

Quality Management Office

Brookhaven National Laboratory

Quarterly Performance Report

4th Quarter CY 2004
(02/15/05)

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I. Executive Summary

This report, covering the fourth quarter of the calendar year, is the fifth edition of the Quarterly Performance Report. This report 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 will be processed as a significance category “R” recurring occurrence report.

During the fourth quarter of CY 2004, the Quality Management Office reviewed 74 issues and/or potential issues from the following documented sources:

- Occurrence Reports;
- ORPS nonreportable events logged by ORPS Categorizers;
- Radiological Awareness Reports (RARs);
- Nonconformances assigned an ESH&Q Risk Level of High (A1- Critical) or Moderate (A2 - Major);
- Procurement Nonconformances;
- Institutional Assessment Tracking System (ATS) conditions entered.

Analysis of the data included in this report indicated that a recurring occurrence report is not warranted.

Areas Receiving Continued Management Attention

Utility Strikes: BNL had three utility strike events in CY 2004, one reaching the ORPS reporting threshold. The ESH&Q Assistant Laboratory Director has requested that Plant Engineering prepare a presentation to the ORPS Categorizers so that they may decide whether there is a recurring condition at BNL warranting a recurring “R” ORPS report, or if additional follow-up actions should be considered. The presentation is scheduled for January 28, 2005. The results of this presentation will be discussed in the First Quarter CY 2005 issue of this report.

Material Handling: Recurring material handling problems were reported in early CY 2004 in ORPS “R” Report CH-BH-BNL-BNL-2004-0005 and in NTS-CH-BH-BNL-BNL-2004-0002, “Recurring Material Handling Problems.” During the fourth quarter of CY 2004, a DOE assessment of the BNL Integrated Safety Management (ISM) System was conducted and identified many of the same material handling personnel training and qualification issues cited in the above reports, as well as other areas of concern involving hoisting and rigging. The ORPS and NTS reports have been updated to reflect the results of this assessment and to include additional corrective actions to address new areas of concern. Continued monitoring is needed

to assure that all corrective actions are tracked to completion as scheduled in the Laboratory Assessment Tracking System (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 will be 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 fourth quarter of CY 2004. Section V summarizes Areas Receiving Continued Attention.

III. Performance Analysis

The following exhibits provide a summary of the issues reviewed for the fourth quarter of CY 2004, including a summary of the documents reviewed and trend analysis.

A. Document Review Summary:

**Exhibit 1: Documents Reviewed
for Fourth Quarter CY 2004 Performance Analysis**

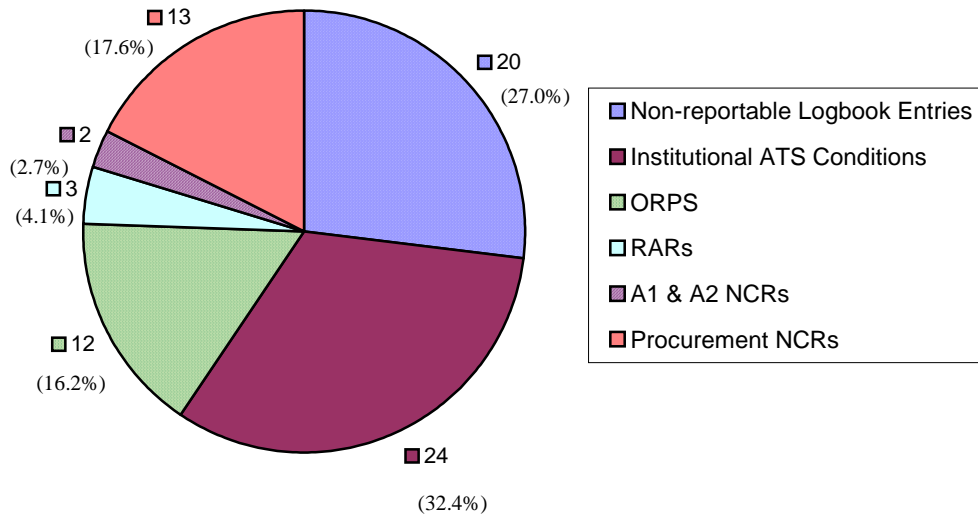


Exhibit 1 indicates 74 documents were reviewed for the fourth quarter performance analysis of CY 2004. Approximately 27% of the documents reviewed were ORPS nonreportable logbook entries made by the eight BNL on-call ORPS Categorizers. One of the nonreportable logbook entries was also captured as a Radiological Awareness Report (RAR). Twelve of the institutional ATS Conditions were from ORPS Reports. There were two A2 nonconformance reports reviewed.

