EXECUTIVE SUMMARY

INTRODUCTION

EPA's area source rules limit toxic air emissions from certain sectors that contribute to health threats in urban areas. The area source categories include some groups of facilities, such as auto body shops, boilers, dry cleaners, and gas stations, which are characterized by large numbers of small entities. States and EPA regions charged with implementing the area source rules need to find approaches to ensure compliance with the federal air toxics standards that are effective, efficient, and practical.

This guide focuses on four options for implementing area source rules: general permits, permits-by-rule, the Environmental Results Program (ERP), and hybrid approaches. General permits and permits-by-rule are very popular: more than 30 state and local permitting authorities have developed general air permits or permits-by-rule for some source types.[1] These permitting tools are intended to provide an efficient, consistent way of addressing emissions from large numbers of relatively similar, low-risk facilities. ERP is an innovative compliance monitoring and assistance approach intended to improve facilities' management practices within small business sectors. To date, 19 states have developed or are implementing at least one ERP to address environmental issues in one of 24 sectors; seven of these states have applied ERP in the auto body sector.[2] Hybrid approaches involve combining components of the three basic approaches (general permits, permits-by-rule, and ERPs).

This guide describes how these tools have been applied to two sectors covered by the area source rules: auto body shops and institutional/commercial/industrial boilers. The paper explores the advantages and disadvantages of each approach, and how they may be combined to meet the specific needs of permitting authorities in different states and regions.

SUMMARY OF PERMITTING/COMPLIANCE MONITORING APPROACHES

The four tools explored in this guide are summarized below: general permits, permits-by-rule, ERP, and hybrid approaches.

GENERAL PERMITS

General permits are applicable to a class or category of facilities with generally similar characteristics. The state develops permit conditions that apply to all facilities within the regulated sector. The state then proposes a draft permit, which is submitted for public comment. Once the permit has been finalized, individual facilities apply to be covered under the general permit by demonstrating compliance with the permit terms. General permits commonly require facilities to submit an application, which includes evidence of their eligibility for the permit. The extent of information required varies. For example, Michigan's general air permit program, which covers the installation of new sources in several sectors, requires that facilities certify that they meet certain emission limits, material limits, process/operational

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[1] Air Permit Program Implementation: A Roadmap for Innovation Final Briefing Paper, Prepared for EPA OPEI/OPAR/OAQPS Partners, April 17, 2006.

[2] ERP States Consortium. "ERP Sectors". http://www.erpstates.org/ERPsectors.aspx.

limits, equipment and testing requirements, and proof of monitoring and recordkeeping.[3] On the other hand, Ohio's permit for wastewater and stormwater discharges has a simple, one-page paper application form that must be sent in, but requires no effluent information from the applicant.[4] The application process also varies across states; usually there is an on-line or paper application form that is submitted to the agency. The agency reviews that form, and if the application shows that the facility is in fact eligible for the general permit, the agency sends the general permit back to the facility. No site-specific review for each facility is required, and the general permit typically only undergoes a single public comment process at the time that the state-wide permit is established or renewed.

PERMITS BY RULE

Permits-by-rule are quite similar to general permits, in that they are generally intended to cover multiple, similar, small sources of emissions. The requirements for an area source operating under a permit-by-rule are written into state regulations. A source must determine if it meets the criteria for operating under a permit-by-rule and then operate in compliance with the requirements. In some cases, facilities are required to keep documentation demonstrating compliance (e.g., monitoring records) on site.

States vary with regard to their requirements for facilities to submit information to the state concerning their coverage under a permit-by-rule. In some cases facilities are required to notify or register with the agency responsible for implementing that regulation, and certify that they are in compliance with applicable requirements. In general, this notification serves as the permit (i.e., a separate permit is not sent to the facility). In other cases, permits-by-rule do not require notification. In these cases, facilities are not required to register for the permit or inform the state that they are subject to permit requirements. Regardless of the registration or notification requirements, all facilities subject to a permit-by-rule are required to operate in compliance with the terms of the permit-by-rule. Note that some programs require a review and authorization of the registration before the facility can operate, while others do not require approval before the source begins operating or installs equipment. In cases where authorization is required, the permit-by-rule application process is equivalent to a general permit application process.

