

**The States ERP Consortium
Guide to Reporting ERP Results**

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THE STATES ERP CONSORTIUM

GUIDE TO REPORTING ERP RESULTS

I. INTRODUCTION AND PURPOSE

The States ERP Consortium (hereafter, the Consortium) has prepared this guide to help states communicate the results of Environmental Results Program (ERP) initiatives consistent with the ERP Results Reporting Compact. The Compact establishes principles that are intended to help ensure transparency, consistency, and credibility in ERP results reporting. This guide and its appendices explain the Compact and identify an approach to reporting a set of "core" ERP descriptors and measures selected by the Consortium. The Consortium believes these core descriptors and measures will help individual states and their partners to achieve two important goals for the reporting of ERP data, namely to:

- (1) **Demonstrate the performance of a group of facilities under ERP** and determine if that performance is meeting agency goals and/or;
- (2) **Demonstrate the performance of an ERP** (e.g., cost-effectiveness of this policy approach), in order to assess whether the optimal policy approach is being applied in managing group performance.

To the extent that states use this guide, it will help these states, the Consortium, and their partners meet broader policy goals. For instance, having a standard for reporting the performance of a group of facilities under ERP will, over time, enable accurate comparisons of compliance and environmental impact (or "footprint") across sectors and across states, to the extent that common measures are developed for the groups of facilities being compared. These comparisons are critical to appropriately allocating scarce federal and state agency resources and meeting stakeholder expectations. A better understanding of how well ERP achieves results, and under what circumstances, is essential to helping states select the best policy tools for a given problem, as well as for enhancing acceptance of ERP in the environmental community.

Following these guidelines can help individual states and their partners achieve their goals for communicating ERP results, while still allowing substantial room for flexibility in how they measure and communicate ERP outcomes, consistent with their own resources and needs. Without alignment with accepted standards such as those proposed in this guide, an individual state must work harder to develop unique performance measures and gain their acceptance. Further, without alignment across ERPs, states and EPA will find it more difficult to compare and aggregate results and to use ERP results to inform decisions about performance levels and resource allocation across groups or sectors.

II. THE ERP RESULTS REPORTING COMPACT

The Consortium encourages all of its members and other ERP implementers to commit to the ERP Reporting Results Compact, which is intended to ensure that agencies implementing ERP

are reporting data in a transparent, defensible and consistent manner. Doing so will improve the ability of states to effectively communicate the results of their ERP efforts, and support the credibility of ERP as a whole. In support of these goals, the Compact identifies eight principles, presented in Exhibit 1 below, intended to help make clear to all interested parties what ERP states are measuring, how they are measuring, and what is not captured in that measurement.

Exhibit 1: Key Principles of the ERP Results Reporting Compact

- 1. Making all results readily available** to the public and to ERP stakeholders (including both positive and negative results).
- 2. Presenting results that are representative** of the group of facilities eligible for ERP, based upon the application of statistically sound sampling approaches.
- 3. Reporting on the Tier I core measures and all the core descriptors** identified later in this guide, and following the guidelines for those measures.
- 4. When choosing to report results for the aspirational Tier II measures and optional Tier III measures identified later in this guide, striving to follow the guidelines** for those measures whenever feasible.
- 5. Adhering to credible statistical principles and sampling approaches** that support the Compact's goals of transparency and defensibility.
- 6. Reporting how each result is calculated and providing statistical information** (e.g., providing definition of any measures not consistent with the core measures presented in this guide; basis for any comparisons made; and statistical significance, sample size, confidence level, and confidence interval for each measure reported, except where noted).
- 7. Presenting a description, assumptions and limitations of the methodology** used in developing results (e.g., sampling approach, possible sources of bias).
- 8. Using, improving upon, and sharing common tools** for storing, analyzing and presenting results, whenever possible.

Consortium members and other ERP implementers indicate their commitment to the Compact by submitting a statement of intent to the Consortium chairperson.¹ The statement of intent can be a formal or informal document (such as e-mail). Each state's statement of intent will summarize the principles of the Compact, and identify the part(s) of the agency committing to the Compact (if not the whole agency), the activities to which the principles of the Compact will apply (e.g., all ERP activities), and a signatory of the statement. Appendix A provides both a model statement of intent for individual states to revise and a stand-alone version of the Compact, which states should include with their submissions.

