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RESEARCH REPORT

Federal Regulations and State Flexibility in Environmental Standard Setting

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**FEDERAL REGULATIONS AND
STATE FLEXIBILITY IN
ENVIRONMENTAL STANDARD SETTING**

Environmental Law Institute

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Federal Regulations and State Flexibility in Environmental Standard Setting
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Introduction

Under U.S. environmental law, state programs operate in place of federal programs where the state programs are consistent with the federal programs and have been approved by the Environmental Protection Agency. State laws may be more stringent than the federal laws, and states need not adopt the exact wording of federal laws in order to receive program approval.

A recurring U.S. environmental policy debate concerns the degree of flexibility that should be accorded States in setting environmental standards. Beginning in the 1970s, the federal government assumed the leadership role in U.S. environmental regulation and standard-setting. This statutory development occurred, in part, because of Congressional concerns with inconsistent (or non-existent) programs among the States at that time. Despite concern with state inconsistency, virtually all federal environmental laws provided for implementation by State governments where States elect to assume that burden from the federal government. This approach, called "cooperative federalism," is the hallmark of the U.S. environmental regulatory system.

In recent years, representatives of State regulatory agencies have argued that in order to make further progress in achieving environmental goals they need more flexibility in setting regulatory standards. In many instances, state calls for more flexibility have been supported by regulated entities, who believe that such flexibility will, in turn, allow them more flexibility in their operations; however, some regulated entities have also expressed concern with the potential difficulties of complying with a multiplicity of standards imposed by different states.

At the same time, in general, environmental citizens organizations frequently express concern that affording States more flexibility may create opportunities for regulated entities to delay compliance, and that such flexibility in State-specific standards may frustrate enforcement by making standards more costly to monitor and oversee. The potential lack of uniformity threatens a lack of accountability, they fear.

This Environmental Law Institute report focuses on the role that *federal environmental regulations* play in the context of the federal-state standard-setting relationship. Federal regulations provide one of the critical points at which the flexibility of State programs is determined. Of course, federal environmental statutes themselves and informal federal policies also determine how much leeway the states

have.¹ Federal regulations may prescribe State conformity to federal approaches, authorize alternative approaches by States, or be silent on the opportunity for flexibility. Thus, attention to the regulations is essential if state flexibility is desired. Particularly where a federal statute appears to offer flexibility, the implementing regulations may be relevant if they constrain it by limiting State options. Similarly, if federal statutes are silent or ambiguous on flexibility, federal regulations may fill the gap by either authorizing or constraining State flexibility.

The chapters of this report examine the role of federal regulations in affording or constraining state flexibility in the U.S. environmental legal system. Chapter One provides an overview of how federal regulations relate to standard setting. Chapter Two identifies the general policy consequences of providing for State program flexibility -- highlighting both positive and negative considerations. Chapter Three examines how federal regulations currently provide for flexibility in this relationship, identifying the techniques used in the regulations either to afford or to constrain state flexibility. Chapter Four evaluates these techniques in terms of the consequences identified in the second section. Chapter Five concludes with a summary of the issues that must be addressed in constructing or reconstructing a federal regulatory regime that encourages or constrains State flexibility.

The debate concerning the proper degree of flexibility to be accorded State governments is relevant not only within the United States, but also within other nations with federal systems that are just beginning the process of calibrating the relationship between national and State governments with respect to environmental issues. The U.S. experience offers some ways of thinking about when and how to offer States flexibility within national programs.

ENDNOTES

1. See generally, *Comparison of Federal-State Allocation of Responsibility in Five Environmental Statutes*, Environmental Law Institute, September 1995.

Chapter One



Federal Regulations In the U.S. Environmental Law System

Regulatory standards are intended to implement the goals set in federal legislation. In enacting these statutes, Congress ordinarily establishes basic national goals. Federal statutes may also prescribe specific requirements deemed important by Congress. Federal regulations adopted by the Environmental Protection Agency (EPA) then operate to give specific content to the basic goals or to define how the requirements are to be met.

For example, the Clean Water Act sets out as its objective "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."¹ Other national goals set forth in the Act include: the elimination of the discharge of pollutants into the navigable waters by 1985; the prohibition of the discharge of toxic pollutants in toxic amounts; the expeditious development and implementation of programs for the control of nonpoint sources of pollution.² The Clean Water Act further states that "[i]t is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator [of EPA] in the exercise of his authority under this chapter."³ Federal regulations are developed, in part, to define how these objectives are to be attained.

Under the Clean Water Act, as under other environmental statutes, the Administrator of EPA is authorized to issue appropriate regulations. These regulations are developed and promulgated in accordance with procedures involving public notice and comment under the Administrative Procedure Act⁴ as well as specific procedures set forth in the underlying environmental statute. Once issued, the regulations have the force of law at the federal level, and operate directly in the States unless a State develops its own environmental program for federal approval. Most of the major environmental statutes provide that EPA shall authorize State governments to assume some or all of the responsibility for program implementation, subject to federal oversight.⁵

Aspects of program implementation that may be assumed by States range from permit issuance and standard-setting to monitoring and enforcement. The Administrator has authority to adopt federal regulations to determine how EPA will determine whether States have the capacity for implementation of the programs, and how oversight will be conducted. If a State chooses not to seek federal authorization for its program, or, in the rare instance where EPA decides that a State program is not approvable, then the EPA must administer the federal regulations directly in that state.⁶

Federal statutes require that State programs must be "consistent" with the federal requirements in order to be approvable.⁷ Thus, federal regulations are directly relevant to the issue of State "flexibility" in two ways --

- (1) by establishing the conditions for State program approval by EPA, and
- (2) by setting the substantive content of the programs which must be implemented by any State.