The definitions of general permits and permits-by-rule tend to vary by permitting authority, and the distinction between the two is often blurred. Moreover, these two permitting approaches are related to other permitting approaches such as standard permits and registration permits. Broadly speaking, all of these permitting approaches are designed to be more standardized, less flexible, and easier to implement than traditional site-specific permits because they require less information from individual entities applying for a permit or registration, and because the public comment process is streamlined. In contrast, site-specific permits are customized documents that require extensive and important documentation of facility equipment, emissions, and emissions controls. Site specific permit applications must be carefully reviewed by state permit writers, and are usually subject to a public review and comment process for each site-specific permit which can be time and/or resource intensive. However, site-specific permits ensure accurate and complete documentation of compliance and provide valuable information about the facilities in a sector. Site-specific permits also carry the expectation of inspections, whereas general permits and permits-by-rule generally do not. Area source facilities may not have the same expectation of inspection as major sources.

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[3] Michigan Department of Environmental Quality. Michigan Air Permits System New Source Review General Permits. "General Permit to Install". http://www.deq.state.mi.us/aps/downloads/permits/GenPmt/General%20Permit%20Program%2001-06.pdf. (Last viewed October 8, 2009).

[4] Ohio Environmental Protection Agency, Division of Surface Water. "General Permits". http://www.epa.ohio.gov/dsw/permits/gpfact.aspx. (Last viewed October 8, 2009).

ENVIRONMENTAL RESULTS PROGRAM

ERP is an innovative approach to improving the environmental performance for sectors or groups of regulated entities characterized by large numbers of small, relatively similar facilities. ERP combines plain language compliance assistance that promotes pollution prevention; facility self-assessment and self-certification; agency inspections; and statistically-based performance measurement. Where necessary, regulators also conduct a comprehensive facility inventory and targeted enforcement actions. These components are intended to work together to improve compliance and reduce environmental impacts of the target sector, while deploying government resources strategically and efficiently. ERP is an integrated approach that often addresses multiple environmental media, and combines efforts involving compliance assistance and measurement. Facilities receive a comprehensive package of information from the state, such as a workbook describing regulatory requirements, best practice suggestions, and self-certification forms.

A typical cycle of ERP involves seven steps: (1) identify the population of facilities in the sector, (2) conduct inspections at a random sample of facilities at the outset of the program (i.e., baseline), (3) offer compliance assistance to all facilities, (4) encourage (or in some cases require) facilities to conduct a self-assessment and submit self-certification forms, (5) conduct a second round of random inspections, (6) compare baseline inspections results to the second round of results, and (7) utilize performance data to inform and improve the next round of compliance assistance. Note that not all ERPs involve all of these steps, since states have adapted the various program components to suit their individual circumstances.

HYBRID APPROACHES

In addition to the three basic approaches discussed above a state may incorporate elements from these different approaches based on the state's specific resources and goals. For example, a state could incorporate a permit requirement into an ERP. South Carolina is creating a workbook (ERP) and combining that with a registration permit. Another state could choose to use a general permit or permit-by-rule, but add statistically-based inspections borrowed from ERP to better measure sector performance and demonstrate progress.

METHODOLOGY

A primary source of information used to develop this guide was interviews with selected states that are using a range of approaches to address auto body and boiler facilities. We interviewed the states shown in Exhibit ES-1, as categorized by permitting/compliance monitoring approach and regulated sector. Interviews were supplemented by reviews of documentation available describing each state's permitting or policy approach for the given sector. In addition to interviews with the states shown in Exhibit ES-1, the authors also conducted additional research (including internet searches, document reviews, and telephone inquiries to state regulators) to provide a more complete picture of how states are using general permits, permits-by-rule, ERP, and hybrid approaches in a range of sectors.