III. CORE ERP DESCRIPTORS AND MEASURES

As mentioned in the section above, the Consortium has identified a relatively small set of core descriptors and measures believed to be the most essential in communicating the results of ERP initiatives. This section identifies the proposed core descriptors and measures and explains the

¹ Current contact information can be found at: <http://www.erpstates.org/consortiumContacts.aspx>.

tiered system used to prioritize the measures for participating states, while the appendices to this document provide the following substantial, detailed guidance to support participating states' reporting on the descriptors and measures:

- *Detailed Reporting Templates.* Appendix B provides a detailed reporting template that explains the descriptors, and Appendix C provides a detailed reporting template that explains the measures. The Consortium encourages states to report results using these templates, which are intended to promote consistency and to make the reporting process easier for states. Blank reporting templates in Microsoft Word format are available from the Consortium website (www.erpstates.org).
- *Guidelines for Statistical Metadata.* The Consortium has also identified statistical metadata that it believes states should provide when reporting core measures derived from random inspection data (except where such metadata are identified as optional). These statistical metadata are described in Appendix D.
- *Sample Reports.* Appendix E provides sample, filled-in copies of the templates for the core descriptors and core measures. These samples are intended to illustrate the use of the templates.
- *Suggestions for Automated Tools to Support Reporting.* Finally, Appendix F provides information on tools that are available to assist states in planning random samples and in calculating and reporting core ERP measures.

The core descriptors and measures are expected to be relevant to most ERPs, because they do not specify particular environmental issues that should be measured, but rather how to measure and report the environmental issues being covered by the ERP. For example, these measures specify how to report the results of group performance on Environmental Business Practice Indicators (EBPIs), but do not specify what those indicators should be, in terms of specific practices that facilities in a group should be accomplishing. Those determinations are left to individual states, although the Consortium encourages states to use common group- or sector-specific EBPIs whenever possible, to improve comparability across states.

A. Core Descriptors

The core descriptors of an ERP and the group to which it was applied are listed below, and described in more detail in Appendix B. The 22 descriptors are organized into four categories: universe of facilities; policy approach; measurement approach; and miscellaneous. The Consortium generally expects participating states to be open and transparent about their ERPs, and considers these core descriptors to be critical in communicating the context in which the ERP was implemented, an understanding of which is essential for interpretation of reported results. Nonetheless, the Consortium recognizes that some states may view certain, limited descriptor information as sensitive, for enforcement reasons or otherwise. In these cases, states may withhold that information, but are requested to identify the reason for withholding that information.

Universe of Facilities

1. Universe definition (who's in, who's out?)
2. Geographic location of your universe
3. Universe size
4. Confidence in universe size
5. Key environmental concerns
6. Similarity to federal requirements

Policy Approach

7. Substantive scope of ERP (e.g., environmental media addressed)
8. ERP tools/components used (e.g., self-certification, random inspections)
9. Certification type (i.e., voluntary or mandatory)
10. Certification motivators
11. ERP's interface with regulatory structure (e.g., permit replacement)
12. Permanence of ERP (e.g., pilot program or not)
13. External stakeholder involvement approach

Measurement Approach

14. List of Environmental Business Practice Indicators (EBPIs)
15. EBPI selection approach
16. Random sample approach
17. Random sample size
18. Data collector skills/training
19. Data entry approach

Miscellaneous Descriptors

20. Timeframe of key ERP activities
21. External factors influencing ERP
22. Changes to ERP since the last ERP cycle

B. Core Measures

The Consortium expects the core measures described in this section will be very helpful to states in their own communication efforts, and will be valuable to the broader ERP community. These measures can be organized into five broad, conceptual categories: certification-related measures; inspection-related measures; measures of environmental and public health outcomes; measures of costs of implementing ERP; and miscellaneous measures.