As constraints or opportunities for flexibility, the federal content requirements are the more important. Federal program approval regulations are relatively general (dealing with such matters as assuring State legal capacity, staffing, and funding).⁸

While federal regulations are critical in setting the terms of the federal-State relationship, statutes do limit to some degree the amount of the flexibility that EPA may give to the States in establishing standards and procedures. For example, the Clean Water Act sets out basic elements that *must* be incorporated in State permit programs for discharges into navigable waters in order for the programs to be approved by the Administrator. These requirements cover procedural matters, such as requirements to insure that the public receives notice of a permit application and is provided with an opportunity for public hearing before a ruling on each such application, and substantive standards, such as requirements to insure that no permit will be issued if navigation of any navigable waters would be substantially impaired.⁹ But the statute does not prescribe particular standards for specific industrial discharges, nor does it prescribe stream standards. These matters are determined by federal and state regulation in the first instance.

The degree of flexibility that States may exercise in delegated programs is significantly influenced by whether EPA has chosen to regulate through a performance standard or a design standard.

Performance standards generally establish the level of environmental protection that is required, leaving it to the regulated entity to determine the means of achieving the required level of protection. Design standards, in contrast, set out the specific means for achieving a required objective. Most EPA programs combine the use of performance and design standards. Performance standards focus on the environmental objective, and so are sometimes preferred. Design standards can sometimes be easier to enforce, because an inspector or government agency may be more readily able to detect whether an entity has installed a required technology than whether the entity has succeeded (or will succeed) in avoiding environmental harm.

State programs, too, use both performance and design standards -- often because the federal regulations require them to do so. Federal performance standards generally *must* be reflected in State performance standards: States must guarantee performance that is no less stringent than the federal requirements. For example, although States are given the flexibility to adopt their own discharge standards under the Clean Water Act, a State may not adopt or enforce a standard of performance which is less stringent than the federal standard.¹⁰ In other instances, federal design standards are often reflected in State design standards, either because the federal regulations require it (such as requirements for leachate collection systems for hazardous waste landfills), or because it is the easiest way for a State to obtain federal approval of its program as "consistent" with the federal program.

Flexibility is sometimes afforded by combining the two types of standards. For example, States may be authorized to allow regulated entities the option of either implementing a specified design or developing their own means to achieve a desired performance level. Attention to the interplay of performance and design standards can be quite important in understanding opportunities for flexibility.

ENDNOTES

1. 33 U.S.C. §1251(a).
2. 33 U.S.C. §1251(a).
3. 33 U.S.C. §1251(b).
4. 5 U.S.C. §500 - 596.

5. Environmental Law Institute, *Federal Oversight of Authorized State Environmental Programs: Reforming the System*, September 1995.

6. Most States have sought and obtained federal approval to operate State programs in place of the federal program under most EPA statutes. There is substantial variability, however. More than ten States do not have approval under the Clean Water Act to operate the NPDES program, for example.

7. E.g., 33 U.S.C. § 1342(b)(state programs must "comply and insure compliance with all applicable requirements..." of the federal NPDES program); 42 U.S.C. § 6926 (state programs must be "equivalent to" and "consistent with" federal RCRA requirements).

8. E.g., 40 C.F.R. Part 123 (Clean Water Act); 40 C.F.R. Part 271 (RCRA).

9. 33 U.S.C. §402(b).

10. 33 U.S.C. §1370.

Chapter Two



Consequences of Flexibility

This chapter identifies the policy consequences that may result from allowing States to exercise flexibility in implementing their authorized programs. Advantages include ability to address local conditions, promotion of innovation in regulation and technology, comprehensiveness of coverage, and opportunities for continuous improvement. Disadvantages include commercial impacts of varying standards, possible weaknesses in State capacity to set standards, and increased demand for monitoring and enforcement resources.

ADVANTAGES OF AUTHORIZING STATE FLEXIBILITY

Ability to Address Local Conditions

Providing for a greater degree of flexibility for States in setting performance levels or processes may improve the ability of State programs to tailor their efforts to address unique local conditions. These may include differences in geographic, economic, and social, as well as environmental conditions. For example, States which depend on revenue from tourism based on the use and enjoyment of natural resources may want to establish stricter environmental performance standards or standards covering additional resources than States which either do not have similar resources or elect to use such resources for other purposes.

Differences in local conditions may also call for different processes. For example, States with dry climates may want to allow the use of evaporation ponds for facilities seeking to reduce the volume of wastewater to be treated while such technology would not be a viable option in humid climates. Similarly, different levels of containment may be called for depending on the permeability of the local soil. As another example, the processes that may be necessary for giving effective notice and receiving public comment may be different for large cities than for rural areas. Similarly, large or mountainous States may need to make available more local depositories of information than small States where citizens can easily visit regional offices or the state capital.

Promoting Innovative Approaches

Providing for flexibility in the federal-state relationship may promote and increase the "laboratory function" of States. One of the benefits of the federal system is the theoretical availability of fifty "laboratories" (that is, each of the States) to experiment with innovative approaches to regulating common problems. Innovative approaches may achieve higher performance levels, be less costly for the regulated community to implement, be easier for State regulators to monitor, or have other advantages. Even if an innovative approach fails or turns out to be more costly, the negative impact is minimized because the approach is not implemented everywhere. Other States, and the federal government, can benefit from this learning experience.

