

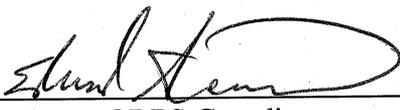
Quality Management Office

Brookhaven National Laboratory

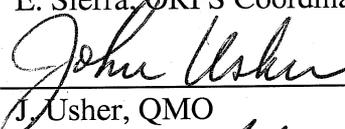
Quarterly Performance Report

1st Quarter FY 2007

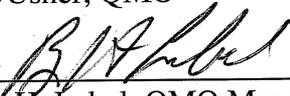
(02/22/07)

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I. Executive Summary

This report is the thirteenth edition of the Quarterly Performance Report and covers the first quarter of FY 2007. It is developed and issued by the Brookhaven National Laboratory (BNL) Quality Management Office, as required by Department of Energy (DOE) Order 231.1A, *Environment, Safety and Health Reporting*. The purpose of this report is to ensure that recurring events are identified. Events identified as recurring are processed in a Significance Category “R” recurring occurrence report.

During the first quarter of FY 2007, the Quality Management Office reviewed issues and/or potential issues from the following documented sources:

- Occurrence Reports;
- ORPS nonreportable events logged by ORPS Categorizers;
- Radiological Awareness Reports (RARs);
- Nonconformance’s;
- Institutional Assessments.

Analysis of the data for the first quarter of FY 2007 indicates that a recurring occurrence report is not warranted.

New Area Requiring Attention

None

Areas Requiring Continued Attention

Material Handling: Recurring material handling problems were reported in the second quarter of FY 2004 in ORPS “R” Report CH-BH-BNL-BNL-2004-0005 and in NTS-CH-BH-BNL-BNL-2004-0002, “Recurring Material Handling Problems.” There was a follow-up assessment conducted by BNL Internal Audit & Oversight (IA&O) during the first quarter FY 2006 to verify effectiveness of corrective actions to this ORPS/NTS Report. Corrective actions to address deficiencies reported in the IA&O corrective action effectiveness review are being tracked in the Assessment Tracking System (ATS). At completion of this Quarter, fifty actions have been closed and six remain open. Continued management attention is needed to assure that all corrective actions are tracked to completion as scheduled in the Laboratory ATS and are effective in resolving the noted concerns.

Railcar Events: Recurring railcar events were reported in the fourth quarter of FY 2004 in ORPS “R” Report EM-BH-BNL-BNL-2005-0009, “Recurring Railcar Events.” At completion of this Quarter, six actions have been closed and seven remain open, four of which are past due. Continued management attention is needed to assure that all corrective actions are tracked to completion as scheduled in the Laboratory ATS and are effective in resolving the noted concerns.

II. Introduction

The ORPS Program is intended to: (1) ensure the timely collection, reporting, analysis, and dissemination of information on environmental, safety, and health issues, and (2) ensure the Department of Energy (DOE) and National Nuclear Security Administration (NNSA) are informed of events that could adversely affect the health and safety of the public or workers, the environment, the intended purpose of DOE facilities, or the credibility of DOE. The Quarterly Performance Report is performed to identify possible recurring program deficiencies and describe ORPS program activities at the Laboratory. If a recurring program deficiency is identified, it is reported to DOE via a Significance Category “R” recurring occurrence report. Section III of this report includes a summary of the documents reviewed, performance analysis of the issues/events reviewed and other data. Section IV summarizes the ORPS Program activities for the first quarter of FY 2007. Section V summarizes Areas Receiving Continued Attention.

III. Performance Analysis

The following exhibits provide a summary of the issues reviewed for the first quarter of FY 2007, including a summary of the documents reviewed and trend analysis.