The Consortium selected core measures from a long list of possible candidates, balancing the desire to describe the most important aspects of group and ERP performance against the need to ensure reporting is feasible for ERP states. Reflecting this desire for balance, the Consortium characterizes the 23 core measures in terms of three “tiers,” each associated with a different degree of commitment from participating states:

- **Tier I is the true core**—i.e., the nine (9) most essential measures that the Consortium feels states that sign the Reporting Results Compact should commit to measure and report on.

- **Tier II includes aspirational measures**—i.e., measures that the Consortium would strongly encourage states to report on wherever possible. Tier II includes five (5) measures related to environmental outcomes and ERP costs. It may not be feasible for states to report on these measures for all sectors or ERPs at this time, but the Consortium hopes states will strive to report on these measures in the future if they cannot do so now, because these measures are considered very important in communicating ERP results. The Consortium is providing limited guidance on these measures in this guide, and anticipates providing supplemental guidance on these measures in the future.
- **Tier III contains nine (9) optional measures** that the Consortium feels would be very helpful for states to report on. Whenever states are already collecting this data, the Consortium encourages states to report it as part of their ERP results, following the reporting recommendations presented in this guide.

Appendix C provides detailed explanations and examples for each measure, while Exhibits 2, 3, and 4 (below) list the measures in each tier. The Consortium recognizes that a number of the core measures may be new to many states, especially those working on ERP for the first time. Consequently, the exhibits also indicate the level of effort the Consortium believes may be needed to report on the proposed measures, as follows:

- a) **Low:** Measures that states typically collect data on and report;
- b) **Medium:** Measures that states don't typically report on, but that could be calculated from data they currently collect; and
- c) **High:** Measures that states don't typically report on and for which many states would have to collect new data.

States should recognize that their own level of effort may be different than the Consortium anticipates, depending on a number of factors, including: the nature of the group of entities addressed by ERP, the complexity of the ERP approach undertaken, and the extent to which the state is able to use ERP tools that can automate many of the data storage, analysis and reporting steps.

Many tools are freely available to assist in calculating many of the core measures defined in this guide, and a key priority of the Consortium is to continually work to improve the capabilities of tools in facilitating states' reporting. Current tools can accommodate a variety of state needs and capabilities, and range from straightforward, non-automated calculation spreadsheets to a fully automated ERP data system that offers greater capabilities. States must typically invest more upfront time in learning how to utilize the most automated tools, but the Consortium expects that the use of more-automated tools will reduce the level of effort required for states to report core ERP measures, and improve consistency, over the long run. The exhibits that follow identify the

measures supported by the two most automated ERP analytical tools, the ERP Performance Analyzer and the EBPI Results Pro.³ Appendix F provides additional information on the capabilities of and contacts for those two tools and others, including spreadsheets that can assist in ERP sample planning.

Exhibit 2: Tier I Measures (True Core)					
Measure	Level of Effort (Non-Automated)			Automated Tool Available?	
	Low	Medium	High	ERP Performance Analyzer	EBPI Results Pro ^a
Final certification rate	✓			✓	
Rate of facility certification "Yes"/"NA"/"Blank" and inspector "No" responses on EBPIs ^b		✓		✓	
Rate of self-disclosed noncompliance		✓		✓	
Rate of return-to-compliance plan submission	✓			✓	
Achievement rate for each EBPI	✓			✓	✓
Summary of EBPI performance changes	✓			✓	
Average facility score for all EBPIs ^c		✓		✓	✓
Other benefits of ERP	N/A (these measures are defined by states)				
Other key measures you have identified					
<p>a) Currently only capable of reporting the results of one random sample and up to 30 EBPIs or other questions.</p> <p>b) This measure tracks instances in which an inspector finds that a facility is not achieving an EBPI, but the facility's certification form does not indicate non-achievement (i.e., when the facility indicates that it is achieving the EPBI or that the EBPI does not apply to the facility, or when the facility leaves a question blank).</p> <p>c) A facility score represents the proportion of a particular set of items (like EBPIs) that an individual facility is achieving. For instance, if a facility is achieving eight out of 10 EBPIs that are applicable to it, that facility would have a facility score of 80%. The average facility score represents a summary of facility scores by taking an average of individual facility's scores across a randomly selected sample of facilities. As with many of the other core measures, the concept of average facility scores is often most easily understood through the use of detailed examples, which are presented in Appendix C.</p>					

³ While the ERP Performance Analyzer is freely available and will produce results for most of the core measures, the purchase of JMP statistical software is necessary for the Performance Analyzer to calculate statistical metadata associated with those measures. Alternately, another state user of the ERP Performance Analyzer (with JMP software capabilities) could run the statistical analyses on behalf of a state without the JMP software.

