



Brookhaven National Laboratory



Brookhaven Science Associates Third Quarter Operations Risk Committee Risk Package



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August 3, 2005



1.0 Executive Overview

The Brookhaven Science Associates (BSA) Operations Risk Committee has identified a series of potential high-risk operational events that could occur at the Laboratory. These high-risk events were then analyzed to determine key Brookhaven National Laboratory (BNL) processes that are in place to prevent them from occurring or to mitigate the associated impacts. The level of effectiveness of these key “barrier processes” is a direct measure of the degree of operational risk being accepted by the BSA Board, Laboratory management, and the Department of Energy (DOE). This report provides the status of a series of metrics that have been selected by the Operations Risk Committee of the BSA Board as the optimum indicators of the effectiveness of BNL’s “barrier processes” or as related indicators of overall performance in a given area.

Currently 20 metrics are being monitored in the area of operations. These metrics fall under five principal categories and include a mix of leading and lagging indicators. The categories and their associated metrics are as follows:

Worker Safety and Health (High Risk Event: Serious injury, occupational illness, or fatality of a worker, guest, or member of the public)

- TRC and DART Rates
- Training Accomplishment
- Environment, Safety, Health and Quality Tier I Inspection Program Effectiveness
- Construction Site Safety non-conformances per inspection
- Unplanned worker radiation exposures
- PAAA trend analysis

Environmental Stewardship (High Risk Event: Major environmental release, or significant regulatory action)

- Number of environmental permit limit exceedances
- Number of unplanned releases
- Number of environmental enforcement actions
- Failure to sustain ISO 14001 certification

Protection of National Security and Government Property (High Risk Event: Loss, theft or compromise of nuclear or classified materials; loss of theft of government property)

- Security alarm system performance
- Security forces response time
- Number of security incident reports involving nuclear, classified or property loss and number of nuclear material balance reports indicating discrepancies
- Number of cyber security penetration incidents

Loss Prevention (High Risk Event: Catastrophic loss of a facility or programmatic equipment due to fire)

- Fire alarm system performance
- Fire rescue response time

Infrastructure Stewardship (High Risk Event: Degraded facility and utility reliability significantly impact mission performance)

- Maintenance Investment Index (Maintenance expenditure/Replacement Plant Value)
- Asset Condition Index
- Facility Reliability (staff person-hours impacted by unplanned building and electrical outages)
- Project Management (composite metric of cost and schedule performance on construction projects)

1.1 Emerging issues

The following emerging issues have been identified within the third quarter:

- The borough president of the borough of Queens, through the President of the Long Island Rail Road (LIRR), suspended shipments of railcars containing radiologically contaminated soils from BNL's cleanup project, through Queens. This has effectively shut down one of the Environmental Management (EM) Work Packages.
 - At Risk: EM completion - \$280,000 in fiscal year (FY) 2005 BSA fee.
 - Status: Discussions ongoing between BNL's subcontractor and the LIRR; BNL has requested assistance from the President of Stony Brook.
- The Center for Functional Nanomaterials has been delayed due to bids on the conventional construction contract coming in over budget.
 - At Risk: Project construction authorization (CD-3); Rating on BSA contract performance measure on Project Management.
 - Status: Value engineering in progress. Opening of re-bid proposals scheduled for 7/14/05.

1.2 Enforcement Actions/Activities

There were no enforcement actions this quarter.

2.0 Quarterly Package Details (All Measures)

2.1 WORKER SAFETY AND HEALTH

2.1.1 Total Recordable Case (TRC) Rate and Days Away, Restricted Time (DART)

Commentary

The fiscal year to date TRC rate is 1.58. The Office of Science TRC rate goal for BNL, as reflected in the contract performance measure is 1.05. Based on this fiscal year-to-date performance, BNL's potential year end result is a contract performance rating of Good to Excellent.

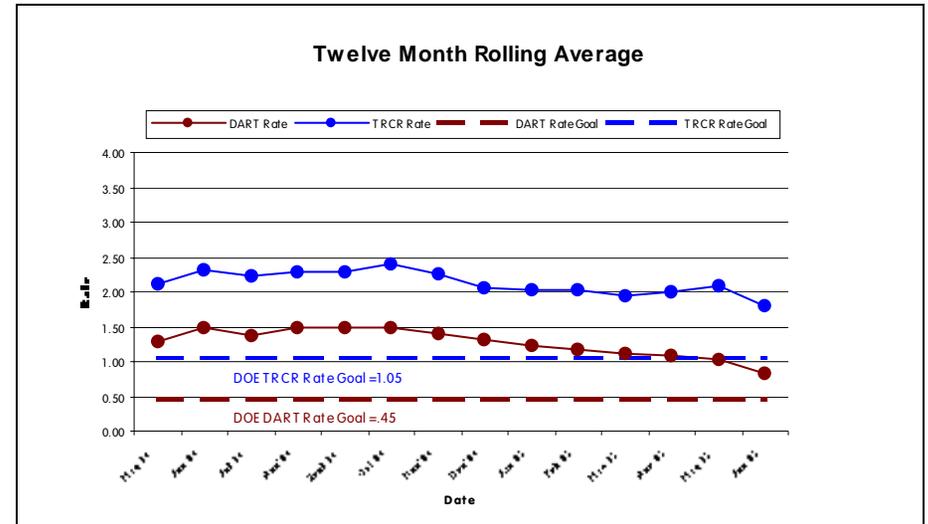
The year to date DART rate is 0.82. The Office of Science goal for BNL, as reflected in the contract performance measure is 0.45. Based on this year to date performance, BNL's potential year end result is a contract performance rating of Marginal to Good.