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 are 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: Documents Reviewed per Quarter

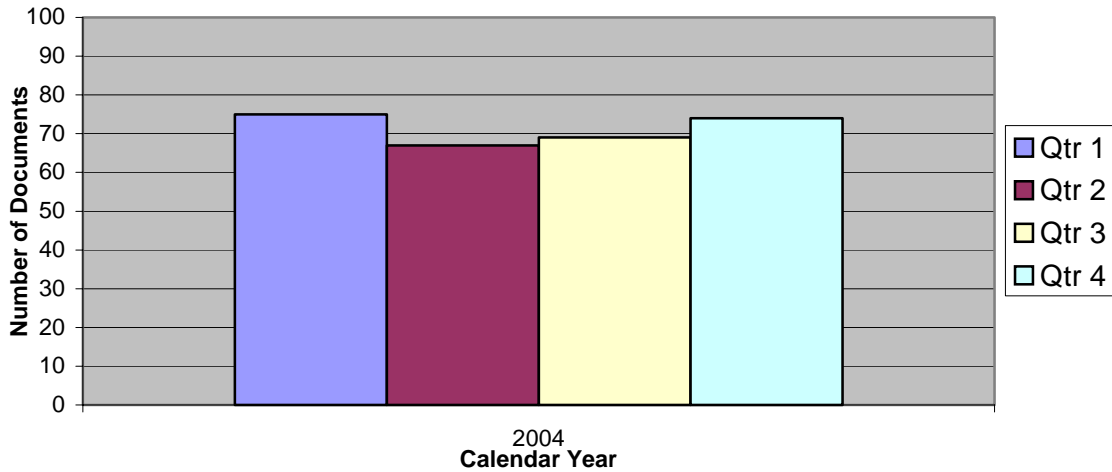


Exhibit 2 depicts the number of documents reviewed per quarter during CY 2004. On average, 72 documents per quarter have been reviewed.

