

DOE PERFORMANCE METRICS REPORTING PROCESS

Point Paper Revision 2, 11/1/02

I. GOAL

To develop an “annunciator panel”-based performance reporting system that can be used by all DOE elements. This reporting system should be a tool that provides information, trends, etc. to assist field office and DOE-HQ management in the allocation of resources to improve performance cost effectively. Using the annunciator-panel display, management will know where to focus attention and resources.

II. BACKGROUND

DOE senior management has asked for regular summary-level reports on the status of DOE sites under their cognizance against a set of top-level performance metrics or “Focus Areas”, using an “annunciator panel” approach similar to the one used by the commercial nuclear utility industry. This approach relies on the use of color codes to summarize the status of each individual site for each Focus Area.

The EFCOG ISM Working Group has been requested to coordinate the response to this request and has assigned its Performance Metrics Sub-Group the task of leading this effort. This Sub-Group is augmented with volunteers from a recent DOE-HQ ISM Conference and includes several DOE employees.

III. ACTIONS

The Performance Metrics Sub-Group is meeting this request by completing the following basic actions:

1. Develop, in cooperation with key DOE HQ personnel, a set of top-level Focus Areas around which the reports to DOE-HQ will be structured. These Focus Areas are Management Systems, Operational Performance, and Infrastructure and Facility Management. There will also be “Special Emphasis Areas” for reporting, which include Risk Management and Project and Requirements Management.
2. Develop a standard reporting format, a standard set of color codes and definitions, and a standard process for which reports to DOE-HQ will be developed and submitted by DOE Field Offices.
3. Provide leadership and assistance to contractors and key DOE organizations to implement the standard process across the complex.

A complete set of actions and dates to accomplish this are shown below in Section “VI, Plan and Schedule”.

The task of the sub-group is not to design a new, comprehensive performance metrics system for the DOE Complex. Its task is, rather, to develop a process through which existing performance information can be collected, placed in a common format, and reported to DOE-HQ in a way that is meaningful. This process is based on proven commercial nuclear industry reporting tools and

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will assist in the management of sites by field offices and contractors. DOE senior management has asked that a similar approach be used to report performance.

IV. PRINCIPLES

The following principles guide the completion of this activity.

1. The primary purpose of gathering and analyzing performance data is to help managers in their decision-making processes.
2. The use of a commercial nuclear industry format for reporting performance information is an effective approach for DOE. It provides a quick summary of current status, the data upon which that status is based, an easy identification of trends, an analysis of what the data means in operational terms, and a set of actions that describe what is to be done in response to the data.
3. The number of Focus Areas is small and generically applicable across DOE operations. They are also general enough to allow different field offices to report their performance based on meaningful, lower-level data.
4. The types of Level 1 metrics and individual performance indicators (PI) supporting the Focus Area will be decided by the Field Offices and their contractors.
5. The reporting format, the colors to be used, and the definitions of those colors will be common across the DOE Complex.

Individual Field Offices and their contractors will assign color-rating scores for the Focus Areas and supporting key performance indicators, using their own processes and methodologies. The differences in mission, contractual provisions, and resources are too great across the DOE Complex to make across-the-board consistency feasible. It is important to allow and encourage innovation and different approaches at the various DOE field units, while keeping the format the same. Important lessons may be learned and shared with others, which would be lost if unnecessarily restrictive structure and methodological rigor are imposed.

V. DISCUSSION

DOE field offices and their contractors at the various DOE sites already gather, analyze, and track a wide variety of performance information using the specific metrics applicable to the missions. The specific metrics and how they are used vary based on the unique contractual provisions and business necessities of the various sites. It is assumed that no site will start from scratch, and that there will be few cases in which a particular DOE site will have to substantially change its approach to gathering and analyzing information in order to implement the planned performance metrics reporting process. Instead, only the reporting format for the Undersecretary is being standardized.

The planned performance metrics reporting process will be based on standardized “format” features but will not require standard “content” features. This is a central feature of this performance metrics reporting system. It enables Field Offices and contractors to provide top-level reports against a common set of Focus Areas, which will help executive-level DOE

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managers interpret the data consistently across sites. Just as importantly, it preserves the ability of individual sites to measure and take action on what is important to them, using their established methods for doing so. Since each site will assign their own color ratings for each metric, there should not be a comparison of metrics among the sites.

The standardized features of the system are as follows.