Innovation also allows the U.S. to lead by example in global policy negotiations and to develop and maintain a competitive edge in the development of green technology. Static national standards may discourage experimentation that can provide important business opportunities.

Providing for flexibility may also allow the regulated community to contribute to the design of innovative approaches. Often the regulated community may have the best technical information on the causes of, and potential solutions to, an environmental problem.

Ability to Address All Aspects of a Problem

In theory, national requirements cover aspects of a problem that are common throughout the country but may not necessarily relate to other manifestations of the problem that are unique to one State or region. For example, national standards for containment structures may be appropriate to protect groundwater from spills in most hydrogeologic settings. However, such standards may be insufficient in karst (limestone) environments because of the greater potential for contaminant transport through these complex systems.

Likewise, States may use flexibility to target monitoring upon particular pollutants of local concern rather than upon a prescribed list that includes contaminants not used in a local setting. Flexibility allows States to tailor their programs to cover additional manifestations of problems, while allowing other States to avoid the expense of preparing to address problems they do not face.

Moreover, preserving the ability of States to address all aspects of a problem increases the legitimacy of environmental regulation in the eyes of the public. One-size-fits-all regulations that clearly do not even cover glaring areas of environmental harm tend to suggest that regulation is ill-informed. Thus, federal regulations that require massive expenditures by States on minor pollution sources while not even attempting to control major discharges of the same pollutants from unregulated sources may actually hinder States from achieving important reductions, and from conveying the importance of these reductions to the public. For example, EPA regulations may not cover emissions of volatile organic compounds from some facilities, nonpoint discharges of nutrients and other pollutants in waterways, or may exempt mining or petroleum facilities from national regulations applicable to hazardous substances. It may be possible for a State to solve an environmental problem more effectively by taking a different approach than that authorized in the federal regulations.

Improving Environmental Performance

Building flexibility into a regulatory system can make it easier for regulators to increase environmental performance levels over time. Flexible performance or design standards allow individual States, where there exists a political consensus for higher levels of protection, to take advantage of that opportunity. Reflecting this desirable outcome, most federal environmental statutes establish baseline performance standards and allow the States to adopt more stringent standards.

Where political consensus for higher levels of protection does not exist, however, authorizing flexibility may produce lower levels of protection. In theory, this could lead to the creation of environmental hot spots or pollution havens. Federal minimum standards are intended to prevent the occurrence of these problems. But such standards exist only for problems specifically covered by federal statutes.

DISADVANTAGES OF AUTHORIZING STATE FLEXIBILITY

Promoting National and International Commerce

Uniform performance levels and processes may in some cases facilitate commerce among the States and with foreign countries. For example, producers of environmental technology may have a larger market for a given product if the standards which govern the design and performance level of the product are the same.

The same holds true for products that are not used to improve the environment but are subject to environmental performance standards because the product directly or indirectly affects the environment. For example, under the Clean Air Act, states cannot impose their own vehicle emissions standards -- as this could confront carmakers with an impossible array of product design barriers. Nevertheless, recognizing the needs for cleaner cars in some settings, the Act establishes a two-tier system; states must either follow the federal standard or adopt the "California" standard.¹

Different standards among States may also require industries with multi-state operations to establish multiple management and training systems in order to achieve compliance. Similarly, such industries may need to invest more in research and development to meet varying State design or performance standards -- funds that might be better spent on product improvements. Thus, there are potential disadvantages to State flexibility.

Cost and Capacity Issues

The development by the States of their own performance and design standards necessarily requires them to invest in research and development to support these standards. This may be difficult for many States. A former state environmental commissioner told ELI, "It is also true, in my experience, that the states do not have the scientific resources to set better standards, unless the question turns on state-specific environmental conditions."² Thus, federal regulations that afford States flexibility but that do not provide a default federal standard or additional funding and technical assistance to States can actually create burdens.

Allowing States flexibility in designing standards may also increase the time for achieving environmental goals. States may need time to develop State-specific approaches rather than rely on federally-prescribed methods. Moreover, some State approaches will not work as well as expected and may need to be re-worked. This too can cause delay.

Flexibility may increase uncertainty in the regulated community. For example, if a State program only sets performance standards, the regulated community -- especially small businesses -- may not be aware of the methods that are most likely to be successful in achieving these standards.

Monitoring and Enforcement Concerns

Although EPA may authorize a State's program, it remains ultimately accountable to Congress for implementation nationwide. Thus, EPA needs to be able to assure up front that authorized State programs will work as proposed and to monitor continued effectiveness throughout the life of the program. This oversight function is one of EPA's core responsibilities, and one of the most difficult to execute well.

Allowing States to develop their own performance standards or to substitute performance standards for federal design standards places a greater burden on States' effectiveness in monitoring, and in identifying deficiencies prior to an adverse event affecting the environment. Performance standards are easiest to enforce after they have been violated. It is harder to identify in advance systems that will necessarily lead to violations because they are inadequate to meet the performance standard. Thus, State-developed performance standards, and especially those that operate in lieu of federal design standards, may imply the acceptance of a greater amount of risk in exchange for the concomitant flexibility. In addition, enforcement staff require greater sophistication and ability to assess operations that are intended to meet performance standards.