A. Document Review Summary:

Exhibit 1: Documents Reviewed for 1st Quarter FY 2007 Performance Analysis

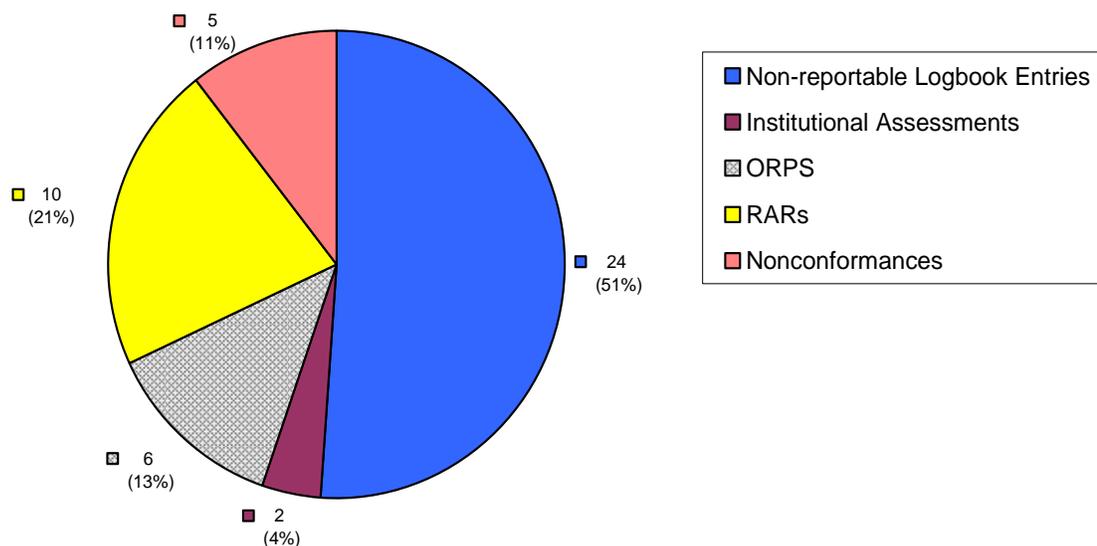


Exhibit 1 indicates 47 documents were reviewed for the first quarter performance analysis of FY 2007. Approximately 51% of the documents reviewed were ORPS nonreportable logbook entries made by the eight BNL on-call ORPS Categorizers.

Note: The eight BNL ORPS Categorizers are a cadre of volunteer senior personnel who have received significant training on the reporting criteria of DOE Manual 231.1-2, *Event Reporting and Processing of Operations Information*. They are on a rotating schedule and available 24 hours a day, 7 days a week to determine event reportability. Each determination that a categorizer renders is logged with justification. It is important that BNL staff draw upon the categorizer's expertise shortly after event/condition discovery so that a timely, accurate, and consistent determination of ORPS reportability is rendered.

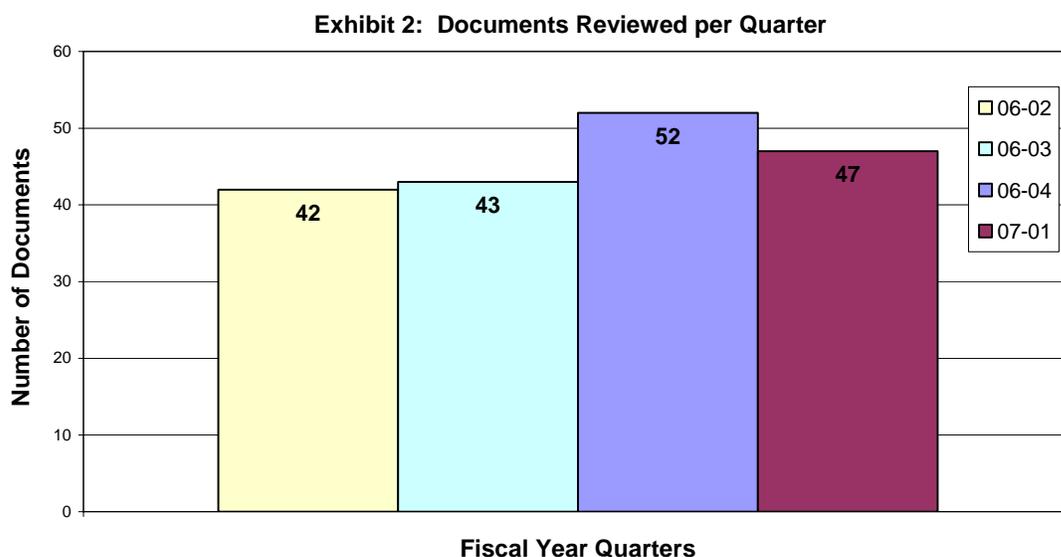


Exhibit 2 depicts the number of documents reviewed per quarter. On average, 46 documents per quarter were reviewed.