1. **Focus Areas.** Clearly, the various sites must ultimately “bin” key performance information into the same overall categories so that senior DOE leadership can determine the status of each DOE site easily. Standard Focus Areas with examples of supporting Level 1 performance indicators are included in this Point Paper as Attachment 1.
2. **Process for report submittal.** Contractors will develop their performance metrics reports and submit them to their Field Office. Agreement should be reached between the Contractor and the Field Office regarding which Level 1 PIs will be used to indicate site performance in each Focus Area. The report will consist of the annunciator panel for the Focus Areas and the Level 1 sheets associated with each Focus Area. The Field Offices will review the reports and work out any differences with the Contractors, then submit the final report to the HQ Program Secretarial Office (PSO). (Note: If the Field Office and contractor are not able to resolve any differences, a note should be made to that effect.) The PSO will send an information copy of the report to EH-1’s designee. The PSO will present the report to the appropriate Undersecretary. EH will review all reports to determine any trends or problem areas that need special attention.
3. **Schedule for report submittal.** DOE senior management wants all affected sites operating under the same quarterly reporting schedule. Once published, this schedule will enable DOE Field Office Managers to work with their contractors to establish routines for preparing and submitting reports.
4. **Format.** Several DOE sites have developed commercial nuclear industry type formats that are slightly different from each other. For ease of reading and understanding, a standard format will be used across the DOE Complex. This format has been developed by the Sub-Group based on input from all sites and is included as Attachment 2. This format may be modified during the implementation phase as additional lessons are learned.
5. **Colors and Definitions.** The color codes to be assigned to measure performance in the Focus Areas will be standard across the complex, as will the definitions of these colors. These colors and definitions are included in Section IX, Colors and Definitions.

The **non-standardized** features of the system are as follows.

1. **Performance Indicators below the Focus Areas.** It is not expected that performance indicators at levels below the Focus Areas (usually referred to, in descending order, as Levels 1, 2, 3 and so forth) will be standardized across the DOE Complex. It is expected that individual sites will continue to measure what is important to them, then simply extract the information needed to submit reports to DOE senior management. The only exception envisioned to this is if a Focus Area or Performance Indicator were to be established against which all sites are required to report, but for which some sites were

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not gathering information. In such a case, the site would be expected to begin gathering and analyzing such information or explain why the site was not tracking that particular factor.

2. **Decision process for assigning color codes to performance.** It is up to the individual sites to determine the criteria they will use to assign colors to denote their performance levels against their local performance indicators. Some indicators readily lend themselves to quantitative algorithms, which can be used to determine the color that should be assigned to a given level of performance. Other indicators can be subjected to clear guidelines for the assignment of colors, but that these guidelines must be augmented by management judgment. Finally, some indicators may only be meaningfully evaluated on the basis of management judgment. Regardless of the method used for an indicator, the individual sites and field offices should make these determinations.

Finally, it is a key tenet of this performance metrics reporting system that it is more important and useful to quickly implement a process that may need some adjustments down the road than to take many months to design a theoretically elegant system. Any “perfectly designed” system would probably need to be adjusted anyway. It is also expected that DOE and contractor management at the various DOE sites will be willing to accept a common approach to reporting performance information (including common format and colors) since **the content of what is tracked at the site level will continue to be the site’s decision.** This proposed approach places a premium on local control of content, ease of Headquarters-level evaluation of results, the quick implementation of a system which has already been shown to work in some parts of the complex, and the gathering and use of lessons learned from the implementation of the process. The steps shown in Section VI, Implementation Plan and Schedule below provide the path forward for implementing this process.

VI. IMPLEMENTATION PLAN AND SCHEDULE

#	Action	Due By:
1.	Optional roll-up reports submitted to PSOs for data through September 30, 2002 (“Dry Run” of the system).	12/1/02
2.	Report results at ISM Conference in December. (Beeler/Yanek/Pedde)	12/5/02
3.	First required roll-up reports submitted to PSOs for data through December 2002.	2/15/03

VII. FOCUS AREAS, LEVEL 1 PERFORMANCE INDICATORS, and SPECIAL EMPHASIS AREAS.

The standard Focus Areas are Management Systems, Operational Performance, and Infrastructure and Facility Management.

Example Level 1 PIs are included in Attachment 1. The Level 1 PIs listed are **examples**; each site is to select the appropriate Level 1 PIs (which may include PIs not listed in the Attachment)

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to represent site performance. The only exception to this is that there are a small number of Level 1 PIs which DOE senior management has specifically asked to receive reports on. These Level 1 PIs are marked as “Required.” Sites that perform work that is covered by any of these PIs are to include data on those PIs in their quarterly submission.

In addition to the Focus Areas and Level 1 PIs, sites are also expected to report against two “Special Emphasis Areas”. These areas, Risk Reduction and Project and Requirements Management, are areas of interest that are not specifically tied to any particular Focus Area, but are important aspects of all DOE work. Therefore, DOE senior management has requested that all sites include data on their status in these two areas (assuming that the nature of the work at the particular site lends itself to reporting on these areas). From a reporting mechanics standpoint, these two Special Emphasis Areas should be treated as if they were two additional Focus Areas, and should be supported with the same types of back-up detail as the three standard Focus Areas.