By the same token, allowing States more flexibility in developing their own design standards may also decrease EPA's levels of certainty concerning performance. Although States can be required to demonstrate the effectiveness of new designs or technologies, these demonstrations may not take into consideration unknown factors or conditions that may change in the future. In addition, with regulatory frameworks that allow design flexibility, both EPA and the States may need to invest more resources in setting up the processes for reviewing in advance, and monitoring the effectiveness of, alternative designs or technologies. The additional time necessary for case-by-case reviews may also delay implementation of the program. In designing these review procedures, safeguards will need to be incorporated that assure equitable treatment of different cases.

Flexibility in State standard setting may also make EPA's role in monitoring performance more difficult. In order to assure that State programs with different standards are being judged equally, EPA may need to develop environmental performance indicators. Developing these indicators is a more difficult process than monitoring implementation of similar measures (e.g., number of inspections, number of enforcement actions, number of permit actions). The need will be to develop agreed indicators in conjunction with the establishment of the State's innovative program so that results can be tracked against a predicted outcome with both EPA and the State accepting the oversight approach.³

SUMMARY

Affording flexibility to State programs in setting environmental standards offers both advantages and disadvantages. It is clear, in the statutes at least, that Congress has opted to allow States flexibility so long as certain federal minimums are met. In its regulations, EPA has both expressed and constrained this flexibility.

The next section examines the techniques EPA currently uses in its regulations to offer and control State flexibility, and identifies reasons for the federal agency's use of these techniques.

ENDNOTES

1. 42 U.S.C. §§ 7543(a), 7507.
2. Personal communication, February 16, 1995 (on file at ELI).
3. Environmental Law Institute, *Federal Oversight of Authorized State Environmental Programs: Reforming the System*, September 1995, at 30-35.

Chapter Three

Flexibility Techniques in Current Regulations

EPA's regulations currently provide some flexibility to States, using a limited number of techniques. This chapter examines these techniques which provide for the translation of federal standards into State requirements. Key considerations include how much deviation is allowed from the federal model, and what regulatory conditions are imposed on any authorized deviations. Federal regulations usually take the form of either performance standards or design standards. Performance standards prescribe a required result; design standards prescribe a required means. Current EPA regulations provide examples of flexibility from each type of standard, using a limited array of techniques.

PERFORMANCE STANDARDS

EPA uses at least three techniques to authorize and constrain State flexibility to set performance standards. These are the "minimum requirements," "conditional flexibility," and "process" techniques.

Minimum Requirements

One regulatory structure EPA uses to provide flexibility is to set a baseline or floor level of performance and then allow the States to require a more stringent level of performance at their discretion. Most of the major environmental statutes establish the baseline level of performance in the statute itself. In some cases EPA sets baseline numerical performance standards to which the States must adhere. For example, EPA sets the National Ambient Air Quality Standards (NAAQS), which are set to protect public health with an adequate margin of safety.¹ State implementation plans must meet these performance standards.

Performance Standards: Minimum Requirements

"As recognized by section 510 of the Clean Water Act, States may develop water quality standards more stringent than required by this regulation." 40 C.F.R. 131.4(a).

"Criminal fines shall be recoverable against any person who willfully or negligently violates any applicable standards or limitations; any NPDES permit condition; or any NPDES filing requirement. These fines shall be assessable in at least the amount of \$10,000 a day for each violation." 40 C.F.R. 123.27(a)(3)(ii).

In the first case, the minimum requirement for performance is the water quality standards required by the regulation; States have flexibility to set standards that are even more protective of water quality. In the second case, the minimum requirement is that a criminal sanction exist and that the monetary penalty be at least \$10,000 per day for each violation. States may establish higher fines, provide for prison sentences, and use standards requiring proof of less than a willful or negligent intent in order to establish liability.

The minimum requirements technique does allow deviation from the federal model, but significantly constrains such deviation. Any performance standard that differs from the federal standard must be scrutinized to determine whether it is, in fact, more stringent, or simply inconsistent. This scrutiny can exact substantial transaction costs from both EPA and the relevant State government. It is a preferred approach, however, because of the perceived importance of having a national baseline of performance – thus leveling the playing field among competing industries in different States and assuring all residents of the United States a minimum level of environmental and health protection.

One of the consequences of this approach is that a significant number of states will stick to the federal minimum and not attempt any innovation. Indeed, at least 24 States have legislatively enacted prohibitions on the adoption of standards that are more stringent than federal standards with respect to one or more federal environmental programs² and others have adopted such limits by Executive Order.³ For example, South Dakota's legislature has enacted the following prohibition:

No rule that has been promulgated pursuant to Title 34A [Environmental Protection], 45 [Mining, Oil, and Gas], 46 [Water Rights], or 46A [Water Management] may be more stringent than any corresponding federal law, rule, or regulation governing an essentially similar subject or issue.⁴

The minimum requirements technique is the one most frequently used in EPA regulations. Indeed, it is ubiquitous in environmental regulations primarily because most of the federal *statutes* use this technique in setting out the outlines of the national programs. State innovation is constrained in the downward direction, but, in theory, is unfettered with respect to greater stringency. Because it is not always clear whether a State innovation is more stringent or not, however, oversight and program authorization policies can make a minimum requirements technique fairly restrictive in practice.

