ga. Comp. R. & Regs. 391-3-5-.06(1)(c).
- 29 Ga. Comp. R. & Regs. 391-3-5-.09(1)(a).
- 30 Ga. Comp. R. & Regs. 391-3-5-.25(1)(k)(1) and (1)(c)(1).
- 31 Ga. Comp. R. & Regs. 391-3-5-.25(2)(a)(1).
- 32 Ga. Comp. R. & Regs. 391-3-5-.02(91).
- 33 Ga. Comp. R. & Regs. 391-3-5-.25(2)(b)(2) and (3).
- 34 O.C.G.A. § 12-5-184.
- 35 O.C.G.A. § 12-5-183.
- 36 O.C.G.A. § 12-5-187.

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OSAH Reporter

By William Tomlin, King & Spalding, LLP

Land Application System Permits and Water Quality Protection

Craig Barrow v. Judson H. Turner, Docket No. OSAH-BNR-EPD-WQC-1525822-51-Miller

The Court upheld the issuance of a Land Application System Permit by EPD to the City of Guyton, Georgia, the operator of a proposed Land Application System (LAS), to treat wastewater by spraying it over land where the water will percolate through the soil while plants absorb pollutants, including nitrates, before the water discharges into surrounding groundwater, which eventually recharges nearby wetlands in the Ogeechee watershed. The Court rejected the claims of the Petitioner, a neighboring landowner, who claimed that the LAS facility will damage nearby waterbodies and wetlands on his property.

The Court held that even though the site for the proposed LAS is not ideal for this type of operation, the EPD can, nevertheless, “issue a permit that contains specific conditions to address the site’s limitations in a manner that complies with Georgia law.”¹ The Court found that this permit addresses the site’s limitations by making conservative assumptions related to rapidly permeable soils and the depth of the groundwater table and by requiring monitoring of nitrate concentrations in groundwater. The EPD also reasonably relied upon FEMA floodplain maps and has the power to modify the permit based on any future changes to the flood zone, and the facility

must curtail its operations in the event the sprayfield is flooded in order to remain a no-discharge system as required by the permit.

The Court also held that the Clean Water Act does not regulate discharges to groundwater. Citing *Rapanos v. United States*, 547 U.S. 715 (2006), where a plurality of the US Supreme Court explained that the CWA only regulates wetlands with a “continuous surface connection”² to regulated waters, the Court here reasoned that NPDES permits are “not required for groundwater discharges, even where the groundwater is hydrologically connected to a surface water.”³

The Court then held that Georgia’s Water Quality Control Act (WQCA) empowers EPD to permit nonpoint source discharges into groundwater and explains that LAS operations are nonpoint sources regulated through permits along with other land disposal permits under the WQCA. The LAS here is not a point source because it sprays wastewater over a more than 44 acre area rather than discharging wastewater through a “discernible, confined, or discrete conveyance.”⁴

The Court further held that the permit complies with Georgia’s antidegradation rule, which requires permits to maintain the “level of water quality necessary to protect existing uses” through the use of cost-effective and reasonable best management practices, by addressing the site’s limitations as explained above and by substantially complying with LAS Guidelines.⁵ An antidegradation analysis was not required

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here because EPD's Antidegradation Analysis Guidelines only require such analysis for discharges into surface water and specifically exempt LAS operations.

The petitioner presented expert testimony attempting to show that the LAS would lead to violations of Georgia's water quality standards, but the Court was unmoved by this testimony because it was not supported by any "site- and Permit-specific data and analysis."⁶ The Court further explained that the petitioner's primary expert only offered his general opinion, unsupported by site-specific data or modeling, in regard to nitrogen balance data, which the Court held was "insufficient to support a conclusion that the Permit was issued in violation of the drinking water standards."⁷

NPDES and Solid Waste Permit Compliance

Wilbros, LLC v. Environmental Protection Division, Docket No. OSAH-BNR-SW-1442274-127-Walker

The Environmental Protection Division issued an Administrative Order (AO) revoking NPDES and Solid Waste Handling permits held by Wilbros, LLC, a commercial recycling and composting facility in Toccoa, Georgia that discharged wastewater into Eastanollee Creek, and ordering the company to shut down. The Court affirmed the EPD's AO after the EPD proved significant violations of the terms of the permits.

