Next Generation Compliance

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nforcement has long been a central component of the Environmental Protection Agency's (EPA) administration of the nation's environmental laws. EPA’s latest strategic plan identifies as one of its five strategic goals protecting human health and the environment by enforcing laws and assuring compliance. Yet, outside observers such as the Government Accountability Office and EPA's own inspector general have offered critical assessments of EPA's performance in promoting compliance. The agency itself has identified a series of ongoing challenges in its enforcement and compliance promotion efforts, including gaps in information about the compliance status of regulated entities, unacceptably high rates of noncompliance, deficiencies in state enforcement of delegated programs, and substantial shortcomings in managing (collecting and transmitting) compliance-related information. These long-standing concerns have been exacerbated recently by an expansion of the size of the regulated community, significant resource constraints, and differentiated responsibilities among regulated sources, which exacerbate the difficulties of tracking compliance.

EPA has responded to these criticisms and challenges by embarking on what it terms a “transformative” enforcement initiative, which it calls Next Generation Compliance (Next Gen). The agency's website characterizes Next Gen, the brainchild of its Office of Enforcement and Compliance Assurance (OECA), as “a modern approach to compliance, taking advantage of new tools and approaches while strengthening vigorous enforcement of environmental laws.”

EPA unveiled the new venture in an article by Cynthia Giles, assistant administrator for OECA, published in 2013. Next Generation Compliance, Envtl. Forum, Sept./Oct. 2013, at 22. As Administrator Giles explained, EPA hopes to exploit new developments in monitoring and information technology to improve enforcement performance, as well as to encourage improved environmental performance and compliance by making regulatory requirements easier to understand and to meet. Giles and other EPA officials have emphasized that the Next Gen initiative is intended to complement traditional enforcement work, not displace it; inspections and initiation of enforcement cases against significant violators will continue to be “an essential part” of EPA's enforcement work.

This article takes a preliminary look at the design and implementation to date of Next Gen Compliance. It first provides an overview of the key elements of the initiative, as EPA has outlined them. It then provides a preliminary assessment of the initiative’s prospects for success in addressing the enforcement and compliance challenges noted above. This assessment addresses the states’ role in Next Gen implementation and the role of other nonfederal actors, including nongovernmental and other community organizations and regulated entities, in Next Gen's implementation. It also reviews the continued development by EPA of tools such as advanced monitoring and electronic reporting, and the agency's integration of Next Gen approaches into the traditional legal mechanisms of rulemaking, permitting, and enforcement. The article concludes by noting Next Gen’s potential to reshape the traditional enforcement landscape in ways that will be important for all stakeholders in environmental regulatory enforcement.

EPA's Next Gen initiative is composed of five key elements: (1) regulation and permit design, (2) advanced monitoring, (3) electronic reporting, (4) transparency, and (5) innovative enforcement. Some of these elements overlap, and EPA's hope is that they work synergistically to improve its ability to foster improved compliance with pollution control requirements under all of the agency's regulatory programs.

Elements of EPA's Next Gen Compliance
The first element of Next Gen involves regulation and permit design. One objective is to design future regulations and permits in ways that will facilitate and promote compliance. Administrator Giles provides several examples of what EPA has in mind in her 2013 Environmental Forum article. See Giles, supra, at 22–23. One approach will be to consider regulatory design that “regulates upstream” for some programs. The smaller the size of the regulated universe, the easier it will be for federal and state regulators to communicate regulatory responsibilities and oversee compliance. A smaller regulatory cohort also may have much better capacity to comply than a larger, dispersed regulatory community. As an example, Giles points to a regulation that places responsibility for installation of air emissions control equipment and certification that cars meet required emissions control standards on the auto manufacturers, not individual car owners. Id. at 23. Another design objective will be to make requirements simpler and clearer so that fewer violations result from inadvertence or misunderstanding of regulatory duties. A third is to rely on third-party validation, self-monitoring, and public disclosure of emissions and other data as part of a regulatory or permitting scheme as a means of leveraging government efforts and reducing enforcement-related burdens for federal and state regulators, an important goal in a time of shrinking resources. Id. at 24.