VIII. ANNUNCIATOR PANEL AND LEVEL 1 PERFORMANCE INDICATOR FORMATS

A sample roll-up report to DOE-HQ is shown in Attachment 2. It illustrates the format to be used for these reports, and includes examples of the types and level of supporting detail that can be included. Note that this example does not include data on all the “Required” reporting areas (shown in Attachment 1). The example consists of:

- A single roll-up level annunciator panel
- Supporting sheets that provide detail on the ratings provided on the annunciator panel.

Note that this sample report shows only two levels of data: the Focus Area/Special Emphasis Area level, and the Level 1 PI level. Those sites which break their Level 1 PIs into lower-level supporting PIs are certainly welcome to include that additional level of data in their roll-up reports. Sites are also encouraged to “cut and paste” charts and graphs into their roll-up reports, although none are used in the attached sample report.

IX. COLORS AND DEFINITIONS

Below are the standard colors and definitions. Individual sites are to use their own standards and methods for assigning color scores to their performance.

Blue: “Outstanding”. Performance which significantly exceeds expectations.

Green: “Good”. Performance which meets or exceeds expectations. Generally requires only normal management attention to maintain performance.

Yellow: “Marginal”. Yellow can be used to denote either of two conditions:

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- Borderline or declining performance, which needs increased management attention and resources to achieve desired performance or to reverse a negative trend.
- Acceptable performance that relies on a set of conditions which could change and quickly send performance into the “Red” category. For example, if events such as the loss of a key manager; the denial of a request for an exemption; or a policy change on the part of a regulator would quickly move performance from acceptable to unacceptable, “Yellow” would be the appropriate designation.

Red: “Poor”. Performance which clearly does not meet expectations, and which needs significant management attention and resources to achieve desired level of performance.

White: “No Data”.

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ATTACHMENT 1: Example of Level 1 Performance Indicators

The Focus Areas are Management Systems, Operational Performance, and Infrastructure and Facility Management. Examples of Level 1 and performance indicators are shown in the boxes to the right. Also shown are the two Special Emphasis Areas, with examples of the types of factors that comprise them. (Templates are available from Gail Jernigan, gail.jernigan@srs.gov or by calling 803-725-7774.)

	Site Name Performance Indicators Date		
Focus Areas	Site Level Annunciator Panel and Examples of Level 1 Inputs		
Management Systems	<i>Examples of Management Systems include: Regulatory Performance, Quality Assurance, Safety Culture, Authorization Bases (REQUIRED), Stakeholder Relations, etc.</i>	Risk Reduction (REQUIRED)	Examples of Risk Reduction include: Tank Closure, Removal of Waste from the Site, Reduction of Contaminated Footprint, Environmental Restoration Closures Completed, Amount of Square Feet Decontaminated, etc.
Operational Performance	<i>Examples of Operational Performance include: Near Misses, Radiation Protection (REQUIRED), Industrial Safety and Health, Criticality Safety (REQUIRED), Project Management (REQUIRED) Safeguards and Security, Fire Protection (REQUIRED), Work Planning and Control, Emergency Management and Preparedness, Chemical Safety, Environmental Protection (REQUIRED), Waste Management, Transportation Management (REQUIRED), and Subcontractor Safety, etc.</i>	Project and Requirements Management (Required)	Examples of Projects and Requirements Management include: Pushback on DOE Orders, Renegotiated Regulatory Agreements, Cost Savings, etc.
Infrastructure and Facility Management	<i>Examples of Infrastructure and Facility Management include: Systems and Equipment Essential To Safety, Construction Management, D&D, Environmental Restoration, Maintenance, Configuration Management, and Life Cycle Management, etc.</i>		

- B** Exceptional program, innovative process, or superlative performance; significantly exceeds expectations
- C** Effective performance which meets or exceeds requirements and expectations; therefore, only a maintenance level of management attention or resources is needed.
- Y** "Marginal". Yellow can be used to denote either of two conditions:
 - Borderline or declining performance, which needs increased management attention and resources to achieve desired performance or to reverse a negative trend.
 - Acceptable performance that relies on a set of conditions which could change and quickly send performance into the "Red" category. For example, if events such as the loss of a key manager; the denial of a request for an exemption; or a policy change on the part of a regulator would quickly move performance from acceptable to unacceptable, "Yellow" would be the appropriate designation.
- R** Degraded or adverse performance warranting significant level of management attention, resources, and improvement.
- E** Insufficient data or not applicable