Exhibit 3: ORPS Reportable and ORPS Nonreportable Logbook Events

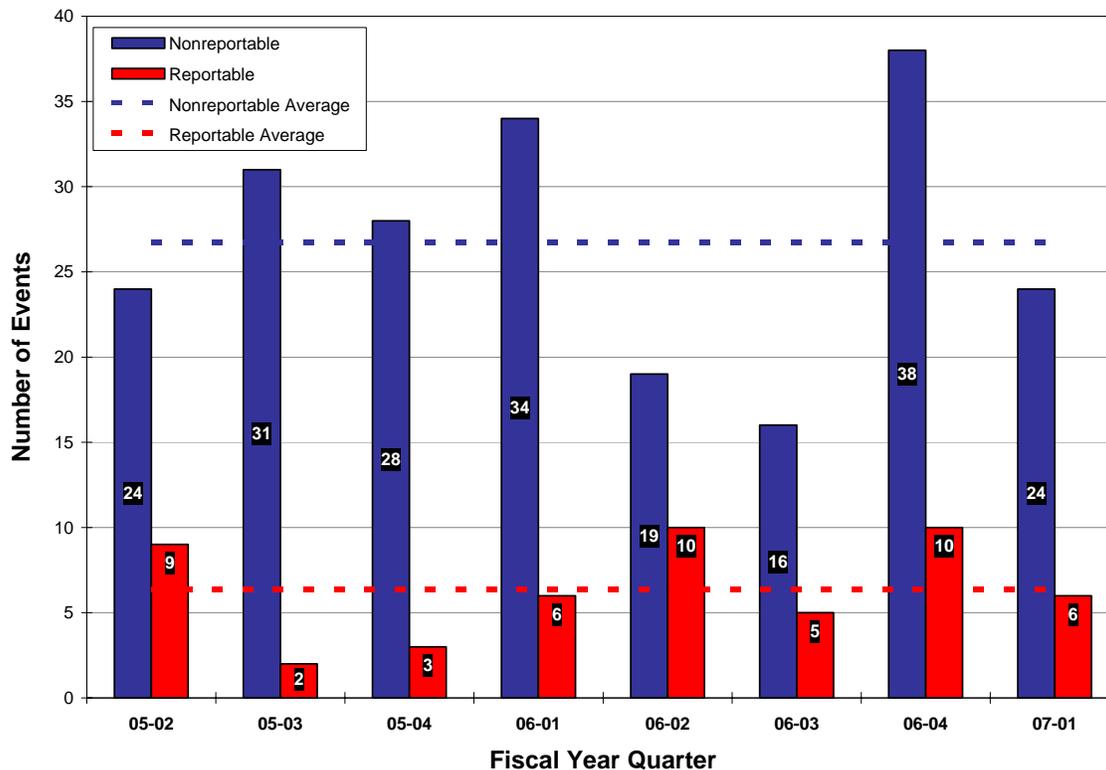


Exhibit 3 shows the number of ORPS reportable events and events/conditions evaluated by the BNL ORPS Categorizers and subsequently determined to be non-reportable over the last eight quarters.

Exhibit 4: Distribution of ORPS Reports by Reporting Criteria

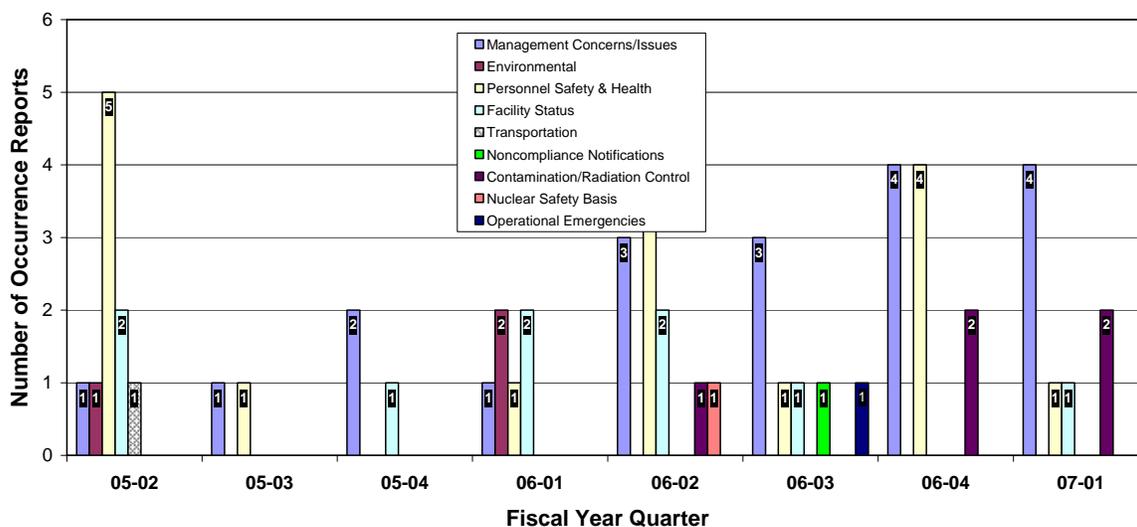


Exhibit 4 shows the number of BNL ORPS reports coded by ORPS reporting criteria, for each of the last eight quarters. No adverse trend is noted.

