

QUARTERLY PERFORMANCE ANALYSIS REPORT PREPARATION

Occurrence Reporting Performance Analyst's Responsibility

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Effective Date:

July 18, 2007

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PURPOSE:

The purpose of this analysis report is to provide guidance to the Analyst via a methodology (including key process elements) for successfully completing and documenting the analysis and results of the analysis of reportable and non-reportable events/incidents and conditions.

SCOPE:

This desktop instruction uses the data from reportable sources, such as occurrence reports, event notification reports, OSHA statistics, NTS and worker safety and health non-compliances, and from non-reportable incidents/conditions, i.e., Nonconformance Reports (NCRs), Anomalous Condition Reports (ACRs), Safety Evaluation Reports (SERs), issues from all types of assessments & commitments, etc.

INTRODUCTION:

Performance analysis is primarily a systematic review of data of interest to identify common causes and conditions with an unacceptable high frequency such that corrective actions can be developed and implemented. This methodology identifies recurring events that may be reportable and identifies recurring conditions that may warrant additional analysis and corrective action. This guidance meets the requirements in DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information*, and in the DOE Order 210.2, *DOE Operating Experience Program*.

This methodology also identifies repeat and programmatic nuclear safety (PAAA) and worker safety and health (WSH) non-compliances for further evaluation.

A. DATA GATHERING:

1. Collect data from the previous four quarter period (i.e. 04/01/06 thru 03/31/07, report due to DOE 04/30/07) for all reportable occurrences and non-reportable events, which includes:
 - BJC OSHA Statistics (Recordable Injuries & Illnesses, Lost Workday Cases & Lost Workday Away Cases);
 - Event Notifications (non-occurrence reportable) such as radiological contamination and events, minor spills; environmental noncompliances
 - Issues identified during internal and external assessments for consideration of variations caused by assessment frequencies, subjects or types within the total number found;
 - Issues identified from internal and external assessments with corrective action plans for cause code comparisons,
 - NTS Noncompliance reports,
 - Nonconformance reports, Anomalous Condition Reports, Safety Evaluation Reports, etc.
2. Compile the data in a single database (i.e. EXCEL) to facilitate analysis of groupings that have comparable and directly related attributes, and
 - Review the data to ensure it is complete, accurate and does not include duplicate entries.
 - Sort the data into appropriate groupings, such as cause codes, DOE Headquarters Keywords, reporting criteria, significance category, etc.

B. ANALYZE DATA - PERFORMANCE ANALYST

3. Prepare Pareto Charts from ORPS database distributions on the remaining data sources applicable to the time period to keep the information comparable.
 - Examine the trends and the data considering Who, What, When, Where, Why and How, the events occurred.

- After consideration of the questions in Attachment A, present the results of the examination and the major contributions from the Pareto charts to the applicable Functional Managers/Manager of Projects/ Designee and Subject Matter Experts for their analysis.

Consider the use of trend charts to:

- Compare the number of events over time,
- Measure the significance of performance in a single point of time compared to the past, and
- To project future performance.

Consider the use of control charts to:

- Identify changed levels of variability
- Analyze process variability, and
- Determine when something unusual is present
- Show if the process is in "statistical control" to avoid over-reaction to events
- Show gradual trends towards established limits to avoid an abnormal event

Consider relationship analysis which complements the statistical analysis methods described (trend and control charts). In addition to looking at events, look for indications of:

- An ineffective or weak program,
- A common underlying cause or
- For a breakdown in management control, and/or
- Human performance and look beyond human behavior to examine and determine the error precursors and latent organizational weaknesses that may have contributed to the human performance problem.

C. IDENTIFYING POTENTIAL PROBLEMS

4. Potential Problems

- If two or more events with common causes or conditions are determined by performance analysis to have an unacceptably high frequency, a recurring event is identified.
- If the data analysis results in the identification of a series of noncompliances that are considered repetitive or
- If the analysis indicates a common breakdown in a program or program area, or systems problems having a common underlying cause, the results should be reviewed for reporting requirements.
- If the analysis reveals operating experience that would be beneficial to share with others, a lessons learned could be prepared.

D. MANAGEMENT REVIEW

5. When any of the potential problems result from data analysis, schedule a management review via the corrective action review process to discuss the results of the performance analysis and either validate the analysis or require additional investigation as needed. The applicable senior manager(s), MOP/Designee, subject matter expert(s), and the performance analyst should be present for the discussion to ensure that there are appropriate focuses and proper balances in the analysis process, and also to confirm that the process and the results of the process are owned by management.

E. DOCUMENT THE PERFORMANCE ANALYSIS

6. The performance analyst documents the results of the analysis including the identification of events or conditions that are considered repetitive or if the analysis indicates a common breakdown in a program or program area or systemic problems having a common underlying cause recurring in a report.
7. The project or function will need to report recurring occurrences in ORPS as a significance category "R" and repeated non-compliances are reported in the PAAA and 851 Noncompliance Tracking System.

Attachment A: DATA ANALYSIS QUESTIONS

Performance Analyst's Responsibility

During Data analysis, consider the following questions as an aide to assure that the analysis is focused and the desired result is achieved.

Questions to ask when reviewing Pareto Charts:

- What is the most frequent common underlying cause for a series or group of events?
- Do related series or groups of events, having the same underlying cause, occur most frequently within a single project, facility or program?
- Have multiple control failures taken place within the boundaries of a single grouping indicating a common breakdown in a program or area of a program?
- Do the causal factors of a series or group of events indicate possible systemic problems?

Questions to ask when reviewing trend charts may include:

- Did the trending data for the series or group of events indicate a positive trend?
- Did the trending data for the series or group of events indicate a negative trend?
- Can the trend be correlated to specific activities, such as assessments, changes in processes, changes in requirements, etc?

Questions to ask when reviewing control charts may include:

- Is the frequency of an event or cause acceptable to the successful completion of the task or activity?
- What is the source of the variability?
- Is there significance to the most frequent cause of an event?

Questions to ask when looking for commonality across dissimilar events may include:

- Do the apparently isolated series or groups of events indicate a series of common work process breakdowns or a series of common issues?
- Do apparently isolated series or groups of events collectively indicate a program weakness?

Attachment B: PERFORMANCE ANALYSIS PROCESS FLOW CHART