Conditional Flexibility

Conditional flexibility is a common variation on the minimum requirements technique. The State must demonstrate the existence of certain conditions in order to be able to exercise flexibility in setting a standard. (The new State standard may in turn be subject to a minimum requirement.) The conditional flexibility technique may allow a range of deviations from the federal standard. Inter-governmental transaction costs are rarely an important factor because the conditions for deviation are spelled out with specificity in advance.

Performance Standards: Conditional Flexibility

"The States may establish higher or lower [secondary maximum contaminant] levels [for public water systems] which may be appropriate dependent upon local conditions such as unavailability of alternate source waters or other compelling factors, provided that public health and welfare are not adversely affected." 40 C.F.R. §143.3.

"If a community water system serving 25 - 1,000 persons has no history of total coliform contamination in its current configuration and a sanitary survey conducted in the past 5 years shows that the system is supplied solely by a protected groundwater source and is free of sanitary defects, the State may reduce the monitoring frequency specified above, except that in no case may the State reduce the monitoring frequency to less than one sample per quarter." 40 C.F.R. §141.21 (a)(2).

"States may adopt seasonal uses as an alternative to reclassifying a water body or segment thereof to uses requiring less stringent water quality criteria. If seasonal uses are adopted, water quality criteria should be adjusted to reflect the seasonal uses, however, such criteria shall not preclude the attainment and maintenance of a more protective use in another season." 40 CFR 131.10(f).

In the first example, the State's flexibility in setting alternative secondary maximum contaminant levels is subject to the condition that public health and welfare are not adversely affected. In the next example, the State's flexibility in reducing monitoring is subject to several conditions, including the number of persons served by the system, the history of coliform contamination, and the results of a sanitary survey. In addition, the State's flexibility is subject to a minimum standard of performance of no less than one sample per quarter. In the third example, the State's flexibility is conditioned on its meeting the general statutory goal in an alternative way, subject to a baseline condition of maintaining the water body's ability to achieve a more protective use in another season.

Process Requirements

Another technique by which EPA allows States flexibility in setting standards is to set out the *process* the States are to follow in establishing their own performance standards. This technique is used in lieu of specifying the performance standard.

In many cases EPA specifies the process by outlining the factors that the States must or may take into consideration in establishing a standard.

Performance Standards: Process Requirements

"Each State shall estimate for the water quality limited segments still requiring TMDLs identified in paragraph (b)(2) of this section, the total maximum daily thermal load which cannot be exceeded in order to assure protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the identified waters or parts thereof." 40 C.F.R. §130.7(c)(2)

In this case, the States are given the flexibility to establish total maximum daily thermal loads which cannot be exceeded in order to assure protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife. In making these calculation, the process is to include consideration of the factors listed including normal water temperatures, flow rates, seasonal variations, etc. The process also includes calculation of a margin of safety.

DESIGN STANDARDS

EPA uses at least four techniques in allowing and constraining States' flexibility with respect to State design standards. These techniques are "meeting performance standards," "minimum requirements," "choice among options," and "conditional flexibility."

Meeting Performance Standards

EPA may set out both design and performance standards but then allow the States substantial flexibility to meet the performance standard through some design standard other than that in the federal regulations. In effect, this technique replaces the

federal design standard with a federal performance standard and allows the State to prescribe a suitable design standard.

A variation on this technique is to allow the State to design its own process for achieving a federal performance standard. That is, the State may prescribe a process rather than a design standard of its own.

The "meeting performance standards" technique offers the potential for substantial State deviations from the federal design standard template. It is, in theory, the most flexible technique. On the other hand, this technique may offer little flexibility in practice if, in practice, federal agency oversight practices require detailed demonstrations of equivalence as a prerequisite to approving the State measure.

Design Standards: Meeting Performance Standards

"Nothing in this part will be construed in any manner...to preclude a State from preparing, adopting, or submitting a plan which provides for attainment and maintenance of a national standard through the application of a control strategy not specifically identified or described in this part." 40 CFR 51.101(e).

"States shall enforce such requirements [prohibitions on use of lead pipes, solder and flux] through State or local plumbing codes, or such other means of enforcement as the State may determine to be appropriate." 40 C.F.R. §141.43(b)(1).

The first example, from clean air regulations, illustrates the performance standard technique in general terms. Although States do not have flexibility under the Clean Air Act to loosen design standards for new sources and certain other regulated emitters, the federal regulations do recognize that State Implementation Plans may include a variety of approaches for meeting national ambient air quality standards or other standards, including design standards and control measures not spelled out in federal regulations. The second example illustrates a related approach -- allowing the State to design its own process to carry out a federal performance standard. The federal regulations spell out the substantive requirement, but the State may select its own means for implementing the requirement.

Minimum Requirements

This technique is similar to that discussed above in the context of performance standards. EPA sets out the basic elements required and then allows States to add others.

Design Standards: Minimum Requirements

"The State may determine the format of its CPP [continuing planning process] as long as the minimum requirements of the CWA [Clean Water Act] and these regulations are met. The following processes must be described in each State CPP, and the State may include other processes at its discretion." 40 C.F.R. §130.5.

"Each applicable State implementation plan shall contain emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality." 40 C.F.R. 166(a)(1).

These are examples of regulations where EPA requires States to adopt explicit procedures or design standards, but allows "other measures" or "other processes" in addition.

A variation on this format is for EPA to suggest other options that the State may want to adopt in addition to the minimum requirements. In some cases, these options may appear in a note to the regulation.