EXHIBIT ES-1. STATES INTERVIEWED IN DEVELOPMENT OF THIS GUIDE

PERMITTING/POLICY APPROACH	REGULATED SECTOR	
	AUTO BODY SHOPS	BOILERS
General Permits	--	Arizona
Permits-by-Rule	Texas	Texas
Environmental Results Program	Rhode Island	--
Hybrid Approaches	South Carolina[5]	Massachusetts[6]

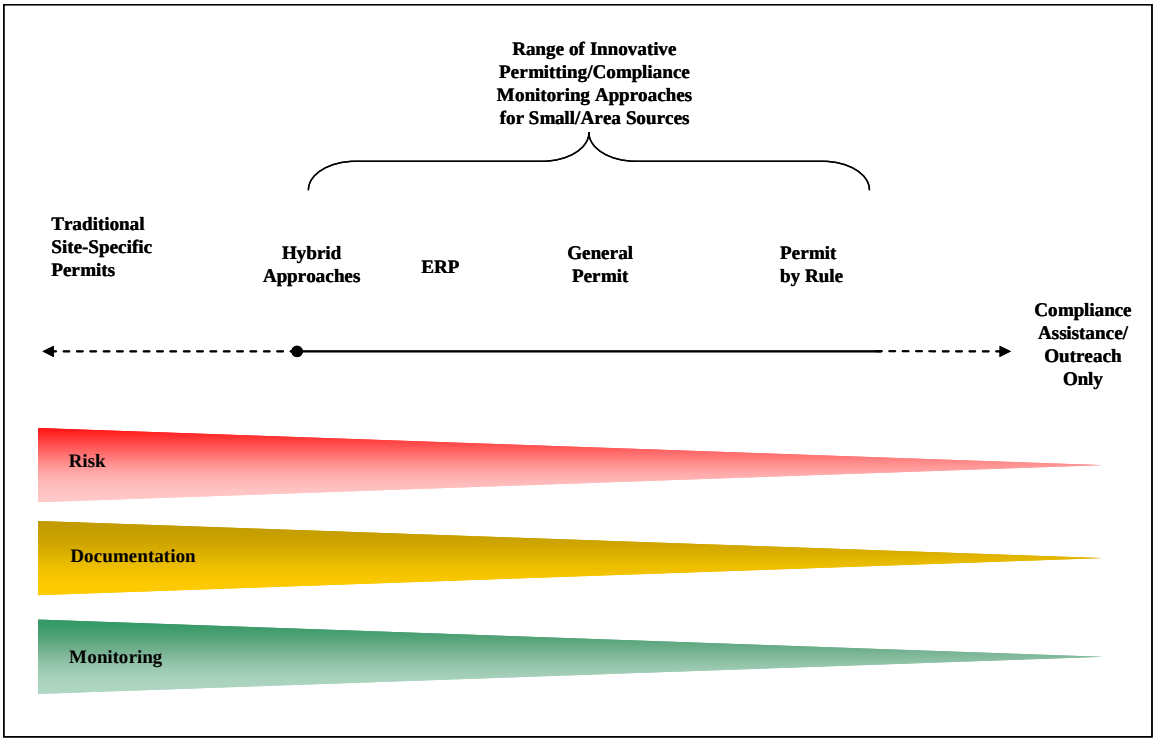
FINDINGS

Through our research, we have found that the permitting and compliance monitoring approaches we reviewed are most suitable for facilities that represent a moderate level of risk: not so much that a traditional site-specific permit would be required, but enough risk that a state wants to go beyond simply providing compliance assistance. The level of environmental risk posed by the facility corresponds to the level of documentation required from facilities, and the level of oversight provided by the state. In other words, facilities that present the most risk require relatively more documentation, and relatively greater compliance monitoring to ensure that facilities do not exceed emissions limits and follow required management practices. Within the set of tools examined in this paper, permits-by-rule require the least documentation and provide for minimal oversight, and therefore are best suited to the least-risk facilities. General permits and ERP require progressively more documentation, and ERP incorporates a measurement component which allows for statistically-based compliance monitoring. Hybrid approaches that combine ERP and a general permit or permit-by-rule require the greatest amount of information from facilities, and seem most likely to help facilities achieve compliance while at the same time helping states measure the extent to which facilities are in compliance. Exhibit ES-2 demonstrates the spectrum of policy approaches available, relative to the following considerations: risk, documentation, and monitoring.

[5] The South Carolina program has been called an ERP, but since it includes a registration permit component, it is classified as a hybrid approach for the purpose of this paper.

[6] The Massachusetts boilers program is typically classified as an ERP. However, because it does not use statistically-based inspections, and because it uses self-certification in lieu of a permit, we have classified it as a hybrid approach (for the purpose of this paper).

EXHIBIT ES-2: SPECTRUM OF POLICY APPROACHES