The EPD conducted numerous inspections of the Wilbros facility and issued a Notice of Violation (NOV) in 2014 detailing multiple permit violations ranging from improperly treating waste to unloading waste in unapproved areas and providing inadequate documentation and storing and handling more waste than was permitted. The NOV

also included a proposed Consent Order that would have required Wilbros to pay a \$250,000 fine and to limit certain operations until receiving written authorization from EPD to resume normal operations, among other things. A number of terms of the proposed Consent Order, including the \$250,000, were non-negotiable. Wilbros was given 10 days to respond in writing but failed to do so.

O.C.G.A. 12-2-2(c)(6) requires the EPD to attempt to resolve violations through voluntary compliance and allows the EPD to issue an AO if unsuccessful. Here, the EPD had a rational basis to believe that Wilbros exhibited a pattern of noncompliance leading to environmental problems, and the department tried to obtain voluntary compliance before issuing the AO, even if some terms of the proposed Consent Order were non-negotiable. The department is "not required to change or compromise its position" to obtain voluntary compliance.⁸ Further, the \$250,000 civil penalty was neither arbitrary nor capricious after the department previously issued fines in the amounts of \$5,000 and \$25,000.

(Endnotes)

1. *Craig Barrow v. Judson H. Turner*, Docket No. OSAH-BNR-EPD-WQC-1525822-51-Miller (May 2015) at 29.
2. *Id.* at 21, (quoting *Rapanos v. United States*, 547 U.S. 715, 742 (2006)).
3. *Id.* at 21.
4. *Id.* at 23-24.
5. *Id.* at 27.
6. *Id.*
7. *Id.* at 28.
8. *Wilbros, LLC v. Environmental Protection Division*, Docket No. OSAH-BNR-SW-1442274-127-Walker (Jan. 2015) at 39.

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Eradicating Poverty and Promoting Sustainable Development

By Patrick McShane, Assistant City Attorney, City of Atlanta Department of Law

2015 witnessed the publication of three documents that address humanity's impact on the world's climate. Pope Francis' encyclical "Praise Be to You (Laudato Si'); On Care for Our Common Home," the United Nation's "Transforming Our World: The 2030 Agenda for Sustainable Development," and the Paris Agreement adopted by the United Nations Framework Convention on Climate Change discuss the issue of climate change from different perspectives, but common themes are present in the documents. Two of the most prevalent, and perhaps most important, themes are eradicating poverty and promoting sustainable development. The three documents build on one another in discussing these themes. *Laudato Si* presents the moral/philosophical case of eradicating poverty and promoting sustainable development, the 2030 Agenda turns those moral/philosophical arguments into goals, and the Paris Agreement provides the mechanism for achieving those goals.

Pope Francis wrote extensively about eradicating poverty and promoting sustainable development in *Laudato Si'*. Rather than assert independent reasons for the changes seen in the world's system, he merely points out that a "solid scientific consensus indicates that we are presently witnessing a disturbing warming of the climatic system."¹ Pope Francis primarily uses *Laudato Si'* as a platform to enter into the dialogue regarding the need to promote sustainable development by pointing out that "our own irresponsible use and abuse of the goods" of the earth is causing harm.² This harm done to the environment is part of what he refers to as the culture of waste. Rather than being good stewards of the earth, "[w]e have come to see ourselves as [the earth's] lords and masters, entitled to plunder [the earth] at will.³ Instead, man's "'dominion' over the universe should be understood more properly in the sense of responsible stewardship."⁴

This culture of waste born from a lack of sustainable development and perpetuated by mankind's failure to act as responsible stewards of the earth leads to the generation of "hundreds of millions of tons of waste" each year.⁵ "The earth, our home, is beginning to look more and more like an immense pile of filth. In many parts of the planet, the elderly lament that once beautiful landscapes are now covered with rubbish."⁶ To cite one example, Pope Francis points out that "most of the paper we produce is thrown away and not recycled."⁷ Rather than operate more like a natural ecosystem where waste is absorbed and reused, our industrial system has "not yet managed to adopt a circular model of production capable of preserving resources for present and

future generations, while limiting as much as possible the use of non-renewable resources, moderating their consumption, maximizing their efficient use, reusing and recycling them."⁸ Because of this culture of waste, "[w]e may well be leaving to coming generations debris, desolation and filth."⁹ Unless we turn around the unsustainable culture of waste and promote sustainable development, Pope Francis warns that "[t]he pace of consumption, waste and environmental change... can only precipitate catastrophes."¹⁰ He reminds us that the destruction of the environment is serious not only because of our responsibility over it, "but because human life is itself a gift which must be defended from various forms of debasement."¹¹