Exhibit 5: Analysis of Issues by Major Category

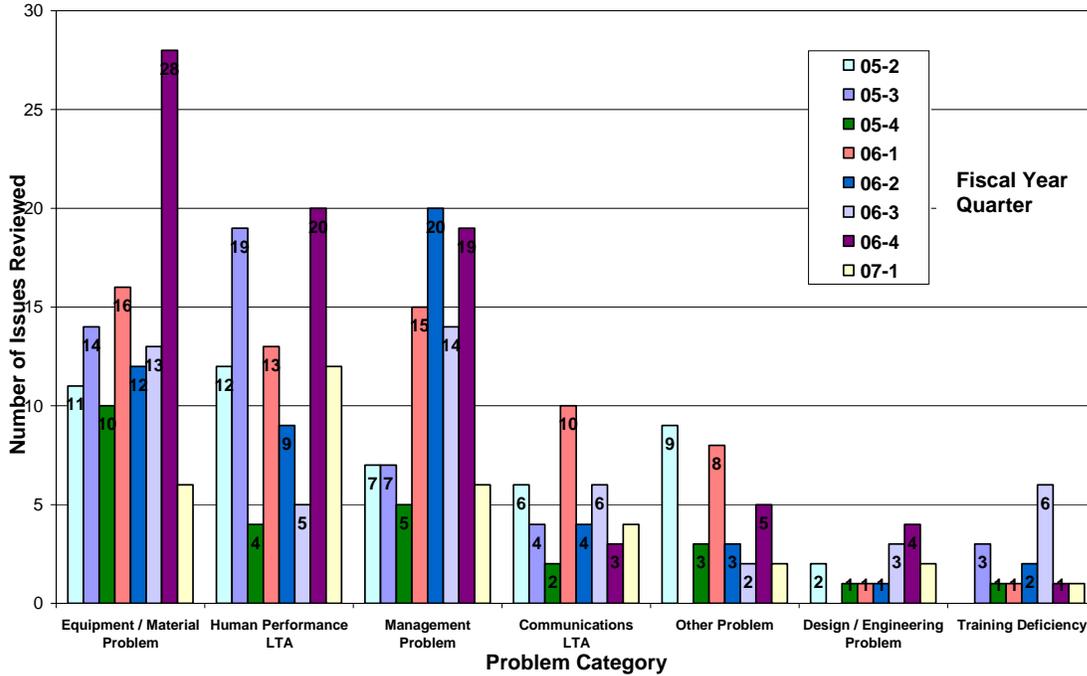


Exhibit 5 is a trend of ORPS cause codes per quarter during last eight quarters. The associated issues were reviewed and apparent cause codes were assigned from the ORPS Causal Analysis Tree in DOE Guide 231.1-2, *Occurrence Reporting Causal Analysis Guide*. Some issues were assigned more than one cause. No adverse trend is noted.

Note: The following are the definitions of the cause codes as defined by the DOE Guide 231.1-2, *Occurrence Reporting Causal Analysis Guide*:

- An equipment/material problem is defined as an event or condition resulting from the failure, malfunction, or deterioration of equipment or parts, including instruments or material.
- Human performance less than adequate refers to an event or condition resulting from the failure, malfunction, or deterioration of the human performance associated with the process. This category is intended for individual actions or lack thereof.
- Management problem refers to an event or condition that could be directly traced to managerial actions or methodology (or lack thereof). A “management” problem can be attributed to management methods (directions, monitoring, assessment, accountability, and corrective action), inadequate resource allocation, work organization and planning, supervisory methods, and/or change management practices.

- Other problems include problems caused by factors beyond the control of the organization (i.e., legacy radiological or hazardous material).
- Communications less than adequate refers to inadequate presentation or exchange of information.
- A design/engineering problem is an event or condition that can be traced to a defect in design or other factors related to configuration, engineering, layout, tolerances, or calculations.
- Training deficiency refers to an event or condition that could be traced to a lack of training or insufficient training to enable a person to perform a desired task adequately.