Given this spectrum of program approaches, states considering how to regulate the auto body or boiler sectors may find it most helpful to consider selecting combinations of specific policy tools to achieve certain regulatory functions or policy goals. Through the course of this research, we have identified eight key functions that state agencies may try to achieve through their programs:

- Alert facilities to program requirements;
- Offer compliance assistance;
- Obtain documentation of facility compliance;
- For facilities out of compliance, obtain documentation of facility plans to achieve compliance;
- Enable onsite inspectors to determine whether facility is in compliance;
- Measure changes in performance;
- Reassess facility performance and update requirements, through renewal; and
- Conduct targeted assessments and enforcement (e.g., based on inspectors or citizen complaints).

Exhibit ES-3 describes a variety of policy tools used to achieve these functions, and shows which tools the states we interviewed have used in combination to achieve their goals.

EXHIBIT ES-3: PROGRAMS USING VARIOUS POLICY TOOLS

POLICY FUNCTION - POLICY TOOLS TO ACHIEVE THAT FUNCTION	SPECIFIC STATE PROGRAMS USING VARIOUS POLICY TOOLS					
	AZ BOILER GEN. PERMIT	TX AUTO BODY PERMIT-BY-RULE	TX BOILER PERMIT-BY-RULE	RI AUTO BODY ERP	SC AUTO BODY ERP-HYBRID	MA BOILER ERP-HYBRID
Alert facilities to program requirements						
- Requirements written into the permit	✓	✓	✓		✓*	✓*
- Self-certification forms	✓			✓	✓	✓
Offer compliance assistance						
- Compliance assistance workbooks				✓	✓	✓
- Outreach	✓	✓	✓	✓	✓	✓
Obtain documentation of facility compliance						
- Permit application/ registration	✓	✓			✓*	✓*
- Self-certification forms	✓			✓	✓	✓
- Emissions inventories	✓	✓				
Obtain documentation of facility plans to achieve compliance						
- Return to Compliance Plans				✓	✓	✓
Enable on-site inspectors to determine whether facility is in compliance						
- Requirement to maintain records on site	✓	✓	✓	✓	✓	✓
Measure changes in performance						
- Statistically-based inspections before and after program implementation				✓	✓	
Renewal						
-Further rounds of outreach and self-certification forms				✓		
Targeted Inspections/Enforcement						
-Targeted inspections as needed	✓	✓	✓	✓	✓	✓
* For South Carolina and Massachusetts, the self-certification form, with accompanying documentation, serves as a permit.						