There has been a question raised regarding the source of data for the TRC denominator. Data used to date, provided by the Peoplesoft system, has been based on hours paid, not hours worked. As a result, the above numbers overstate the Lab's TRC and DART rates. An analysis is in progress to determine the magnitude of the effect and correct the data feed going forward.

On a more positive note, as of the end of June BNL had surpassed 60 days without a lost time injury. At 75 days, BNL will have reached one million hours worked without a lost time injury.

Reviews/Audits This Quarter

An assessment of BNL's Industrial Hygiene monitoring program was conducted by the Department of Energy's Brookhaven Site Office (BHSO). Two concerns, ten observations and eight noteworthy items were identified as preliminary results. The Laboratory will identify the actions to be taken to address the final assessment results, in the fourth quarter.



Data Point on the Graph Represents

The TRC rate, is the number of recordable cases per 200,000 hours worked or 100 full time equivalents. The DART rate is the number of cases with lost or restricted time per 200,000 hours worked.

Limit Discussion

The TRC rate goal of 1.05 and DART rate goal of 0.45 were set by the DOE Office of Science.

This Graph Produced From

Input from the ESH&Q Directorate Safety and Health Services Division.

Contact Point for More Information J. Tarpinian (631) 344-8370

There is a focused management assessment underway, third and fourth quarter of the fiscal year, by BHSO to look at two specific incidents (utility strike and box lid tipping). The later incident resulted in a serious injury.

The OHSAS 18001 Phase II Registration and Audit will be conducted during the 4th quarter.

Why Monitor the Risk?

The Laboratory is committed to ensuring a safe and healthy workplace, addressing the identification, evaluation, and control of hazards in the workplace, and providing processes for identifying and controlling hazards that prevent work-related accidents, injuries, and illnesses.

The TRC and DART rates are metrics that are used to determine adverse trends in injuries that indicate potential for programmatic problem in injury prevention. In addition, the DOE Office of Science monitors the metric in relation to the goals that have been selected for BNL.

2.1.2 Training Accomplishment

Commentary

Required training accomplishment continues to meet expectations at greater than 95% for employees. Continued effort is needed to improve the results for transient guests and contractors.

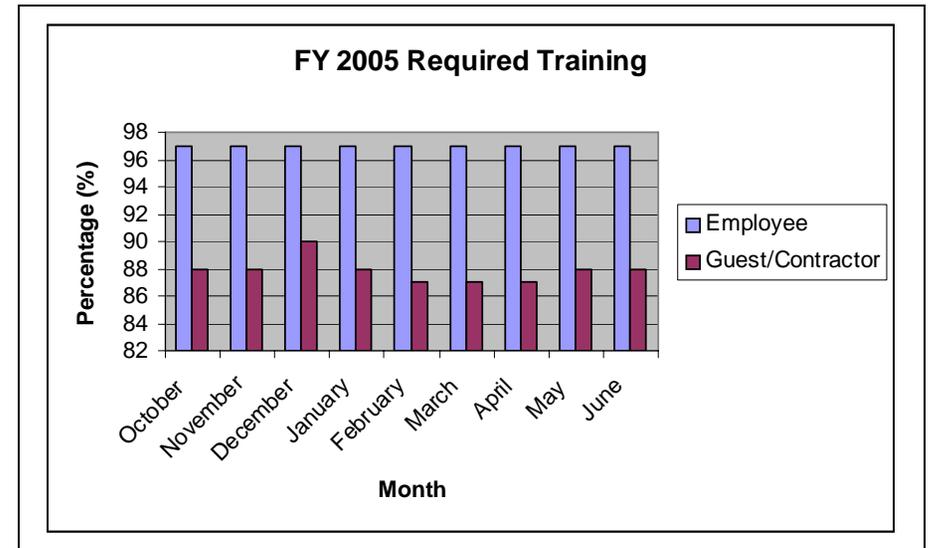
Reviews/Audits

- Energized Electrical Work assessment found training program functional and compliant with NFPA and recommended minor, specific revisions to electrical courses.
- Contractor Vendor Orientation was audited by Liberty Mutual in anticipation of the increased construction activities and found it effective, complete, and compliant.
- Cyber Security Review and EMS/OHSAS Registration audit found no training issues.