Exhibit 3: ORPS Reportable and ORPS Nonreportable Logbook Events

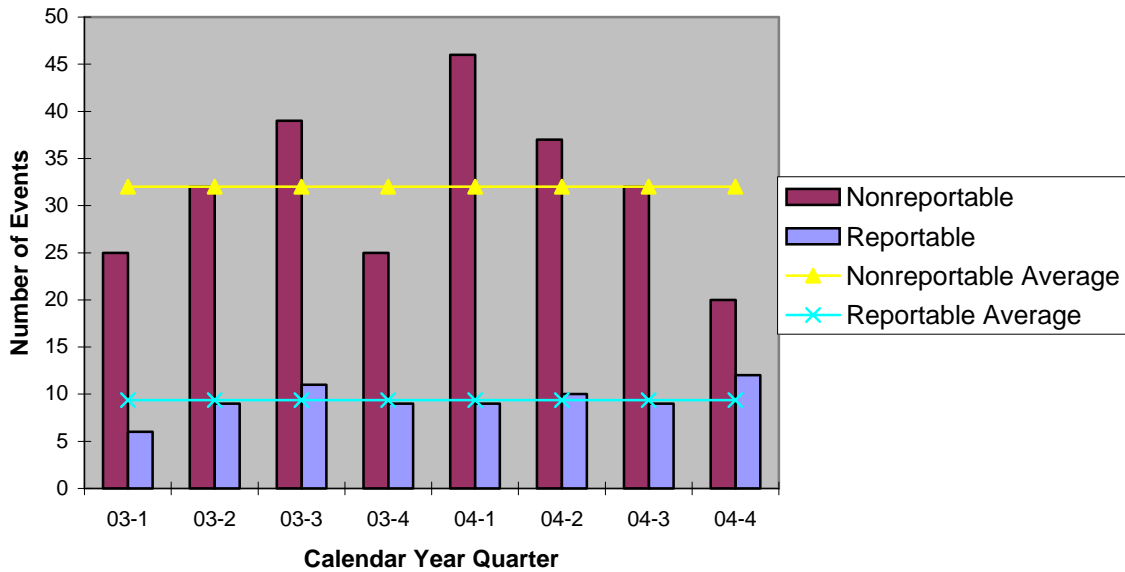


Exhibit 3 shows the number of ORPS reportable events and events/conditions evaluated by the BNL ORPS Categorizers and subsequently determined to be non-reportable per quarter during CY 2003 and CY 2004. No adverse trend is noted.

Exhibit 4: Distribution of ORPS Reports by Reporting Criteria

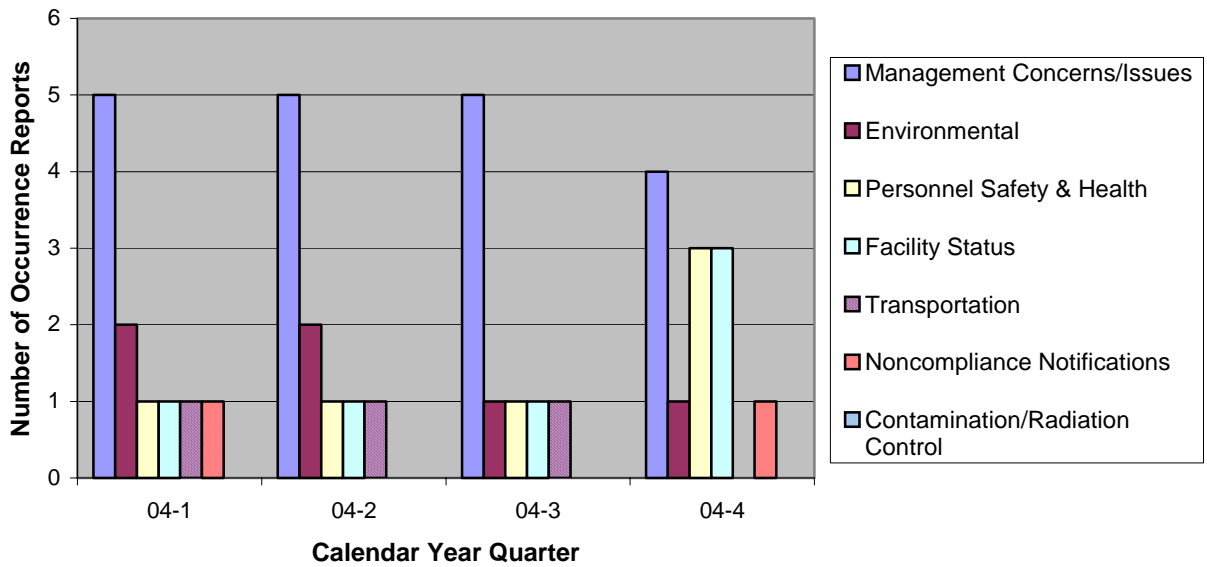


Exhibit 4 shows the number of BNL ORPS reports coded by ORPS Reporting Criteria, for each quarter during CY 2004. No adverse trend is noted.