In addition to these functions, all of the program approaches allow states to encourage development and use of new technologies to reduce emissions and update requirements to reflect such new technologies. These functions are achieved by setting the standards or requirements for regulated entities; the more stringent the requirements, the more facilities, and manufacturers that supply them, will be forced to adopt or develop newer, more efficient technologies. In addition, all of the program approaches reviewed have the potential to encourage pollution prevention by sharing information with facilities about how this can be cost effective. In some cases, states have also developed incentives for facilities to adopt pollution prevention (e.g., by imposing fewer permit requirements for facilities that can demonstrate they have adopted specific pollution prevention practices).

MOTIVATIONS FOR SELECTING PROGRAM APPROACHES

A key question this study sought to answer was *why* states have selected the approaches they are using to address the auto body and boilers sectors. It is stating the obvious to say that states selected the program approaches they did because they felt it was the best option to achieve their goals at the lowest cost to the agency and the regulated community. However, it is important to note that states considered different sets of alternative policy approaches as potential options when they made their decisions, and these alternatives were informed by agency history and experience. Most states interviewed contrasted the program approach they selected with individual, site-specific permits, and decided that case-by-case permitting would be too resource intensive and unworkable for sectors such as auto body shops and boilers. On the other hand, most states interviewed did not recall deciding between the full range of program approaches discussed in this paper.

It is also important to note that states placed different priorities on the various policy functions they were seeking to achieve, and therefore they selected different suites of policy tools to meet their goals. The varying priorities states place on different policy functions is surely informed by the varying levels of resources that state agencies have available, the number of entities they must regulate, the perceived risk of environmental and health impacts from regulated entities, and the geographic span of their territory. For example, there are fewer than 400 auto body shops in Rhode Island, compared to about 5,000 shops in Texas. Some policy tools may take more resources to apply on a large scale; for example, it would probably require an automated system to review permit applications/registrations or self-certification forms for 5,000 facilities, and therefore a state like Texas would likely only make that investment if it viewed the auto body sector as an important source of environmental or health risks for its population. On the other hand, some policy tools are designed to be cost-effective at large scales. For example, to develop a statistically valid baseline measurement of sector performance with a confidence level of 90 percent and a margin of error of 10 percent, a state with 400 shops would need to inspect a random sample of 57 shops. A state with a population of 5,000 shops would need to inspect only slightly more shops (66 shops) to measure baseline performance with the same confidence level and margin of error.[7] Thus, for states interested in performance measurement, it may be worth considering statistically based sampling, especially if they have very large populations of facilities in target sectors.

SUMMARY OF ADVANTAGES AND DISADVANTAGES OF EACH PROGRAM APPROACH

Overall, each state interviewed as part of this study seemed satisfied that the program approach they selected was working well for the target sector and meeting the agency's goals. States pointed out a number of advantages, as well as some disadvantages to the program approaches they selected. Exhibit ES-4 summarizes these findings.

[7] ERP Sample Planner, available online at http://www.epa.gov/erp/roadmap/resources/erp_sampleplanner_nodate.xls. (Last viewed October 1, 2008).