Exhibit 3: Tier II Measures (Aspirational)					
Measure	Level of Effort (Non-Automated)			Automated Tool Available?	
	Low	Medium	High	ERP Performance Analyzer	EBPI Results Pro ^a
Rate of managing/controlling certain environmental aspects (e.g., percentage of hazardous waste properly managed)			✓	✓ ^b	
Level of group emissions/waste/discharges/chemical usage related to certain environmental aspects		✓		✓ ^b	
Ecological, occupational and public health impacts related to certain environmental aspects of the group			✓		
Agency level of effort, first cycle			✓		
Agency level of effort, subsequent cycles			✓		
<p>a) Currently only capable of reporting the results of one random sample and up to 30 EBPIs or other questions.</p> <p>b) The ERP Performance Analyzer is an Access database that can store any information observed by the inspector or reported by the facility. There are no “canned” reports for Tier II measures, since such measures would likely be specific to a particular ERP. However, users may develop their own customized reports.</p>					

Exhibit 4: Tier III Measures (Optional)					
Measure	Level of Effort (Non-Automated)			Automated Tool Available?	
	Low	Medium	High	ERP Performance Analyzer	EBPI Results Pro ^a
Rate of self-disclosing facilities submitting one or more return-to-compliance plans		✓		✓	
Achievement rate across all compliance-related measures (commonly called a traditional compliance rate)		✓		✓	
Media-specific achievement rates across all compliance-related related measures (in other words, traditional compliance rate for each environmental medium)		✓		✓	
Distribution of facility scores for all EBPIs ^c		✓		✓	✓
Average facility score for compliance-related EBPIs ^b		✓		✓	✓
Distribution of facility scores for compliance-related EBPIs ^b		✓		✓	✓
Average facility score for all compliance-related measures ^b		✓		✓	✓
Distribution of facility scores for all compliance-related measures ^b		✓		✓	✓
Aggregate achievement rate for all EBPIs (i.e., proportion of all EBPIs being achieved)		✓			
<p>a) Currently only capable of reporting the results of one random sample and up to 30 EBPIs or other questions.</p> <p>b) A facility score represents the proportion of a particular set of items (like EBPIs) that an individual facility is achieving. For instance, if a facility is achieving eight out of 10 EBPIs that are applicable to it, that facility would have a facility score of 80%. The average facility score represents a summary of facility scores by taking an average of individual facility's scores across a randomly selected sample of facilities. As with many of the other core measures, the concept of average facility scores is often most easily understood through the use of detailed examples, which are presented in Appendix C.</p>					

IV. THE FUTURE OF THE COMPACT AND THIS GUIDE

The Consortium greatly values the enthusiasm and contribution of member states and others that commit to the principles of the ERP Results Reporting Compact and report their results for the measures and descriptors identified in this Guide and the appendices that follow. The Consortium expects that implementation of more standardized reporting will substantially benefit individual states and the ERP community as a whole, by helping to better assess the performance of the ERP policy approach and the groups at which the approach is directed. Nonetheless, the Consortium views this Guide as a "living" document, and anticipates that revisions to the core descriptors and measures may become desirable or necessary.

For instance, as mentioned earlier, the Consortium intends to actively support states' development of Tier II aspirational measures of environmental and other benefits as well as implementation costs. The Consortium hopes to improve its guidelines for those aspirational measures as a result. Furthermore, the Consortium may in the future consider adopting certain group- or sector-specific EBPIs—such as to be consistent with indicators developed under the auspices of the Common Measures Project. In the meantime, the Consortium urges states working on the same sector to communicate with each other, and whenever possible to use common group- or sector-specific EBPIs that will allow improved comparability across states.

Participating states and others are urged to provide feedback as they review and implement the measurement approach described in this document.