EPA is likely to promote use of a second element of Next Gen, advanced monitoring, in a variety of contexts. In her article, Giles notes that monitoring devices “are becoming more accurate, more mobile, and cheaper,” and she suggests that these improvements are “contributing to a revolution in
how we find and fix pollution problems.” Id. at 24. She offers several examples of how new technologies with one or more of these features can be put to good use, both to identify problems that were previously unknown, and to increase available information about discharges and emissions. Infrared cameras, for example, make it possible to discover pollution leaks and releases that were previously invisible forms of pollution. Giles suggests that regulated parties can use this information to fix problems, save money, reduce pollution, and avoid compliance problems. Real-time monitoring, including installation of new monitoring technologies in new locations such as fence lines at regulated sources and ambient waters, enables companies, communities, and the government to discover pollution more easily and prevent or limit resulting health issues. The dramatic increase in the availability of monitoring technology, as purchase prices drop, is likely to increase public use significantly. This increased accessibility, combined with the increasing mobility and accuracy of new technology and its capacity to provide real-time results, will, in Giles’s view, "encourage more direct industry and community engagement" and may "reduce the need for government action." Id.

The third element of Next Gen, electronic reporting, involves shifting from submission of written reports (discharge monitoring reports (DMRs) under the Clean Water Act’s National Pollutant Discharge Elimination System (NPDES) permit program, for example) to electronic submission of such reports. EPA’s systems for inputting and transmitting basic compliance information have been less than optimal for the past several decades, as scholars, the Government Accountability Office, and EPA’s Office of Inspector General reports have demonstrated. See David L. Markell, "Slack" in the Administrative State and Its Implications for Governance: The Issue of Accountability, 84 Or. L. Rev. 1 (2005). Administrator Giles acknowledges shortcomings in the existing paper reporting system, noting that much of the information reported to EPA and states by facilities is still submitted on paper, and waits for a government employee to manually enter the data into computer systems. . . . [I]mportant pollution and violation information can go unnoticed. Errors can be introduced through manual data entry, requiring aggravating and time-consuming correction processes.

Giles, supra, at 25. She suggests that “[e]lectronic reporting is a solution that saves time and money while improving results.” Id. EPA’s Giles holds out high hopes that the fourth element, increased transparency, will yield significant dividends in promoting improved compliance. She offers examples of the use of transparency approaches that have already produced substantial benefits by enhancing capacity to “remind” regulated parties of possible pollution problems. Id. These approaches also have put pressure on lower performing companies to reduce emissions or other harmful activities as a means of avoiding the adverse publicity, consumer backlash, and loss of capital investment likely to accompany identification as a high-risk operation. At the federal level, she cites as a prominent example the Toxic Release Inventory (TRI) program established by the Emergency Planning and Community Right-to-Know Act (42 U.S.C. § 11023), which requires certain regulated parties to report and publish information on the chemicals they manufacture, process, or use. Giles attributes to the TRI “a significant drop in emissions.” Id. She also cites a Massachusetts study that showed that drinking water systems that were required to mail drinking water quality reports directly to customers reduced their violations significantly. Massachusetts Water Resources Authority, Your Drinking Water (2008). Giles notes that EPA’s efforts to make data more widely available are “only starting to scratch the surface of the ways transparency can improve results.” Giles, supra, at 25.

Finally, Giles identifies a variety of innovative enforcement strategies that EPA is using, and plans to continue to use, to bolster compliance. Some involve use of tools such as advanced monitoring, electronic reporting, and third-party verification, discussed above, to develop additional and more timely, accurate, and widely accessible information about pollution releases and possible impacts as a way to encourage regulated parties to improve performance, while also helping EPA prioritize use of its resources. She notes that “better, more accurate information” will enable EPA and others to learn more about the effectiveness of different compliance promotion strategies; it will “encourage evidence-based experimentation to find out which strategies work to improve compliance and which do not.” Id. at 26. As Professor Jay Shimshack and others have demonstrated, there is still much to be learned about the effectiveness of different enforcement strategies in different contexts, and an information-rich environment will help shed light on questions that scholars and others have been unable to answer because of historical gaps in the available data. See, e.g., Wayne B. Gray & Jay P. Shimshack, The Effectiveness of Environmental Monitoring and Enforcement: A Review of the Empirical Evidence, 5 Rev. Envtl. Econ. & Pol’y 3 (2011).