EXHIBIT ES-4. ADVANTAGES AND DISADVANTAGES OF VARIOUS PROGRAM APPROACHES

PROGRAM APPROACH	ADVANTAGES	DISADVANTAGES
General Permits	▪ State develops one permit for all facilities; this is cost effective for regulators and facilities, compared to site specific permits or ERP. ▪ Facilities can add new sources to their general permit relatively easily, compared to site-specific permits.	▪ To operate efficiently, general permits must allow less flexibility for regulated facilities (compared to site-specific permits). If a facility is operating equipment not covered under a general permit, it must apply for an individual permit. Likewise, if the state finds that an ineligible piece of equipment is common to many or all of the facilities in an industry, the state will need to modify the general permit.
Permits-by-Rule	▪ Minimal burden on state agencies and regulated facilities. ▪ Facilities can construct new sources more quickly because they typically do not need to wait for an authorization to construct. ▪ Depending on how the permit-by-rule is written, it can be relatively easy to update a permit-by-rule as newer equipment becomes available.	▪ If notification is not included in the permit-by-rule, facilities may not be aware of their requirements, and the state would have no way of knowing which facilities are subject to the Rule. ▪ As renewals are generally not required for facilities already permitted, older facilities may be operating with non-compliant technology. ▪ Measuring changes in performance is very difficult, particularly if notification is not required.
Environmental Results Program	▪ Well suited to deal with multi-media issues. ▪ Simplify process for small entities by consolidating materials and information. ▪ Statistically-based inspection process quantifies changes in performance for the whole sector. ▪ Compliance assistance workbook is well suited to assist facilities to understand compliance requirements and encourage facilities to go beyond the regulatory requirements through pollution prevention practices. ▪ In some cases, it may be easier for an agency to develop an ERP than to establish permitting requirements. In the case of area source rules, ERPs will have to be mandatory, which may not be easier to develop.	▪ ERP seems to require relatively more staff time and resources to implement (at least compared to permits-by-rule), although fewer resources are required compared to traditional site-specific permits. ▪ Materials developed for a specific sector do not transfer to another sector. On the other hand, materials from other states that have developed ERPs for the same sector may be adapted.

PROGRAM APPROACH	ADVANTAGES	DISADVANTAGES
Hybrid Approaches	▪ Advantages depend on the tools combined. For example, combining ERP with a general permit may offer the benefits of compliance monitoring, with the requirement that a facility submit a self-certification form, which serves the function of a permit.	▪ Disadvantages depend on the tools combined. For example, an ERP-like approach without a statistically-based measurement component could offer cost savings, but would not provide a strong compliance-monitoring function.

RECOMMENDED CONSIDERATIONS FOR SELECTING PROGRAM APPROACHES AND POLICY TOOLS

States that are considering developing a program to address auto body shops or boilers clearly have a choice between several program approaches, and a range of specific policy tools to meet their goals. An important first step in selecting an approach or policy tool is to understand the agency's goal(s) for the program. For example, is the agency seeking to achieve measureable behavior changes in the sector, ensure that all facilities have a permit because it is required by state law, and/or implement federal requirements (such as those included in the area source rules)? Whatever the agency's goals, they should be clearly defined and articulated among agency staff. As part of the discussion of goals, the agency should consider the relative priority it places on various policy functions, such as those discussed earlier.[8]

Next, the agency should identify a range of possible program approaches and policy tools, such as those described in this guide, that the agency could implement. Given the state's statutory framework, regulations, and history, states may have different sets of policy tools that they can use to achieve their goals. For example, some states have a regulatory framework in place for general permits or permits-by-rule, while in other states such permitting mechanisms may not be readily available. Keep in mind that program approaches could focus on setting standards for manufacturers or equipment suppliers, in lieu of regulating individual facilities, in cases where specific types of equipment that lead to emissions of concern are well defined and standard across the sector.

Finally, the agency should consider a range of factors that could influence its choice of policy tools. We suggest several such factors below.

Level of Environmental Protection

Ideally, the level of risk that a facility poses would match the attention that facility receives from the regulator and the facility. Each of the three programs described in this guide seek to reduce the environmental risk posed by area source facilities. However, the level of attention given to individual facilities varies with each program. Permits-by-rule require the least amount of commitment and contribution from facilities, and therefore provide little assurance that facilities are in compliance. ERP, on the other hand, requires a relatively high level of participation and commitment from facilities, and provides quantitative measures of sector performance. For those sectors that present a relatively higher environmental risk, ERP or ERP *plus* a general permit or permit-by-rule may be a better choice, since a more hands-off approach such as a permit-by-rule may not ensure compliance.

[8] These policy functions include alerting facilities to program requirements; offering compliance assistance; obtaining documentation of facility compliance; obtaining documentation of facility plans to achieve compliance for facilities out of compliance; enabling onsite inspectors to determine whether facility is in compliance; measuring changes in performance; renewing the program; and conducting targeted inspections/enforcement.