B. Procurement Quality:

**Exhibit 6: Receiving Inspection Activity
For All A1/A2 or >\$100K Procurements**

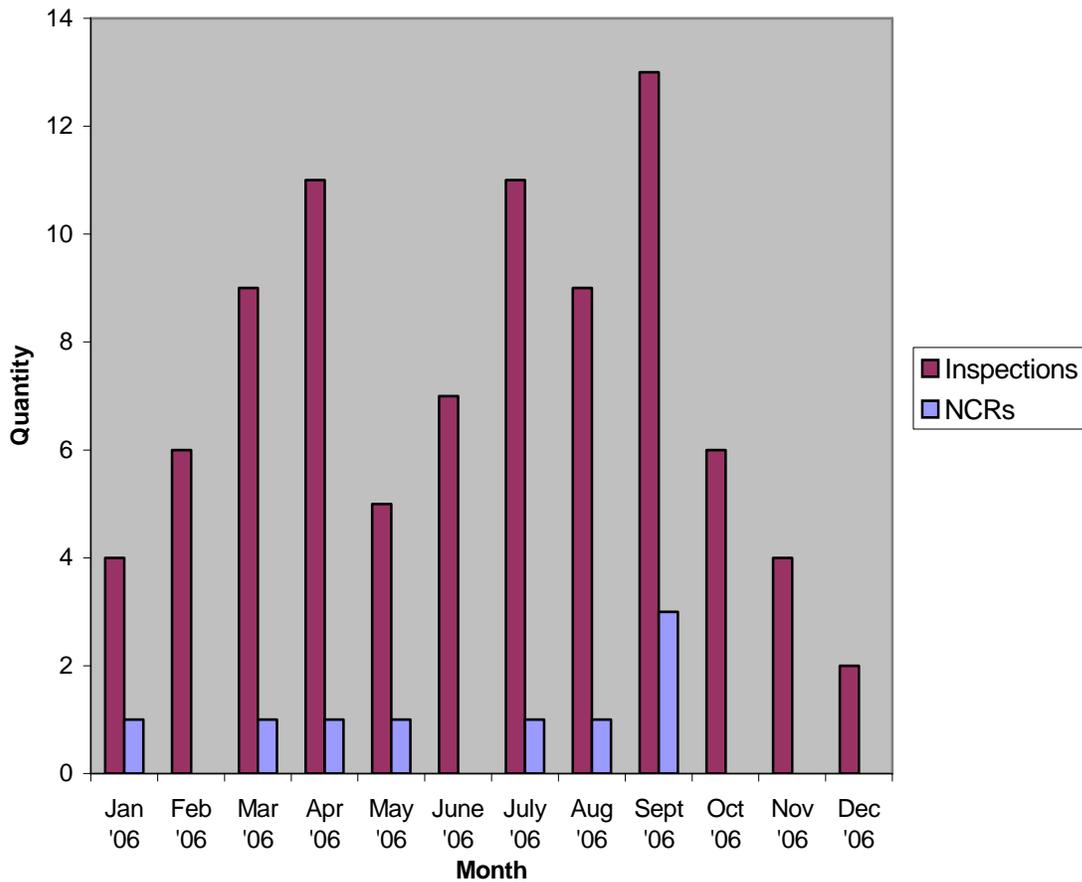


Exhibit 6 shows the results of receipt inspections over the past year. Nine percent of the inspections performed have identified a nonconformance.