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ATTACHMENT 2: EXAMPLE OF ROLL-UP REPORTS TO DOE-HQ

Contractor Name

Site Name
XX Quarter of Fiscal Year 200X

Focus Areas	Site Level Annunciator Panel and Examples of Level 1 Inputs					
Management Systems	Regulatory Performance	Quality Assurance	Safety Culture	Authorization Bases	Stakeholder Relations	Risk Reduction
Operational Performance	Radiation Protection	Industrial Safety and Health	Criticality Safety	Safeguards and Security	Project Management	Fire Protection
	Work Planning and Control	Emergency Preparedness	Environmental Protection	Near Misses	Transportation Management	Waste Management
Infrastructure and Facility Management	Systems and Equipment Essential to Safety	Construction Management	D&D	ER	Maintenance	Configuration Management

Risk Reduction

Project and Requirements Management

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I. Project and Requirements Management

Elimination of Unnecessary Requirements

- Downgraded hazard classification for buildings 123 and 557 from 2 to 3.
- Consolidation of SNM in building 713 eliminated a multitude of MC&A requirements for remaining Site buildings, allowing Protected Area to be reduced to encompass a single Site building. This increases material security and removes obstacles to demolition of remaining buildings.
- Applied commercial demolition standards and approach (versus originally planned Nuclear-grade controls) to removal of administrative building (1111), resulting in cost savings of \$3M; six months schedule gain; and reduced worker exposure to risk. Studies in progress to apply this approach to other Site buildings.

Project Innovations and Rescoping

- Used “Explosive Harmonic Delamination” for demolition of Building 688 rather than originally planned method using powered tools. Risk to workers greatly reduced, efficiency gained. Plans underway to apply this method to at least three other Site buildings.
- Worked with State of Nevada and NTS to apply “Surface Contaminated Objects” standards to chemically decontaminated gloveboxes, allowing them to be shipped whole to NTS. As gloveboxes no longer have to be manually size-reduced, worker safety is increased enormously and schedule is accelerated.
- Building 177 Steelworker invented simple, inexpensive “moving B-box” for pipe cuts. This greatly reduces contamination potential, opportunities for cuts or punctures, and cycle time for pipe removal.

II. Risk Reduction

- Shipped 14 multi-canister overpacks out of H-Area East. 50 overpacks have been removed from this area as of March 20, 2002 (planned to remove 66)). Persistent equipment problems and process complexities are barriers to meeting the

full production schedule (16 overpacks per month). The project has gone to around-the-clock removal work and conducted failure analysis to improve production.

- Completed removal of all process vessels and piping at the 322-N Plutonium Facility in March, more than a year ahead of schedule.

III. Management Systems

Safety Culture

- 5 potentially serious safety events – 2 severed electrical lines, 2 dropped heavy loads, 1 case of improper rigging practices. Four of these cases involved three new subcontractors brought on site. Work stand-downs instituted, training completed on Site expectations. Dedicated Mentors assigned to key work crews to guide improvement. Results not yet confirmed, but indications are that actions taken are effective.
- 14 reportable personnel errors – 5 lockout/tagout violations, 2 radiation work permit violations, 2 system misalignment errors, 3 PPE infractions and 1 confined space entry violation. Contractor and Unions have developed an approach to increasing procedural compliance, which is in early stages of implementation.
- Formal employee safety complaints have dropped from an average of 35 per month to 10 per month over the past quarter. This is the results of an additional 10 dedicated Union safety representatives assigned to the Site who spend 100% of their time in the field interacting with work crews.

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IV. Operational Performance

Criticality Safety

- Criticality infractions have increased 10% in past quarter. This is an artifact of the additional conservatism built into Site procedures after the Building 103 drum overload incident reported last quarter. The Criticality Safety Improvement Plan will be fully implemented within the next 30 days.

Radiation Protection

- Skin Contaminations (over 1000 dpm per cm²) rate dropped from 12 per year to 9 per year over the past quarter (contractual limit: 20 per year).
- Conformed Intake Case Rate (greater than 100 MR) continues downward trend, reaching rate of 0.35 over the past quarter.
- Fifth consecutive month in which Total Site Dose rate was below ALARA goal.

V. Infrastructure and Facility Management

D&D

- 2 high-hazard facilities (888 and 777) scheduled to begin D&D next quarter will be deferred if funding not approved within 60 days.
- Decommissioning BIO (DBIO) approved for two more facilities (888 and 777).

Construction Management

- New construction subcontractor brought on board to complete demolition of Building 677 passed readiness review with no deficiencies, and few areas needing improvement. Work will begin 60 days ahead of original schedule.

VI. AREAS OF SIGNIFICANT DISAGREEMENT

None this quarter.

VII. AREAS OF SPECIAL MANAGEMENT ATTENTION

1. Funding approval for Buildings 888 and 777.
2. Orientation and control of subcontractors.
3. Strict formality of operations.
4. Continued emphasis on resolving H-Area East shipping issues.