Number of Facilities
Both the auto body and boilers sectors have a relatively large number of facilities, but the number of facilities in any given state varies. As noted earlier, certain policy tools are well suited to efficiently address a large number of facilities, while other policy tools require more resources to address a larger number of facilities. For example, statistically-based inspections can be used cost effectively in sectors with a large number of businesses, and permits-by-rule can likewise be easily implemented in sectors with many facilities. On the other hand, any policy tool that requires the state agency to review submissions from facilities (e.g., permit applications, emissions inventories, or self-certification forms) will be more difficult to implement in sectors with a large number of facilities. States will either need to dedicate staff to reviewing facility submissions, or develop automated systems to scan facility materials and highlight facilities that need individual attention by agency staff.

Similarity of Operations
Although area source rules generally address sectors with similar operations, there are gradations in the degree of similarity of operations within a given sector. For example, facilities with small industrial/commercial/institutional boilers have very similar boiler equipment and operations. On the other hand, in the auto body sector, facilities can vary from highly automated, professional shops, to backyard operations. Where states anticipate a range of different equipment or operations in a sector, they will need to be able to carefully define these different categories of facilities and explain the requirements that apply to each. Among the program approaches discussed here, permits-by-rule are probably the least suited to allow flexibility for different types of equipment because they provide for the least amount of information submitted by the facility, and therefore it would be difficult for regulators to determine whether facilities had understood the specific requirements that applied to their type of operations.

Size of Facility Operations
The relative amount of resources available to a facility can influence the degree to which it can participate in various program options. For example, if a facility has more time and money to spend on compliance efforts, they are more likely to be able to participate in programs that require them to review materials and submit information to a state agency. On the other hand, if a facility is much smaller, and has little or no staff time to spare, it may be harder to get that facility to participate in a more strenuous compliance effort. In addition, larger facilities may be more likely to already employ industry standard equipment, or equipment that meets the regulatory requirement. Permits-by-rule require the least amount of resources from the facility, as they are in some cases not required to submit any paperwork at all. General permits and ERPs require a little more effort, as the facility must submit a permit application and/or self-certification form, with accompanying materials.

Knowledge and Expertise on Site
Similar to the consideration of the size of the operations of facilities in the target sector, the regulator should also consider the knowledge and expertise of the staff on site at the facilities. For example, ERPs are designed to educate facilities about their compliance requirements, and help them understand what they need to do to comply. On the other hand, general permits and permits-by-rule may provide little support for facilities to understand their compliance requirements, and may need to be supplemented by additional outreach and compliance assistance if facilities in the sector do not have the needed environmental expertise.

Agency Resources
The regulator should also consider the resources that it has to expend on the regulatory effort. Just as the three approaches require different levels of resources from facilities, they also require different levels of resources from the regulator. During program development, all three approaches may require significant

effort; although at least one state agency (RI DEM) felt that developing an ERP would be easier than developing permitting requirements. However, once program implementation has begun, permits-by-rule generally seem to require the least resources and staff time, while ERPs and general permits require more attention and staff time to implement, depending on the specific requirements of the program. For example, ERPs generally include statistically-based pre- and post-certification inspections (although these inspections can be done as a component of any of the policy approaches), which requires resources of inspectors or other individuals who are trained to review facility operations on site.

Economies of scale

This document provides guidance to regulators for selecting an implementation approach for the auto body and boilers area source rules. However, since October 16, 2009, the EPA has promulgated a total of 62 area source rules, and will eventually promulgate the remaining 8 area source rules. While it is likely not appropriate for regulators to choose a single approach for all area source rules, there may be economies of scale if a state commits to investing in a certain program approach for a number of area source rules. For example, if a regulator chooses the ERP approach for all of the area source rules, the regulator will gain valuable institutional knowledge and infrastructure (e.g., reporting systems) about ERPs that can be applied to multiple area source rules. However, certain program materials will need to be developed for each new area source (e.g., self-certification checklist and compliance assistance workbook).