Exhibit 5: Analysis of Issues by Major Category

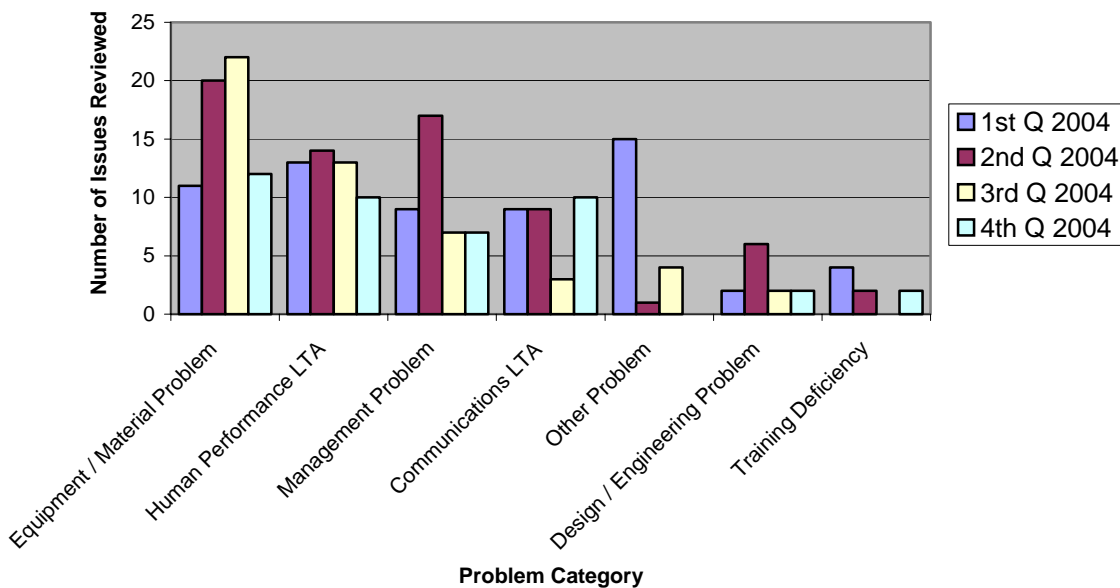


Exhibit 5 is a trend of ORPS cause codes per quarter during CY 2004. The associated issues were reviewed and apparent cause codes were assigned from the ORPS Causal Analysis Tree in the *DOE G231.1-2, Occurrence Reporting Causal Analysis Guide*. Some issues were assigned more than one cause, and some issues

were determined to be of no significance and therefore were not assigned a cause code. No adverse trend is noted.

Note: The following are the definitions of the cause codes as defined by the *DOE G231.1-2, 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:

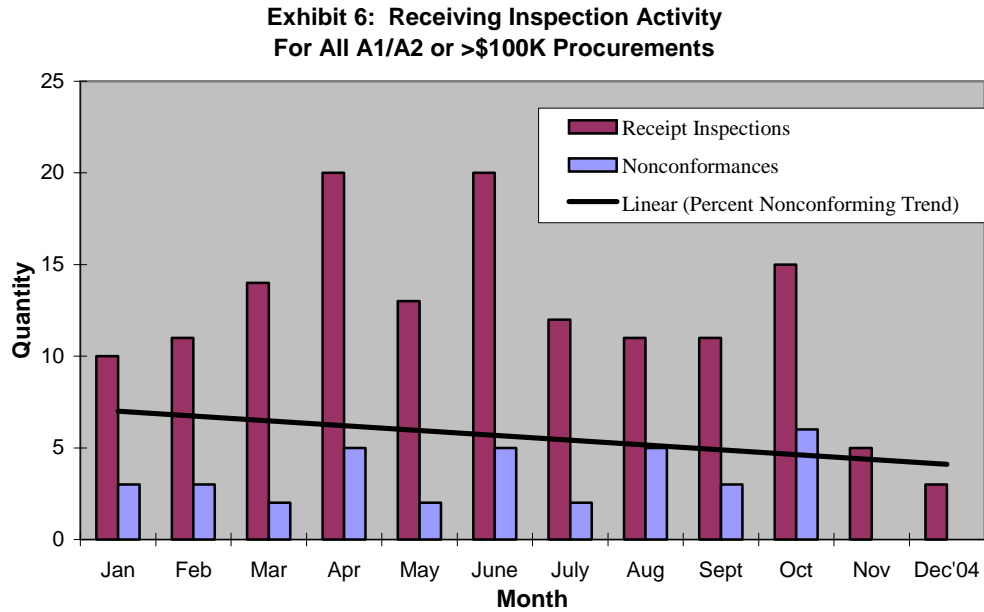


Exhibit 6 The chart above represents the results of receipt inspections, including the number performed, the number of nonconformances found, and the nonconformance trend over the past year.

In January of CY 2003, as a service to the Laboratory, and to ensure compliance with DOE requirements, the Quality Management Office (QMO), in a joint effort with Procurement and Property Management (PPM), began conducting and coordinating receiving inspections on high risk (A1/A2) and high dollar (>\$100K) items when received, as part of the acceptance process. The purpose is to ensure that suppliers provide items that meet specified requirements. If nonconformances are found, the issues are immediately addressed with the supplier, thereby minimizing impact to the project or program.