"The exploitation of the planet has already exceeded acceptable limits and we still have not solved the problem of poverty."¹² This culture of waste and the damaging effects to the global climate have a strong impact on the poor who "live in areas particularly affected by phenomena related to warming, and their means of subsistence are largely dependent on natural reserves and ecosystemic services such as agriculture, fishing and forestry. They have no other financial activities or resources which can enable them to adapt to climate change or to face natural disasters, and their access to social services and protection is very limited."¹³ Pope Francis again uses a specific example to illustrate these effects. "One particularly serious problem is the quality of water available to the poor. Every day, unsafe water results in many deaths and the spread of water-related diseases, including those caused by microorganisms and chemical substances. Dysentery and cholera, linked to inadequate hygiene and water supplies, are a significant cause of suffering and of infant mortality. Underground water sources in many places are threatened by the pollution produced in certain mining, farming and industrial activities, especially in countries lacking adequate regulation or controls."¹⁴ Since humanity and the environment deteriorate together, we cannot successfully end the culture of waste by promoting sustainable development "unless we attend to causes related to human and social degradation."¹⁵

Pope Francis continued his discussion on these themes during his historic visit to the United States in September 2015. He touched on the theme of eradicating poverty during the White House Welcoming Ceremony by calling on Americans to "support the efforts of the international community to protect the vulnerable in our world and to stimulate integral and inclusive models of development,

so that our brothers and sisters everywhere may know the blessings of peace and prosperity which God wills for all his children.”¹⁶ During his speech to Congress, Pope Francis spoke about eradicating poverty and promoting sustainable development within the American continent and the world at large in the context of his desire to continue the “dialogue with all people about our common home.”¹⁷ A part of that dialogue must be “the right use of natural resources, the proper application of technology and the harnessing of the spirit of enterprise” so that business “can be a fruitful source of prosperity...as an essential part of its service to the common good” rather than contributing to the culture of waste.¹⁸ Additionally, he called for “courageous actions and strategies, aimed at implementing a culture of care, and an integrated approach to combating poverty, restoring dignity to the excluded, and at the same time protecting nature.”¹⁹

Pope Francis continued to speak on his points from *Laudato Si'* during the United Nations Sustainable Development Summit, and reminded the assembled international leaders that “[a] true right to the environment does exist for two reasons. First, because we human beings are part of the environment...[and] any harm done to the environment, therefore, is harm done to humanity. Second, because every creature, particularly a living creature, has an intrinsic value, in its existence, its life, its beauty and its interdependence with other creatures.”²⁰ He challenged the leaders to respond to the challenges of the environment with “a will which is effective, practical and constant, concrete steps and immediate measures for preserving and improving the natural environment and thus putting an end as quickly as possible to the phenomenon of social and economic exclusion, with its baneful consequences.”²¹

The United Nations General Assembly, almost as a direct response to Pope Francis’ challenges released its Resolution entitled “Transforming our World: The 2030 Agenda for Sustainable Development” on the same day as Pope Francis’ speech. The 2030 Agenda declares “that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.”²² In addition, the Agenda commits to “making fundamental changes in the way that our societies produce and consume goods and services...to move towards more sustainable patterns of consumption and production.”²³ Three of the Agenda’s 17 Sustainable Development Goals speak directly to eradicating poverty and hunger and ending the culture of waste by promoting sustainable development.

Goals 1 and 2 aim to “[e]nd poverty in all its forms everywhere” and to “[e]nd hunger, achieve food security and improved nutrition and promote sustainable agriculture.”²⁴ The Agenda asserts that the goal of “eradicating extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day” by 2030 can be solved with a combination of the following: ensuring “significant

mobilization of resources from a variety of sources... in order to provide adequate and predictable means for developing countries...to implement programmes [sic] and policies to end poverty in all its dimensions;” and creating “sound policy frameworks at the national, regional and international levels...to support accelerated investment in poverty eradication actions.”²⁵ Similarly, the goal to “end hunger and ensure access by all people...to safe, nutritious and sufficient food all year round” by 2030 can be met by: increasing “investment...in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries;” correcting and preventing “trade restrictions and distortions in world agricultural markets;” and adopting “measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information...in order to help limit extreme food price volatility.”²⁶