Having offered this brief overview of EPA’s Next Generation Compliance initiative, as EPA has framed it, we now offer our own very preliminary assessment of EPA’s efforts to implement the initiative thus far.

A Preliminary Assessment of Next Gen Compliance Implementation

Because EPA’s Next Gen initiative is still early on in its development, it is too soon to know what level of transformation, if any, it will produce if and when it is fully implemented. Part of the answer lies in the identity of the next administration and in the extent to which key actors, including “civil society” (regulated parties, environmental and community groups, and the traditional and “new” media) embrace the effort. Some ambitious past efforts to reconfigure EPA compliance regimes have not been especially successful, and it remains to be seen whether Next Gen will have more staying power or meet a similar fate. Nevertheless, it is possible to offer several preliminary thoughts about the design and implementation to date of Next Gen and to identify some of the issues that are likely to emerge as implementation proceeds.

Next Gen Compliance and the States

Ultimately, EPA’s success (or lack thereof) in getting the states on board is likely to be a significant determinant of Next Gen’s future. As readers are well aware, the vast majority of environmental regulatory work in this country, particularly in the

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It is worth watching not only how effective EPA will be in integrating states into the Next Gen initiative, but also the extent to which rigidity in the EPA-state relationship impedes complementary state objectives.

EPA's progress in securing state buy-in to embrace Next Gen strategies through the various formal mechanisms EPA and the states use to encapsulate state commitments has been very limited. In its FY 2014–2018 Strategic Plan (dated April 2014), EPA notes that "it is hoping to begin a dialogue with states . . . on [the new directions represented by Next Gen]." The plan also states that EPA intends to reassess the current measures it uses to evaluate state performance and to consider new measures that embed Next Gen ideas, after it concludes this dialogue. EPA FY 2014–2018 Strategic Plan (Strategic Plan), at 56, available at http://www2.epa.gov/sites/production/files/2014-09/documents/epa_strategic_plan_fy14-18.pdf. In OECA's FY 2016–2017 National Program Manager Guidance (issued on April 21, 2015, available at http://www2.epa.gov/planandbudget/final-overview-fy-2016-2017-npm-guidances), OECA similarly signals the early stage of its effort to engage the states, noting that it is not yet creating Next Gen "implementation requirements" for the states. Instead, the guidance indicates that EPA had visited eight states to discuss Next Gen as of November 2014 and plans to visit approximately twenty states by the end of FY 2015. In short, EPA is obviously well aware of the importance of state buy-in. It has begun to make efforts to engage the states in Next Gen discussions, but progress in formalizing the integration of Next Gen into the state-federal partnership has been slow. Assuming EPA maintains its commitment to Next Gen ideas (an assumption we return to later), the degree to which Next Gen is successfully embedded into compliance promotion efforts will turn largely on how well Next Gen's features are integrated into the formal EPA-state partnership, with expectations, support, and other features of the relationship adjusted accordingly. States frequently have acted as environmental policy innovators, adopting approaches that provide models to other states and to EPA. As one might expect, some states have pioneered innovative enforcement approaches that qualify as forms of Next Gen. In a June 2015 document entitled National Pollutant Discharge Elimination System Compendium of Next Generation Compliance Examples (June 2015), available at http://www2.epa.gov/sites/production/files/2015-06/documents/npdesnextgencomplcompendium.pdf, EPA includes several examples of states using NPDES permits to advance Next Gen approaches. The Massachusetts Port Authority (Massport) has committed in its NPDES permit for Logan International Airport to post results of water quality sampling at airport outfalls on the MassPort website, www.massport.com/environment/environmental-reporting/water-quality/monitoring-results. Similarly, the NPDES permits for the cities of Cambridge and Chelsea, Massachusetts, require the permittees to notify local health agents and watershed advocacy groups by email within 24 hours of a combined sewer overflow discharge event. The agency also lists examples of states using rule promulgation for the same purpose. For instance, Ohio and New York regulations require NPDES permittees in their respective jurisdictions to post at their outfalls signs that provide contact information for the permittee. In addition, Ohio instituted an e-DMR system in 2007 and, by 2011, 100 percent of Ohio's NPDES permit holders were reporting electronically. EPA also provides examples of states using various types of advanced monitoring, such as real-time water quality monitoring of E. coli that the Oregon Department of Environmental Quality and others are developing for the Tillamook River. This monitoring network will provide data to a website on a two-minute interval continuously, "providing a large amount of previously unobtainable data that illuminates 24-hour, 7-days-a-week bacterial fluctuations in the watershed." Id. at 20. Information of that kind is of obvious value to river users, as well as allowing state water authorities to identify pollution spikes that warrant inquiry into their causes.