Design Standards: Minimum Requirements Plus Examples

"In addition to the requirements of this paragraph, the State may have other enforcement remedies. The following enforcement options, while not mandatory, are highly recommended:

Procedures which enable the State to assess or to sue any persons responsible for unauthorized activities for any expenses incurred by the State in removing, correcting, or terminating any adverse effects upon human health and the environment resulting from the unauthorized activity, whether or not accidental;

Procedures which enable the State to sue for compensation for any loss or destruction of wildlife, fish or aquatic life, or their habitat, and for any other damages caused by unauthorized activity, either to the State or to any residents of the State who are directly aggrieved by the unauthorized activity or both; and

Procedures for the administrative assessment of penalties by the Director." 40 C.F.R. §123.27(c) Note.

In this example, each State is given the option to add any or all of the suggested supplemental enforcement procedures.

Choice Among Design Options

This technique allows the State to choose among options designed by the federal government. The State does not have the flexibility to design its own alternatives or accept alternatives proposed by the regulated community.

Design Standards: Choice Among Options

"Any State administering a program shall provide for public participation in the State enforcement process by providing either:

(1) authority which allows intervention as of right in any civil or administrative action to obtain remedies specified in paragraphs (a)(1), (2) or (3) of this section by any citizen having an interest which is or may be adversely affected; or

(2) Assurance that the state agency or enforcement authority will

(i) investigate and provide written responses to all citizen complaints submitted pursuant to the procedures specified in Section 123.26(b)(4);

(ii) not oppose intervention by any citizen when permissive intervention may be authorized by statute, rule or regulation; and

(iii) publish notice of and provide at least 30 days for public comment on any proposed settlement of a State enforcement action." 40 C.F.R. §123.27(d).

"Analyses for sodium shall be performed by the flame photometric method in accordance with the procedures described in "Standard Methods for the Examination of Water and Wastewater," 14th Edition, pp. 250-253; or by Method 273.1, Atomic Absorption-Direct Aspiration or Method 273.2, Atomic Absorption-Graphite Furnace, in "Methods for Chemical Analysis of Water and Waste," EMSL, Cincinnati EPA, 1979; or by Method D1428-64(a) in Annual Book of ASTM Standards, Part 31, Water." 40 C.F.R. §141.41(d).

In the first example, each State is provided with a choice between two options for providing for public participation in the enforcement process. In the second example, water suppliers have a choice among specific methods prescribed by EPA for conducting chemical analyses.

A variation on this structure is for the federal regulation to allow the State or regulated entity to choose among the options designed by the federal government, or, alternatively, to propose an equivalent design (or a design which is subject to a similar performance standard). EPA regulations often allow regulatory agencies to approve alternative designs on a case-by-case basis. The exercise of this authority may be through a waiver or variance procedure or simply through the grant of EPA approval.

Design Standards: Choice Among Options/Variance

"With the written permission of the State, concurred in by the Administrator of the U.S. EPA, an alternative analytical technique may be employed. An alternative technique shall be accepted only if it is substantially equivalent to prescribed test in both precision and accuracy as it related to the determination of compliance with any MCL." 40 C.F.R. §141.27(a).

"The Administrator may grant a variance from any treatment technique requirement of a national primary drinking water regulation to a supplier of water, whether or not the public water system for which the variance is requested is located in a State which has primary enforcement responsibility, upon a showing from any person that an alternative treatment technique not included in such requirement is at least as efficient in lowering the level of the contaminant with respect to which such requirements was prescribed. A variance under this paragraph shall be conditioned on the use of the alternative treatment technique which is the basis of the variance." 40 C.F.R. §142.46.

"The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents . . . into the groundwater or surface water at any future time." 40 C.F.R. §264.301.

" . . . A representative sample may be obtained using either:

- (i) one of the sampling methods described in appendix I of part 261 of this chapter; or
- (ii) an equivalent sampling method." 40 C.F.R. §264.13(b)(3).

In the first example, the flexibility of the regulated entity to use an alternative analytical technique is subject to the approval of the State and EPA and to certain conditions being met, i.e. substantially equivalent performance in terms of precision and accuracy. In the second example, the flexibility of the Administrator to grant a variance from any treatment technique requirement is conditioned on a showing that the alternative technique is at least as efficient in lowering the level of the contaminant. In the third example, the owner/operator has the choice of complying with the liner requirements for landfills prescribed by EPA or proposing an alternative design so long as it will prevent the migration of hazardous constituents into the ground water or surface water at any future time. In the fourth example, sampling may be conducted using the prescribed methods or an "equivalent" method.

The choice of options technique provides real flexibility and is not costly in terms of transaction costs among governments or in terms of heightened oversight. On the other hand, the options provided to State governments are constrained from the outset to those designed by federal officials in the rulemaking process (unless the federal regulation includes language such as "or equivalent" among the options). The opportunity to select among several options already examined by EPA or to develop an equivalent approach may present one of the best cases for flexibility.

Conditional Flexibility

Another technique allows the State or regulated entity to propose an alternative design *if* certain conditions exist or are met. This technique can offer substantial flexibility if the prescribed conditions are fairly general. However, in practice, this technique is often used to authorize minor deviations from prescriptive design standards.