Goal 12 aims to “[e]nsure sustainable consumption and production patterns.”²⁷ More specifically, the Agenda aims to eliminate the culture of waste by achieving “the sustainable management and efficient use of natural resources,” halving “per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains,” “substantially reduce waste generation through prevention, reduction, recycling and reuse,” and ensuring that “people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature” by 2030.²⁸ This goal can be met by: supporting “developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production,” developing and implementing “tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products,” and rationalizing fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, where they exist, to reflect their environmental impacts.”²⁹ While the Agenda sets forth aspirational goals to be achieved by 2030, it was not intended to dictate how these goals could be reached. The United Nations General Assembly acknowledged that the United Nations Framework Convention on Climate Change would be “the primary international, intergovernmental forum for negotiating the global response to climate change.”³⁰

The parties to the Paris Agreement carried forward the ideas of eradicating poverty and eliminating the culture of waste by promoting sustainable development. While the focused goal of the Paris Agreement adopted by the United Nations Framework Convention on Climate Change is to “hold the increase in the global average temperature to below 2° C above pre-industrial levels” by reducing worldwide emissions, it is established “in the context of sustainable development and efforts to eradicate poverty.”³¹ The

Agreement emphasizes “the intrinsic relationship that climate change actions, responses and impacts have with equitable access to sustainable development and eradication of poverty,” and recognizes “the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change.”³² Article 2 of the Paris Agreement states the objective of the Convention on Climate Change is to “strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

- (a.) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
- (b.) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;
- (c.) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.³³

“Each government will [have to] decide how these aspirational and global targets should be incorporated into national planning processes, policies and strategies.”³⁴

Pope Francis, along with the rest of the world, will be watching as nations work towards implementing plans that will accomplish the aspirational goals of eradicating poverty and ending the culture of waste by promoting sustainable development by 2030 as part of the worldwide plan for the care of our common home.

(Endnotes)

- 1 Pope Francis, *Praise Be to You (Laudato Si’); On Care for Our Common Home - Encyclical Letter 23* (Libreria Editrice Vaticana 2015).
- 2 *Laudato Si’* at 2.
- 3 *Id.*
- 4 *Laudato Si’* at 116.
- 5 *Laudato Si’* at 21.
- 6 *Id.*
- 7 *Laudato Si’* at 22.
- 8 *Id.*
- 9 *Laudato Si’* at 161.
- 10 *Id.*
- 11 *Laudato Si’* at 5.
- 12 *Laudato Si’* at 27.
- 13 *Laudato Si’* at 25.
- 14 *Laudato Si’* at 29.
- 15 *Laudato Si’* at 48.
- 16 Pope Francis, *Address During Papal Welcoming Ceremony at the White House* (September 23, 2015).
- 17 *Id.*
- 18 *Id.*
- 19 *Id.*
- 20 Pope Francis, *Address to the General Assembly of the United Nations* (September 25, 2015).
- 21 *Id.*
- 22 *Transforming Our World: The 2030 Agenda for Sustainable Development*, G.A. Res. 70/1, 3, U.N. GAOR, 70th Sess., U.N. Doc. A/Res/70/1 (September 25, 2015).
- 23 G.A. Res. 70/1 at 8.
- 24 G.A. Res. 70/1 at 14.
- 25 G.A. Res. 70/1 at 15.
- 26 G.A. Res. 70/1 at 15-16.
- 27 G.A. Res. 70/1 at 22.
- 28 G.A. Res. 70/1 at 22-23.
- 29 G.A. Res. 70/1 at 23.
- 30 G.A. Res. 70/1 at 8.
- 31 *Adoption of the Paris Agreement*, UNFCCC/CP/2015/L.9, 3 and 22 (December 12, 2015).
- 32 UNFCCC/CP/2015/L.9 at 21.
- 33 UNFCCC/CP/2015/L.9 at 22.
- 34 G.A. Res. 70/1 at 13.

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Making the Cloud Compliant: An Overview of How Data Centers Interact with Environmental Laws and Policies

By Michael Clements

Introduction

The Cloud

One of the catchphrases of the nascent 21st Century. With the click of a button or the swipe of a finger, we can call up our most private, sensitive, and delicate information from within an ethereal fog, a barely visible force enveloping homes, schools, skyscrapers, and city halls. The Cloud promises freedom from the tyranny of tangible form. No longer will we be slaves to paper, beholden to the whims of smeared ink, faded pencil, and printer error codes that require an electrical engineering degree to decipher. Even DVDs and CDs, though they are relatively recent technologies, are now no more than symbols of decay, deterioration, and destruction.