These and many other examples leave little doubt that some state and local governments will continue to use their legal authorities to expand use of advanced monitoring, electronic reporting, and increased transparency, independent of EPA requirements. An outstanding question that will bear watching involves not only how effective EPA will prove to be in integrating states into the Next Gen initiative, but also the extent to which rigidity in the EPA-state relationship (and in the benchmarks EPA uses to assess state performance) impedes complementary state initiatives. The Environmental Council of the States (ECOS) compiled in March 2015 a representative list of types of flexibility states have sought from EPA. This effort reflects, at a minimum, some states' concern that EPA's traditional expectations may inadvertently operate to reduce state capacity to experiment with new approaches that are consistent with Next Gen's goals.

The Role of Other Nonfederal Actors in Next Gen Compliance Implementation

The receptivity to Next Gen ideas of other nonfederal agency actors, including regulated parties, environmental and community NGOs, and the courts, will also have a significant effect on the future prospects of the initiative. Other EPA enforcement initiatives to expand compliance promotion efforts by using strategies beyond the agency's traditional focus on
inspections and enforcement actions, such as Project XL, Performance Track, and others, have foundered, at least in part because of resistance from various outside quarters. Some NGOs have already expressed skepticism about Next Gen because of their concern that it may distract attention from the decline in EPA resources, which they are concerned may undercut the vibrancy of its enforcement program. As indicated above, EPA insists that Next Gen is a supplement to, not a substitute for, traditional enforcement. Its 2014–2018 Strategic Plan describes Next Gen as “the right direction for the agency regardless of resources because it will increase effectiveness, and it becomes more urgent in a time of challenging budgets. . . .” Strategic Plan, supra, at 39. In the same plan, however, EPA projects significant declines in annual inspections and in administrative and judicial enforcement filings and dispositions. It also estimates a fall in the level of pollution avoided as a result of traditional enforcement. Measures like these certainly are not a definitive measure of the impact of environmental enforcement, and EPA has explained that its decision to focus enforcement efforts on large, complex cases will not jeopardize the protective impact of its enforcement activities. Strategic Plan, supra, at 38. Still, these projections suggest, at least to some environmental NGOs, that the agency’s commitment to traditional enforcement bears watching as the Next Gen initiative unfolds. In addition, an important feature of Next Gen is that communities will, with the availability of new tools and new data, serve as a “big motivator” for regulated parties to improve performance. It remains to be seen to what extent communities take up this mantle and how effective in promoting compliance a larger role for community-oriented NGOs will prove to be.

For different reasons, the receptivity of regulated parties to Next Gen strategies will be important to its success. Some regulated parties may be apprehensive about the implications of implementing Next Gen strategies. All else being equal, the regulated community typically prefers certainty. If Next Gen turns out to be as revolutionary as EPA hopes, virtually every aspect of environmental regulation will be affected. Regulated entities may encounter unfamiliar regulatory requirements, permit terms, enforcement processes, and settlement conditions, all of which may be unsettling to these entities, at least initially. It would not be surprising, therefore, if some degree of pushback from the regulated community were to emerge. How regulated parties respond to increased NGO engagement will also be important to the success (or lack thereof) of Next Gen strategies.