Design Standards: Conditional Flexibility

"A public water system that uses a surface water source and does not provide filtration treatment must report monthly to the State the information specified in this paragraph (a) beginning December 31, 1990, unless the State has determined that filtration is required in writing pursuant to section 1412(b)(7)(C)(iii), in which case the State may specify alternative report requirements, as appropriate, until filtration is in place." 40 C.F.R. §141.75(a).

"The facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location will meet the criteria outlined below. The demonstration must be in writing and kept at the facility. The demonstration must be certified by a qualified ground-water scientist and establish that:

- (i) an existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area; and
- (ii) The selected alternate downgradient location is as close to the limit of the waste management area as practical; and
- (iii) The location ensures detection that, given the alternate location, is as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.
- (iv) Lateral expansion, new, or replacement units are not eligible for an alternate downgradient location under this paragraph." 40 C.F.R. §265.91(a)(3).

In the first example, if the State has determined that filtration is required, then the State may specify alternative reporting requirements. In the second example, the facility owner or operator is allowed to propose an alternate hydraulically downgradient monitoring well location if the owner/operator can demonstrate that the criteria are met.

The demonstration that the conditions have been met can require substantial information in some instances. States may elect to pass the costs of such demonstrations on to the regulated entities.

ENDNOTES

1. 42 U.S.C. § 7409; 40 C.F.R. Part 50.
2. James M. McElfish, Jr., *Minimal Stringency: Abdication of State Innovation*, 25 ELR 10003-10007 (January 1995).
3. Pennsylvania and Virginia have executive orders imposing such limits, for example.
4. S.D. Codified Laws Ann. §1-40-4.1 (1992).

Chapter Four



Evaluation of Techniques

This chapter examines the effectiveness of the flexibility techniques identified in Chapter Three with respect to the advantages and disadvantages noted in Chapter Two. The evaluation issues include:

- responsiveness to local conditions,
- promotion of innovation,
- ability to address all aspects of a problem,
- improving environmental performance,
- affecting national and international commerce,
- requiring State investments in capacity, and/or delaying compliance, and
- affecting federal oversight, monitoring, and enforceability.¹

The techniques evaluated in this chapter include the three techniques related to federal performance standards: Minimum Requirements (State may be more stringent than federal performance standard); Conditional Flexibility (State may use alternative performance standard if conditions are met); Process (State may define own performance standard so long as it uses prescribed process).

The techniques evaluated also include the four techniques related to federal design standards: Meet the Performance Standard (State may allow any design standard that meets the performance standard); Minimum Requirements (State design standard may be more stringent than federal design standard); Choice Among Options (State may choose among federally-defined design standards); and Conditional Flexibility (State may use alternative design standard if conditions are met).

Evaluation

Federal prescription of *minimum performance standards* with allowance for greater stringency by States does allow responsiveness to local conditions. This technique may or may not promote innovative approaches, however, as it may be easier for regulated entities (and States) simply to use (or prescribe) standard technologies to meet the minimum standards. Indeed, many States have bound themselves to the federal minimum and to conventional ways of meeting it. The requirement to meet minimum performance standards neither increases nor decreases States' ability to address all aspects of environmental problems. This technique does not provide any upward pressure to improve environmental protection, although it allows such pressures to operate if they already exist in a State. The use of minimum performance standards does promote national commerce by promoting (albeit not assuring) a level playing field among U.S. competitors; the flexibility for some jurisdictions to enact greater stringency also provides a potential edge for development of environmentally superior technologies that can be marketed internationally. Minimum performance standards do not require heavy investments by States in research and capacity, nor do they occasion delay in implementation. Monitoring at the federal level is simplified and enforcement is straightforward because of significant uniformity.

The federal recognition of *conditional flexibility* by States in setting performance standards allows less responsiveness to local conditions, and less innovation than the minimum standards technique. It also does not increase States' ability to deal with all aspects of environmental problems. There is no upward pressure to improve environmental protection. The effect on commerce is minimal but generally supportive of uniformity. This approach may actually constrain some innovation by confining flexibility to federally-recognized cases. Cost and capacity issues can be important, and monitoring and enforcement can be somewhat similar to the minimum performance standards case.

The *process* technique for performance standard setting can allow significant responsiveness to local conditions, promote innovation, increase States' abilities to address all aspects of environmental problems, and improve environmental protection. The wider range of possible standards, however, may produce impediments to a level playing field for commerce. Cost and capacity issues can be significant, as States must invest in more understanding of issues and in assuring compliance. Federal

monitoring and enforcement can be simpler, or more difficult depending upon the standards selected in the process.

State deviations from federal design standards - subject only to the meeting of *federal performance standards* - can provide substantial flexibility to State programs. This technique allows the greatest responsiveness to local conditions. Innovation, moreover, is most often stimulated by performance standards, rather than by prescribed design standards. States' abilities to deal with all aspects of environmental problems are not directly affected by this technique, and there may be opportunities for improving environmental protection through innovation. Effects on commerce are likely to be neutral. Uniform performance standards will allow regulated entities to operate in a consistent manner in numerous jurisdictions; at the same time, design innovation may be possible. States may incur additional costs in evaluating the effectiveness of alternative designs, however. Monitoring and enforcement can be accommodated because it is generally easier to monitor and enforce a design standard than a performance standard, but federal regulators will need to become familiar with the state design standard approaches authorized to meet the federal performance standard.