Yet despite the futuristic images conjured, the Cloud exists very much in our present. Perhaps surprisingly, it also relies on physical infrastructure: fiber-optic lines, cables, cell towers, and, most importantly, data centers. Simply stated, a data center is a building containing hundreds, even thousands of computer servers, shed of unnecessary gadgetry such as graphics cards, stacked one on top of the other, and designed to store and process copious amounts of user's information. Anyone using the Cloud for business or personal information, be they documents, photos, or videos, likely has that information digitally stored within the physical confines of a data center.

Georgia is quickly becoming a hot bed for data centers because of its telecom infrastructure, available buildings, and business-friendly climate.¹ Nowhere is this better illustrated than in Douglas County, a short drive from Atlanta west on I-20. Along Riverside Drive, an otherwise nondescript road bordered by trees, you probably would not notice an unexceptionally large building which, in contrast to others of its type, is not abutted by similar structures. It is here in 2007 that Google, the internet and tech behemoth, decided to develop one of the data centers that handle the vast amounts of internet traffic and information on which they have built their multi-billion dollar business.

The Douglas County facility comprises close to 500,000 square feet of space occupied mainly by rows and rows of computer servers.² Consider that for a second. A building which could fit eight-and-a-half football fields does nothing

except house and maintain thousands of circuit boards, each specifically designed to store and send bits of information anywhere on the planet at a user's leisure.

Google currently has 15 such centers throughout the world.³ Other well-known tech companies, including Amazon, Apple, Microsoft, Facebook, and Yahoo, have multiple data centers too. And in the grand scheme of things, these tech giants are a minor (though prevalent) piece of the data center landscape.⁴ There are many companies providing outsourced Cloud services to individuals and businesses. Add to that large and small companies who have on-site server rooms. The list goes on.

If we are truly venturing into a Cloud-based information economy, the number of data centers throughout the United States and the world will only multiply. And while conceptually it does not seem that storing and processing information around the globe could produce too large of an environmental footprint, it is important to get a sense of how data centers, and the broader information economy, potentially impact the environment.

The Cloud's Energy Demand

How often have you sat at your computer and suddenly the internal fan starts whirring? Is your computer attempting a launch, trying to extricate itself from your incessant Excel equation-butcherer?

Likely not, but it is trying to tell you something: it's getting hot in here! All those downloads, uploads, spreadsheet calculations, video streams, web conferences, virtually everything you use your computer for employs your computer's internal gadgetry which, like most things, requires electricity. As the electricity enters the computer and traverses the intricate circuitry and wiring, it encounters electrical resistance, which in turn generates heat. The more functions you request of your computer, the more heat is generated.

Consider this on the scale of a data center. Rows upon rows of servers, each pulling electricity into its circuitry and then generating their own quanta of heat. Consider also that data center servers are completing many more commands, and working on far more complex and intricate projects, than what you are doing on a day-to-day basis. That's potentially a lot of heat, generated by an insatiable demand for electricity.

Energy Demands Require Environmental Permitting and Reporting

Not only do data centers use lots of energy, their energy source needs to be uninterrupted. Consumers demand access to information immediately. Any stop in the flow of energy from the main grid, therefore, is simply unacceptable, and could result in significant damage to data security and business opportunity.

The main source of backup power for data centers is diesel-powered generators. These systems, which typically consist of an engine and a 'belly' tank storing diesel fuel, can weigh thousands of pounds and be taller than a basketball hoop. They also require ongoing maintenance, including test runs that ensure the system will kick in if the main power source is lost.

The byproduct of running these massive engines is emissions. Consider that in 2008 and 2009 the California Air Resources Board listed Microsoft's Santa Clara data center as one of the largest stationary diesel polluters in the San Francisco Bay Area.¹² Given the potential for releasing emissions, depending on the size and number of these generator units a data center facility may need to apply for one, or several, environmental permits.