**EPA’s Role in Advancing Next Gen Compliance**

Shifting to EPA itself, what should we expect the agency to do to advance Next Gen ideas? In our view, four approaches are likely to be of particular interest to NR&E readers—continued development of tools such as advanced monitoring and electronic reporting, and integration of Next Gen approaches into each of three traditional agency legal mechanisms, rulemaking, permitting, and enforcement. The agency’s goal will be to continually move the ball forward in enhancing Next Gen features such as advanced monitoring, electronic reporting, and, often related, increased transparency through R & D and other efforts. Significant aims will include enabling sampling in areas where it does not occur now (e.g., at facility fence lines) and development of reliable monitoring technology that is widely accessible at low cost so that citizens as well as government officials and regulated parties can participate in monitoring. The three goals outlined in the agency’s Draft Roadmap for Next-Generation Air Monitoring (March 2013), available at 03-US-EPA_Roadmap_NGAM-March2013.pdf, embody this agenda:

- promote development of affordable near-source fence-line monitoring technologies and sensor network-based leak detection systems;
- supplement air quality monitoring networks through development of low-cost, reliable air quality monitoring technology; and
- support environmental justice communities and citizen efforts to measure air pollution in local areas.

The examples we provide below of EPA and state efforts to use these tools reveal that a wide array of emerging technological developments has potential to influence (and improve) our understanding of both releases and ambient conditions. EPA’s OECA has worked closely with experts throughout the agency on advanced monitoring opportunities. While the pace of development is uncertain, the path EPA is taking and likely to continue to take, notably to encourage and exploit technological advances to enhance the capacity of government, regulated parties, and citizens to engage in monitoring through technological innovation, is clear. This recasting of monitoring capacity is likely to shape how EPA seeks to promote compliance through the various legal mechanisms (such as rulemaking, permitting, and enforcement) available to it. EPA’s OECA similarly has made efforts to engage other parts of the agency in connection with the use of different legal mechanisms to advance Next Gen ideas, to which we turn next.

**EPA’s Tools to Implement Next Gen Compliance**

OECA has had some success in embedding Next Gen ideas in various actions the agency has taken in performing its rulemaking, permitting, and enforcement responsibilities. We begin with rulemaking. There are already several examples of EPA’s seeking to use its regulatory authority to advance Next Gen ideas. Perhaps the most prominent example involves EPA’s effort to promote e-reporting. EPA has established a default requirement that future reporting be done electronically. NPDES June 2015 Compendium, at 13. In July 2013, EPA proposed the NPDES electronic reporting rule, 78 Fed. Reg. 46,006 (July 30, 2013), which it re-noticed for additional comment in December 2014. See 79 Fed. Reg. 71,066 (Dec. 1, 2014). As proposed, the rule will require electronic reporting of NPDES DMRs, rather than the paper reporting used to date. EPA estimates that the rule will reduce the reporting burden by 900,000 hours when it is fully implemented. It also suggests that electronic reporting will lead to “innovative” and improved government enforcement because the improved accuracy and timeliness of discharge information, as well as the greater capacity for comparing discharge information that electronic
reporting will provide, will enable EPA and the states to do a better job of targeting the most significant violations. Finally, EPA suggests that the increased transparency and improved accuracy and timeliness of the discharge data may motivate regulated parties and others to use additional monitoring to better understand the implications of the discharge results.

EPA has not compiled a comprehensive list of rules or proposed rules that include Next Gen features, but in addition to the e-reporting ventures, others include a rule involving emissions controls on oil and gas operations that moves up the supply chain to make compliance easier in terms of installation of air pollution control equipment, 78 Fed. Reg. 22,126 (Apr. 12, 2013), and a proposed rule that addresses third-party monitoring for formaldehyde/composite wood products, 78 Fed. Reg. 34,820 (June 10, 2013), which EPA is required to promulgate under The Formaldehyde Standards for Composite Wood Products Act (creating a new Title VI in the Toxic Substances Control Act, 15 U.S.C. § 2697).