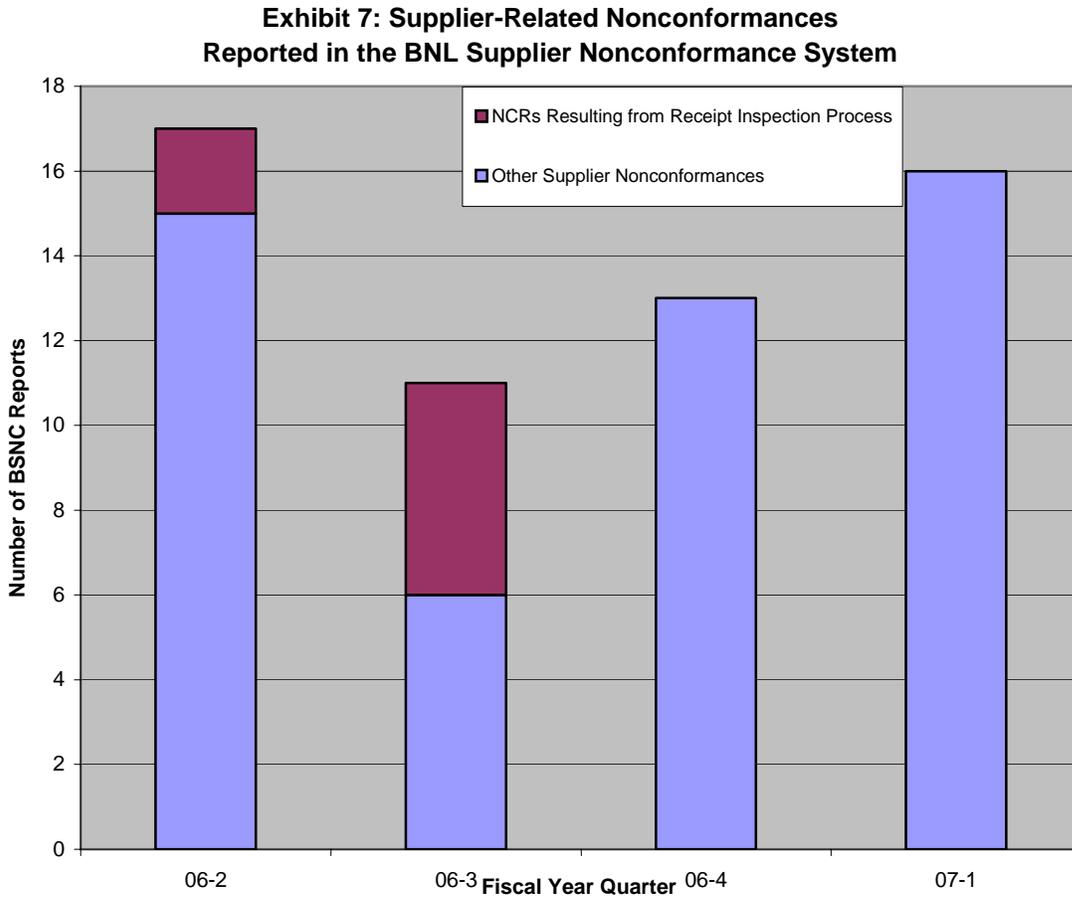


Exhibit 7 shows the web-based BNL Supplier Nonconformance Reporting and Tracking System activity over the last four quarters. No adverse trend is noted.

C. Environment, Safety, Health and Quality (Tier I) Inspections:

Causes of low level events/issues are almost always the causes of significant events/issues. Mitigating the causes of low level events/issues clearly reduces the likelihood of future significant events/issues.

The Environment, Safety, Health and Quality (ESH&Q) (Tier I) Inspections Subject Area establishes requirements for Line Organization Environment, Safety, Health and Quality (Tier I) Inspections of work areas. The subject area provides the framework for organizations to communicate and track to closure ESH&Q deficiencies and observations identified during their walk-through inspections of work areas at the Laboratory.

In accordance with the subject area, the Tier I data (lower level issues) were collected and trended from across the Laboratory to identify possible precursors to significant events.

Workshops were held to present and discuss the data. After approximately two years of data collection, it was determined by the Tier I working group that trending of Tier I data across the Laboratory has not been value-added.

Lower-level issues will now be identified and analyzed per the new Event/Issues Management subject area. Specifically, occurrence reporting and processing system (ORPS)-based criterion has been developed by BNL, to identify low-level events, which may be precursors to significant events. Output from Event/Issues analysis will be included in the next reporting period.

IV. ORPS Activities

Exhibit 8: BNL ORPS Report (End of Month) Trend

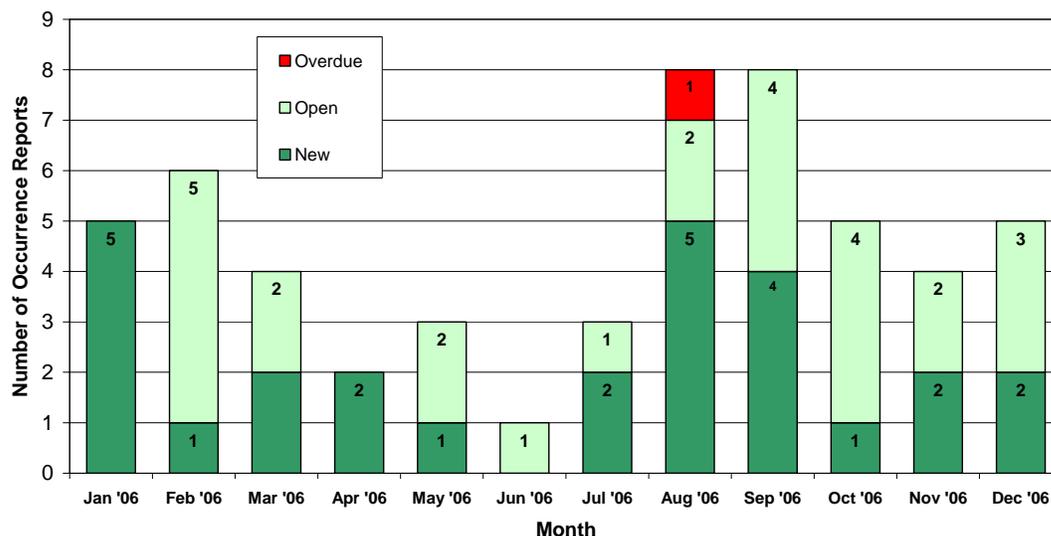


Exhibit 8 depicts the ORPS Report trend for the last 12 months. Reports are shown in various states to include: in progress (open), new report issued and Final Report overdue to DOE. No adverse trend is noted. The following three reports (dating back to 1999) are still awaiting approval by DOE Program Managers:

- SO-CH-BH-BNL-BNL-1999-0021, “Liquid Nitrogen Dewar Overpressure”
- NE-CH-BH-BNL-BNL-2001-0030, “Misclassification of Radioactive Material Shipped Offsite”
- NE-CH-BH-BNL-BNL-2003-0003, “Receipt of Radioactive Material Shipment exceeds 49 CFR 173.443 Package Contamination Limits”