For instance, when Google first began their data center operations in Georgia, they acquired the assets of a former company which, at that time, had 17 back-up generators with tanks ranging in size from 2,000- to 10,000-gallons.¹³ Since 2005, Google expanded its operations and increased the number of generators, in addition to developing the new facility where they have installed yet more systems. While for years the facility was considered a synthetic minor source, a recent expansion of the new facility increased the number of generators to the point where the new data center is now considered a major source for nitrous oxide emissions, thus requiring a Title V permit.¹⁴

Undoubtedly, data centers were not considered targets for regulation when the Clean Air Act was passed, or during the 1990 amendments creating the Title V permit. The broader public probably still picture an iconic smoke stack bellowing dirt and grit from some laborious industrial process when thinking about the Clean Air Act. It seems funny, then, that such a relatively innocuous operation would require an air emissions permit. Looked at differently though, data centers are arguably the next great industrial process: collecting, storing, analyzing, and sending information to producers and consumers. And until these industries can figure out a way to permanently persist beyond the main grid, which itself is heavily reliant on traditional energy sources, storing and sharing digital information on such a massive scale will continue to require compliance with environmental laws originally designed for industrial-level polluters.

In other words, data centers use a lot of energy. By some measures, data centers consume around 3 percent of global electricity, a figure which was virtually nothing ten years ago, and may creep as high as 10 percent by the mid-2020's.⁵ For a more relatable example, a recent study sponsored by the American Coalition for Clean Coal Electricity and the National Mining Association estimates that streaming one hour of video weekly for a year on your phone or tablet consumes more electricity at the data center level than two new refrigerators over the same time period.⁶

That's a tremendous amount of energy for what appears such a simple task. Part of the overall equation is how much energy is used to cool such a large collection of computer systems. The heat generated by these systems needs to be countered in order to prevent overheating and damage. Air conditioners, industrial-size chillers, and elaborate water circulation systems are all employed to ensure that the servers are operating at peak efficiency.

As both fear and skepticism of global climate change weave their way through public discourse, governments have wrestled with ways to curb over-reliance on fossil fuel sources. The U.S. EPA's Clean Power Plan is one such effort, a large-scale attempt to reduce CO₂ emissions and plug into renewable energy sources. Tech giants and data center companies, possibly aware of their current carbon footprint, have seemingly also realized that the energy status quo is not acceptable. As such, many are starting to use their clout to demand renewable energy options.

For instance, Facebook announced plans last year to run half of their operations on clean energy sources by 2018.⁷ Apple's goal for its energy use is 100 percent renewables, and they claim that 93 percent of their energy use was from renewable sources in 2015.⁸ Google also has committed to 100 percent renewables, and is actively working with local and regional power providers to increase the amount of wind and solar power available in their markets.⁹ In some cases, Google is pushing energy companies to procure renewables from other sources, such as their collaboration with Duke Energy to implement their 'Green Source Rider' program in North Carolina.¹⁰ Closer to home, Google was one of several supporters of Georgia Power's recently approved Integrated Resource Plan, which calls for 1,500MW of new renewable development as well creation of an additional 200MW program for commercial and industrial customers who wish to buy renewables more directly.¹¹

Whether it is getting out ahead of the perceived demise of fossil fuels, an economic need for more stable energy costs, or even pure altruism, tech and data center companies appear to be on the frontlines of adapting energy needs to renewable sources. How far they can push the broader economy in the direction of renewables remains to be seen.

There's one other major issue with diesel-powered generators. While they can provide back-up power relatively efficiently and for long periods, they take time getting started. During the warm-up period, there needs to be an intermediary source of power to prevent loss of service. That back-up power source is usually batteries.

As in, lots of batteries. Think of tens, even hundreds, of car batteries, loaded floor-to-ceiling into shelving units, wires protruding and running into separate rooms full of servers. These systems allow the servers to operate for hours or days while power is restored or other back-up systems are brought on-line.

But batteries of this type are usually made from hazardous substances, the most common being lead and sulfuric acid. So while necessary to a data center's functionality, the number of back-up batteries may cause the data center to require reporting under Sections 311 and 312 of the Emergency Planning and Community Right-to-Know Act (EPCRA).¹⁵

Furthermore, just like the battery in your car these back-up batteries have a finite shelf life, usually of between 3 to 10 years. After that, they must be stored correctly prior to disposal. As such, these materials are subject to universal waste regulations under the Resource Conservation and Recovery Act (RCRA), including proper marking, containerizing, and storage.¹⁶

This provides another example of how environmental regulations can apply to what appear to be harmless operations. Indeed, it has been well documented that the U.S. EPA has targeted non-traditional industries in recent years over EPCRA and RCRA compliance, including healthcare, universities, and the retail sector. While data centers have yet to receive the same attention, given the industry's energy demands the need to comply with such regulations and avoid the same bad press is clear.