In addition to rulemaking, EPA is using, and will continue to use, its permitting authorities to advance Next Gen. EPA's June 2015 Compendium of NPDES examples of Next Gen identifies specific permits that incorporate Next Gen ideas (similar compendia are not yet available for actions under RCRA or the Clean Air Act). EPA's regulations give agency staff considerable discretion to develop appropriate permit terms that incorporate monitoring requirements. 40 C.F.R. § 122.48 requires permit writers to “specify required monitoring including the type, intervals, and frequency sufficient to yield data which are representative of the monitored activity, including, when appropriate, continuous monitoring.” EPA has developed continuous monitoring technology for flow, temperature, and pH and is developing such technologies for other pollutants as well. While use of advanced monitoring technologies may pose a variety of technical challenges, including accuracy, reliability, security, privacy, and operation and maintenance, EPA Region 1 has issued permits with continuous monitoring requirements for temperature to industrial facilities and nuclear power plants when cooling water is involved. (Compendium, at 17). EPA Region 10 has similarly issued permits requiring continuous flow and temperature monitoring for effluent discharges and continuous temperature monitoring for surface water. In terms of encouraging transparency, one example EPA lists in the Compendium is its Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), which allows a permittee to meet the public availability requirements for the stormwater pollution prevention plan by posting the plan on the internet.

A third tool that EPA has already begun to use to advance Next Gen ideas is its suite of enforcement authorities. OECA Assistant Administrator Giles issued a guidance document in January 2015 intended to encourage the use of settlements to advance Next Gen principles, entitled “Use of Next Generation Compliance Tools in Civil Enforcement Settlements” (January 2015), available at www2.epa.gov/sites/production/files/2015-01/documents/memo-nextgen-useinensettlements.pdf. Giles’ memorandum directs EPA staff to consider Next Gen compliance tools in all cases and to include them “whenever appropriate in civil judicial and administrative settlements.” EPA has compiled a representative list of enforcement settlements to date that include Next Gen features, and its June 2015 NPDES Compendium lists several settlements as well. See EPA, Next Generation Enforcement Settlement Highlights (Jan. 12, 2015), available at www2.epa.gov/sites/production/files/2015-01/documents/nextgen-enfsettlementhighlights.pdf. One example of a recent settlement incorporating Next Gen ideas is a Clean Air Act settlement, announced in May 2015, requiring Marathon Petroleum Corporation to reduce air emissions at ten of its facilities. As one form of relief, Marathon agreed to use advanced monitoring technology, notably an infrared gas-imaging camera, to inspect fuel storage tanks at several of its fuel distribution terminals in order to discover defects that could cause excessive emissions. Marathon committed to complete any necessary repairs if defects were discovered. See EPA, U.S. Settles with Marathon Petroleum Corporation to Cut Harmful Air Emissions at Facilities in Indiana, Kentucky and Ohio (May 19, 2015), available at http://yosemite.epa.gov/opapadmprotect.nsf/0/07CE680B3FE75B8485257E4A005E1853.

Conclusions

Some commentators have used the metaphor of a turtle to capture the idea that efforts to reorient the administrative state and the agencies at its core typically occur at a slow pace. EPA's OECA clearly believes that dramatic change is needed (and possible) to address ongoing deficiencies in enforcement performance or gaps in compliance rates and significant new challenges. Accordingly, OECA has launched its Next Gen Compliance initiative to effect such dramatic changes. Next Gen has the potential to influence the practice of environmental law in several ways. EPA has already begun to experiment with changes in its use of its key legal authorities—rulemaking, permitting, and enforcement. In addition to engaging such developments at the federal level, the extent to which states embrace Next Gen ideas, working in tandem with or independently of EPA, should also be high on the radar screen for readers. And, finally, the emerging opportunities and expectations for regulated party and community involvement have significant potential to reshape the traditional enforcement landscape in ways that will be of considerable importance to practitioners. The roll-out of Next Gen will also provide rich analytical targets for scholars and policy makers interested in EPA's effort to reorient a very complex regulatory regime in order to take advantage of a revolution in governance capacity. 

Electronic discharge monitoring reports under the National Pollutant Discharge Elimination System are predicted to reduce the reporting burden by 900,000 hours and improve enforcement.