The following is a summary of the BNL's ORPS Coordinator's significant activities during the first quarter of FY 2007:

- Facilitated ORPS Categorizer's Workshops (CY2006-03) and (CY2006-04) on October 5, 2006 and December 21, 2006 respectively. The goals of these workshops are to:
 - To evaluate and continuously improve the BNL Occurrence Reporting Program.
 - To maintain a baseline categorization process such that reportability decisions are both valid and consistent.
 - To review/evaluate data to determine if repeat events should be identified as potentially recurring occurrences.
 - To prompt (via accurate categorization) deep and lasting value-added change, which results in new ways of thinking and acting.
- Co-presented Event/Issues Management & ORPS Awareness Training to BNL staff (10/11, 16, 25, 12/06/06)
- Presented Lessons Learned and Event/Issues Management Programs at the annual ESHQ Directors meeting (10/18/06)
- Facilitated Tier I Workshop (FY2006-04) on November 15, 2006. The goals of this workshop are to:
 - Review ESH&Q (Tier I) Inspection tracking/trending data at the organizational and/or institutional levels;
 - Identify Laboratory-wide issues and program vulnerabilities/gaps and share information to facilitate lessons learned in process/program effectiveness;
 - Discuss corrective actions taken and evaluate their effectiveness; and
 - Identify the path forward toward continual improvement, the potential institutional impact and the need for institutional corrective action(s).
- Issued Quarterly Performance Report, 4th Quarter FY 2006 (November 16, 2006)
 - The Material Handling Program and Railcar Operations were identified as areas needing continuing attention.
- Attended Practical Approaches to Causal Analysis Processes: Events & Causal Factor Analysis and Human Performance Improvement workshop on December 13, 2006

V. Lessons Learned Activities

Six Lessons Learned (LL) Communications received from the DOE LL subscription service were posted on the BNL LL web site during the first quarter of FY 2007.

- Improper Use of Man Lift Leads to Operator Fatality, 2006-RL-HNF-0041 (10/26/06)
- Radiation Protection Program Non-compliance, LS-2006-PRS-0002 (11/06/06)
- Inadequate As-Built Drawings Lead to Contact with Underground Electrical Line, RCCC-06-0011 (11/06/06)
- Characterize Legacy Issues in Your Spaces, G-2006-X10UTB-0132 (12/01/06)
- Gas cylinder cap strikes worker in face, B-2006-X10UTB-0129 (12/04/06)
- Recurring Incidents Associated with Changing Work Conditions/Scope, 2006-SSO-SNL-10800-15 (12/08/06)

One BNL generated Lessons Learned Communication was submitted to the DOE LL subscription service for distribution to the complex and placed on the BNL LL web site.

- Arc Flash at Brookhaven National Laboratory, 2006-BNL-AD-0001 (12/18/06)

One BNL generated Lessons Learned Communication was submitted to the BNL subscription service for distribution and placed on the BNL LL web site.

- Unexpected Energized Power Cord Cut, 2006-BNL-NSLS-0001 (11/30/06)

Exhibit 9: Lessons Learned Feedback

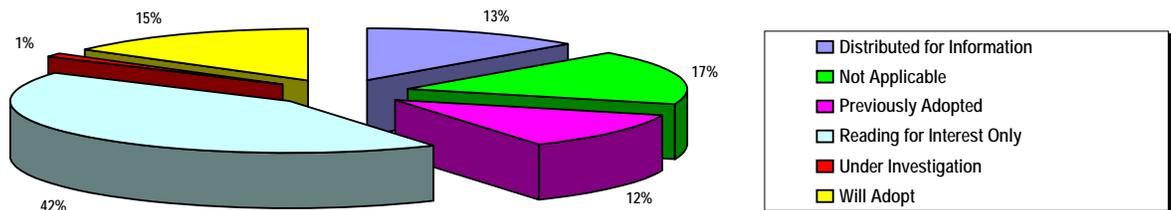


Exhibit 9 is a display of BNL staff feedback received concerning the lessons published during the first quarter of FY 2007.