**Exhibit 7 Supplier-Related Nonconformances
Reported in the BNL Supplier Nonconformance System**

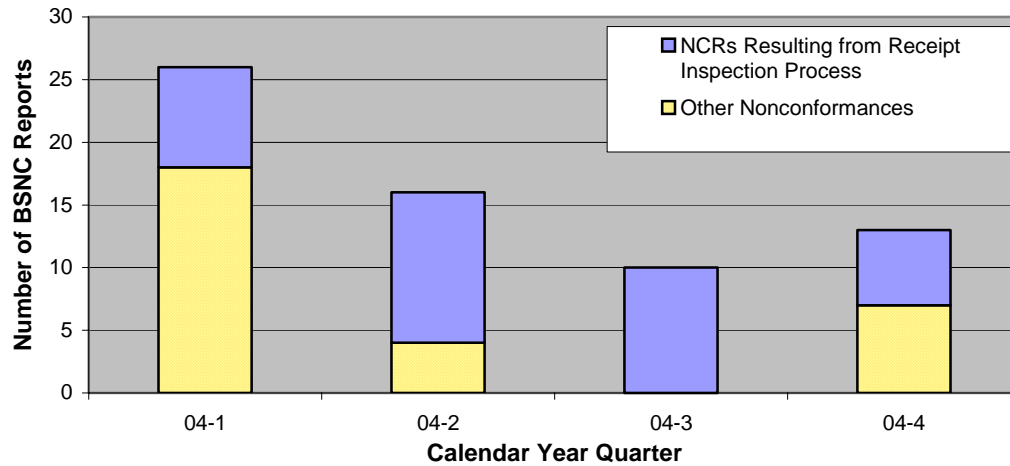


Exhibit 7 The chart above represents the activity of BNL's web-based Supplier Nonconformance Reporting and Tracking System (BSNC). In CY 2003, a centralized, intranet-based database was developed to allow users to quickly and easily report problems with supplied goods and services. The system contains an automatic email function that notifies PPM immediately when a nonconformance is recorded and reported.

A nonconformance can be reported at anytime, including those detected during receiving inspection, as the chart illustrates. The system can be accessed from the PPM Home Page or from a link found in the Nonconformances, Identifying and Reporting Subject Area.

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

BNL has a procedure (subject area) that establishes requirements for Line Organization Environment, Safety, Health and Quality (Tier 1) Inspections of work areas. Tier 1 indicates the level of activity by line organizations, with additional tiers being at the Laboratory-level, and external. 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 an effort to trend lower level issues, the Quality Management Office (QMO) initiated a data call of fourth quarter CY 2004 Tier 1 inspection results across the Laboratory. The data will be presented for discussion/validation at a Tier 1 Workshop scheduled for February 8, 2005. The results of this workshop will be discussed in the First Quarter CY 2005 issue of this report.

The goals of the workshop are as follows

- To review ESH&Q (Tier 1) Inspection tracking/trending data at the organizational and/or institutional levels;
- To identify Laboratory-wide issues and program vulnerabilities/gaps and share information to facilitate lessons learned in process/program effectiveness;

- To discuss corrective actions taken and evaluate their effectiveness; and
- To identify the path forward toward continual improvement, the potential institutional impact and the need for institutional corrective action(s).

IV. ORPS Activities

The following exhibit illustrates the status of BNL ORPS reports:

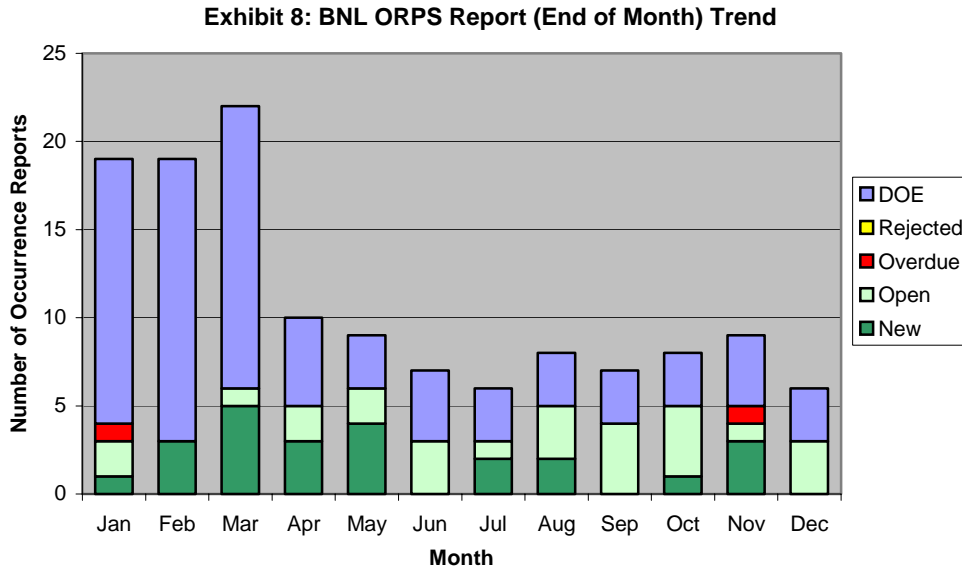


Exhibit 8 depicts the ORPS Report trend for CY 2004. Reports are shown in various states to include: awaiting DOE approval, rejected by DOE, overdue for submission to DOE, in progress (open), or new report issued. No adverse trend is noted.

The following is a summary of BNL’s Quality Management Office (QMO) and ORPS Coordinator activities that have occurred during the fourth quarter of CY 2004:

- The BNL ORPS Coordinator and the DOE Brookhaven Site Office (BHSO) ORPS Coordinator meet weekly to discuss the status of the ongoing ORPS implementation plan and the overall BNL ORPS Program.
- During the week of October 4, 2004, the ORPS Coordinator attended the DOE Human Performance Train-the-Trainer-Course.
- The ORPS Coordinator facilitated quarterly Categorizer’s Workshops (#2004-03) on October 28, 2004 and (#2004-04) on December 21, 2004. The goals of these workshops were to:
 - Evaluate and continuously improve the BNL Occurrence Reporting Program;
 - Maintain a baseline categorization process such that reportability decisions are both valid and consistent.

- The BNL Quality Management Office issued the “Quarterly Performance Report, 3rd Quarter CY 2004” on November 8, 2004 – Revision 1.
- The ORPS Coordinator completed PAAA Training administered by the BNL PAAA Coordinator on December 10, 2004.
- The ORPS Coordinator mentored a QMO staff member as the lead facilitator during the “Transportation Safety Violation by Medical Guest Researcher” causal analysis effort, December 2005.
- The ORPS Coordinator mentored a QMO staff member as the lead facilitator during the “Radiation Work Permit Violation by Medical Researcher” causal analysis effort, December 2005.

V. Areas Receiving Continued Attention

Utility Strikes: Twenty utility strike events have occurred from January 1, 2000 to the end of the third quarter of CY 2004. Six of these events were reported to DOE via the ORPS reporting process; the other events did not reach the ORPS reporting threshold as determined by the BNL ORPS Categorizers. BNL had three utility strike events in CY 2004, one reaching the ORPS reporting threshold. The ESH&Q Assistant Laboratory Director has requested that Plant Engineering prepare a presentation to the ORPS Categorizers so that they may decide whether there is a recurring condition at BNL warranting a recurring “R” ORPS report, or if additional follow-up actions should be considered. The presentation is scheduled for January 28, 2005. The results of this presentation will be discussed in the First Quarter CY 2005 issue of this report.

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The ORPS/NTS now includes a total of 50 corrective actions. To date, 25 corrective actions have been closed and 25 remain open. Continued monitoring is needed to assure that all corrective actions are tracked to completion as scheduled in the Laboratory Assessment Tracking System (ATS) and are effective in resolving the noted concerns.

VI. 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: CH-BH-BNL-BNL-2004-0005, “Recurring Material Handling Problems.”

ORPS Performance Report, 3rd Quarter CY 2004.