The *minimum requirements technique* for State design standards is fairly constraining. States can respond to local conditions, but only if the technology meets both federal minima and State-prescribed criteria. Innovation is not promoted by this technique. The technique also has little influence on States' abilities to address all aspects of an environmental problem. There is little to no incentive for environmental improvement. This technique equalizes compliance expenditures among competitors within the U.S., thus leveling the domestic playing field. This technique places minimal demands on State capacity and results in little delay in compliance; it is also easy for EPA to oversee and for States to monitor and enforce; these factors account for its proliferation in federal regulations.

The *choice among design options technique* provides some flexibility. Depending upon the specificity of the options designated, it may not afford substantial flexibility in terms of response to local conditions; nor does it promote innovation. This technique has little influence on States' abilities to address all aspects of an environmental problem and provides no incentive for environmental improvement. The technique has little, if any, effect on commerce. It places modest, but minimal demands on State capacity and timing. It is easy for EPA to oversee, monitor, and enforce.

The *conditional flexibility technique* for design standards is similarly constraining. It offers little by way of response to local conditions, nor does it promote environmental innovation. It does not increase States' ability to deal with all aspects of environmental problems, and provides no particular incentive to improve environmental protection. This technique's effect on commerce is minimal but may be less likely to promote uniformity than the minimum requirements technique. State cost and capacity issues are not complex, and federal monitoring and oversight is relatively straightforward.

SUMMARY

Federal regulations do provide various forms of flexibility for State programs. Opportunities to meet federal performance standards in various ways are often afforded. Indeed, even the NPDES effluent guidelines (although based on assessments of technology) are, in fact, performance standards that may be met in a variety of ways.

Of the seven techniques typical of existing federal regulations, the most flexible are those that allow States to establish regulations that meet or exceed federal performance standards. In addition, regulations that allow States to set their own design standards to meet federal performance standards can offer flexibility even where a federal design standard is the baseline requirement. In addition, the technique that merely prescribes a process for the setting of State performance standards is potentially quite flexible; it is, however, rarely used in federal regulations, partly because federal statutes frequently specify that EPA must set a federal minimum performance standard.

One type of flexibility that does not appear in current EPA regulations would allow States to substitute performance standards for federal design standards. This approach could offer States greater flexibility than many of the techniques currently authorized and in use. However, it presents risks in terms of monitoring and enforcement that EPA has thus far been unwilling to accept.

Federal regulations are partly responsible for the States' sense that their flexibility is constrained in a number of areas. Indeed, State flexibility may be constrained in some ways that are not required by statute. On the other hand, flexibility afforded by the existing regulations may also be overlooked by States and EPA because of the need to simplify oversight and program approval processes.

This report provides a brief guide to the existing available techniques, and to the advantages and disadvantages of each. It may assist in the development of menus of options for future regulatory reforms seeking to balance flexibility with oversight and assurance of the protection of public health and the environment.

ENDNOTES

1. In 1995 in one of its last reports, the Office of Technology Assessment (OTA) evaluated the policy tools used in environmental protection. U.S. Congress, Office of Technology Assessment, *Environmental Policy Tools: A User's Guide*, OTA-ENV-634 (Washington, DC: U.S. Govt. Printing Office, September 1995). OTA identified 12 types of policy tools: product bans, technology specifications, design standards, harm-based standards, integrated permitting, tradeable emissions, challenge regulations, pollution charges, liability, information reporting, subsidies, and technical assistance. OTA identified seven criteria against which to measure policy tools:

- Assurance of meeting goals
- Using pollution prevention when possible
- Environmental equity and societal fairness
- Cost-effectiveness and fairness to sources
- Least demands on government
- Adaptability to changed circumstances
- Promotion of technical innovation and diffusion

Chapter Five

Conclusion

The preceding review of flexibility in EPA's regulations applicable to delegated programs indicates that current EPA regulations do provide States and the regulated community with some degree of flexibility in implementing many aspects of delegated programs. The report also shows that there are a variety of ways of structuring regulations to provide for flexibility, and, in addition, that this structure may be important in determining the degree of flexibility accorded to State governments.

In order to determine the appropriate degree of flexibility, seven issues need to be addressed. Regulators should consider whether the flexibility will:

- 1) encourage States to address local problems effectively?
- 2) lead to innovation in meeting environmental goals?
- 3) assist States in dealing with problems holistically?
- 4) result in environmental improvement (not just meeting the same goals)?
- 5) positively affect national/international commerce and markets?
- 6) be implemented reliably without requiring States to add and maintain a higher level of financial and technical resources in order to achieve equivalent effectiveness and timeliness?
- 7) allow federal oversight, including monitoring and enforceability, without requiring a higher level of financial and technical resources?

A systematic examination of these seven issues will provide a strong guide to the proper structure of federal regulations. Indeed, they may be used as a checklist to evaluate any proposals for regulatory flexibility.

In addition to these seven factors, federal and State officials may also wish to consider whether the performance or design standard specified in the federal

regulations is really critical to achieving the overall environmental goal. More specifically, officials may consider whether there are ways of avoiding or minimizing the disadvantages of allowing for flexibility in a particular regulatory context. Issues that deserve particular scrutiny in this context include whether flexibility is likely to delay compliance or achievement of environmental goals, and whether there is any way to provide greater assurance of performance (such as through enhanced monitoring).

Given the fairly broad provisions of most of the federal environmental statutes, properly drafted federal regulations can provide a significant opportunity for State innovation. Careful attention to federal regulatory techniques can enhance both national and State environmental performance.

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