Exhibit 10: Lessons Learned Feedback

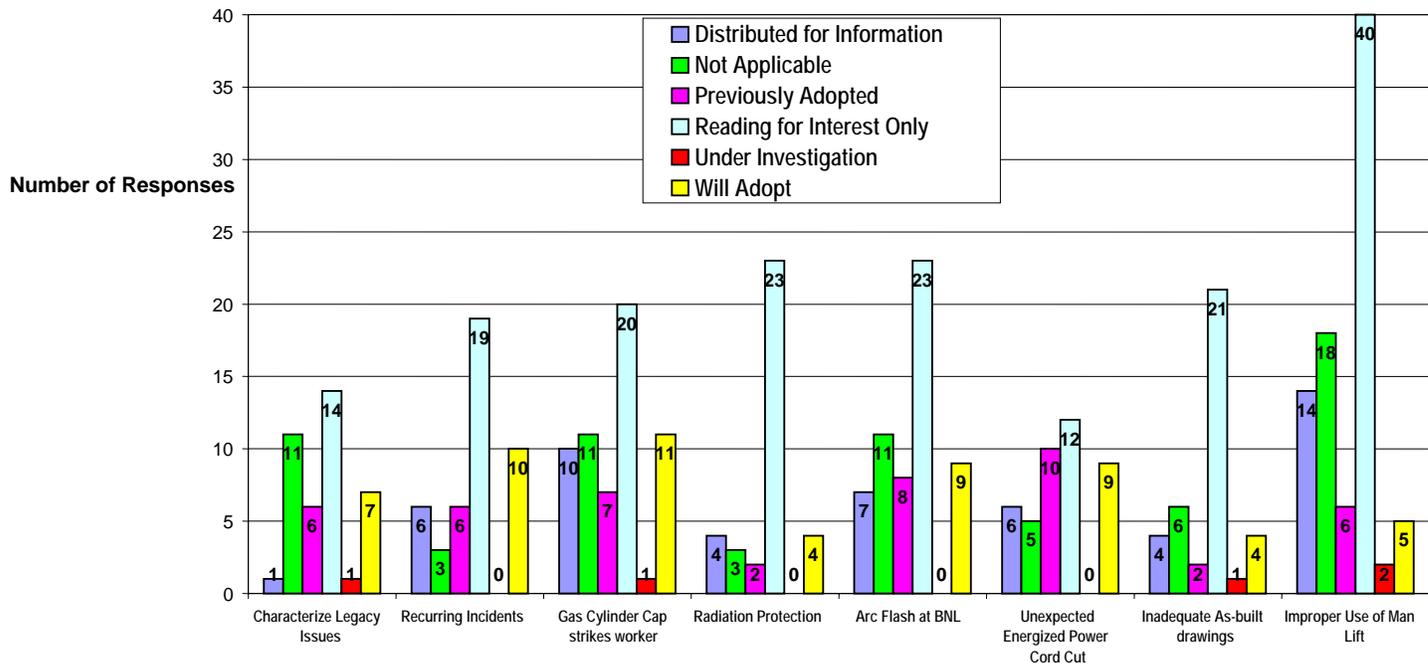


Exhibit 10 displays the feedback received for the eight lessons published to the BNL LL web site during the first quarter of FY 2007.

VI. New Area Requiring Attention

None

VII. Area Requiring Continued Attention

Material Handling: Recurring material handling problems were reported in the second quarter of FY 2004 in ORPS “R” Report CH-BH-BNL-BNL-2004-0005 and in NTS-CH-BH-BNL-BNL-2004-0002, “Recurring Material Handling Problems.” There was a follow-up assessment conducted by BNL Internal Audit & Oversight (IA&O) during the first quarter FY 2006 to verify effectiveness of corrective actions to this ORPS/NTS Report. Corrective actions to address deficiencies reported in the IA&O corrective action effectiveness review are being tracked in the Assessment Tracking System (ATS). At completion of this Quarter, fifty actions have been closed and six remain open. Continued management attention is needed to assure that all corrective actions are tracked to completion as scheduled in the Laboratory ATS and are effective in resolving the noted concerns.

Railcar Events: On September 29, 2005, a meeting was facilitated by the Laboratory Occurrence Reporting Coordinator to review/discuss the recent history of railcar events at BNL and the path forward concerning occurrence reporting. At this meeting a decision was

made by the Environmental Restoration Projects Director (based on frequency and potential consequence) to re-categorize occurrence report EM-BH-BNL-BNL-2005-0009 to an "R" Recurring occurrence report titled "Recurring Railcar Events." The Final occurrence report was issued on January 27, 2006. At completion of this Quarter, six actions have been closed and seven remain open, four of which are past due. Continued monitoring is needed to assure that all corrective actions are tracked to completion as scheduled in the Laboratory ATS and are effective in resolving the noted concerns.

VIII. References

DOE Guide 231.1-2, *Occurrence Reporting Causal Analysis Guide*, August 2003.

DOE Order 231.1A, *Environment, Safety and Health Reporting*, August 2003.

Nonconformance Tracking System Report Number: NTS-CH-BH-BNL-2004-002, "Recurring Material Handling Problems."

Occurrence Report Number: SC-CH-BH-BNL-BNL-2004-0005, "Recurring Material Handling Problems."

Occurrence Report Number: EM-BH-BNL-BNL-2005-0009, "Recurring Railcar Events"

Quarterly Performance Report, 4th Quarter FY 2006.