Disposal of Computer/E-Waste

Nothing lasts forever. Especially in the electronics/computer industry, rapid innovation and research means that today's cutting-edge tech is tomorrow's paper weight. The same is true in the data center world, where computer servers traditionally have a 3 to 5 year life span. And just as data centers have responsibility to properly store and dispose of their back-up batteries, so they do for their obsolete computer equipment.

Servers, like all electronic equipment, are made from various hazardous materials including heavy metals (mercury, cadmium, chromium, and lead to name a few), polychlorinated biphenyls, and brominated flame retardants. Anyone who has worked on a transaction in the Silicon Valley knows that the area is rife with environmentally troubled properties due to years of electronics manufacturing. In fact, Santa Clara and Alameda Counties are home to a combined 26 Superfund sites, not to mention other hazardous site listings.¹⁷

Therefore, simple disposal of electronic materials leaves open the risk of contamination. While these materials are

not directly regulated by EPA, to date 25 states have passed legislation addressing the disposal of electronic equipment in solid waste landfills.¹⁸ The vast majority of these laws put the onus on equipment manufacturers to collect electronics and arrange for their recycling or reuse. For instance, North Carolina's program requires that computer equipment manufacturers submit equipment recycling programs that include drop-off centers, sound waste management practices, and consumer education.¹⁹

Of course, the primary targets of these laws are phones, notebooks, and other easily replaceable electronic products. But given the generally broad definition of 'computer equipment' under these laws, data center servers can also be included in these programs. From a public policy perspective, servers would be prime candidates for such regulatory efforts given their relatively short lifespan and the volume of hazardous materials that have gone into their manufacture.

Possibly seeing the writing on the wall, many larger tech companies, including Google and Apple, engage in voluntary internal programs to either reuse, refurbish, or recycle electronics components as part of their broader push to demonstrate environmental awareness.²⁰ Ensuring that these programs comply with these different state laws, as well as more generally-applicable laws and regulations concerning hazardous waste storage and disposal arrangement, is clearly a challenge that tech companies must navigate in order to fulfill their sustainability goals and ensure that they are seen as positive environmental actors.

Conclusion

As the domestic and global economy continues its post-industrial march, it is important to consider the impact of the information economy on the environment. While many Cloud companies attempt to get out in front of environmental concerns around energy and waste, sourcing energy from the fossil-fuel-dominant grid means that these companies need to comply with current environmental laws and regulations. Arguably, they are doing a good job and have thus far avoided the scrutiny that EPA has applied to other non-traditional industries. Nevertheless, the pressure remains on to limit the Cloud's environmental footprint as consumers and business becomes more reliant on the information economy.

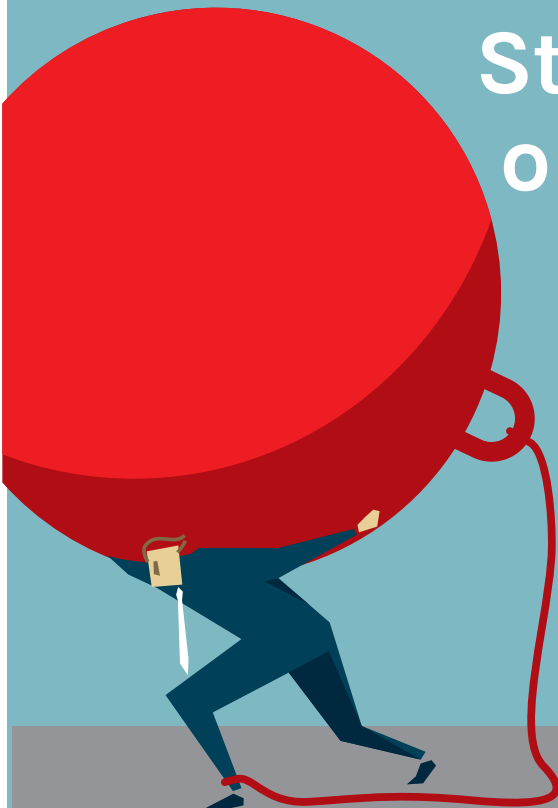
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