Why Monitor the Risk?

The purpose of the Training and Qualifications program is to ensure that BNL employees, guests, users, and contractors are trained and qualified to perform their assigned tasks and job functions. Training requirements are established in accordance with regulatory requirements for work to be performed, hazards that may be encountered, areas that will be accessed, potential for risk, and general site requirements. BNL has defined minimum training requirements for work to be performed, and monitors the completion of these requirements. In addition to ensuring that personnel receive appropriate training, the BNL is committed to ensuring that its workers are qualified to perform their jobs.

This metric is a leading indicator for management to review and to take action on, however, it should not be construed that personnel are working without required training. There is an expectation of 100% compliance for training and qualifications to perform work.



Data Point on the Graph Represents

The percent of required training completed, by quarter, is shown on the graph for employees and contractors.

Limit Discussion

The required training goal is 95%. There is an expectation of 100% compliance for training and qualifications to perform work.

This Graph Produced From

Input from the Human Resources & Occupational Medicine Division.

Contact Point for More Information B. Schwaner (631) 344-3244

2.1.3 Environment, Safety, Health and Quality (ESH&Q) Tier I Inspection Program Effectiveness

Commentary

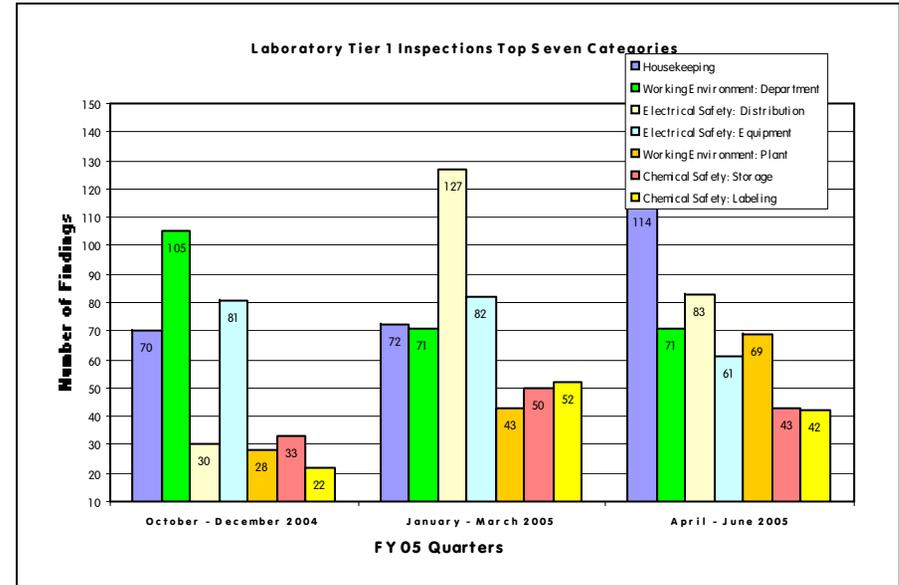
The collection of ESH&Q Tier I Inspection data at the institutional level began during the second quarter of the fiscal year. The evaluation and use of the data is still under development. It has been proposed to evaluate risk-rating criteria for inspection findings. Expectations are that the goals and objectives of OHSAS 18001 risk evaluations will be incorporated into the ESH&Q Tier I Inspection Program and those OSHA findings will be identified. The evaluation and improvement of the system will continue.

Reviews/Audits

ESH&Q Tier I Inspection data is reviewed on a quarterly basis at the institutional level.

Why Monitor the Risk?

BNL relies on the ESH&Q Tier I Inspection Program to ensure a safe workplace for our workers. As such, it is one of the key barrier processes to worker injury. The inspections are "field walkthroughs" and are used, as a standard practice, for assessing performance and identifying areas for improvement. It is Laboratory policy to establish, implement, and track appropriate actions to correct weaknesses in performance and areas for improvement.



Data Point on the Graph Represents

The number of findings by category (shown in the legend) for the institution are shown, by quarter.

This Graph Produced From

Input from the Quality Management Office.

Contact Point for More Information R. Lebel (631) 344-6392

2.1.4 Construction Site Safety

Commentary

Construction work began on the Research Support Building (RSB) during this quarter. The Deputy for Operations met with the company President to underscore the importance of worker safety & health on this project and the expectation of zero ES&H incidents. The contractor's ES&H Plan was approved. Procurement of safety consulting services for the RSB and Center for Functional Nanomaterials (CFN) is in progress with an early fourth quarter completion projected.

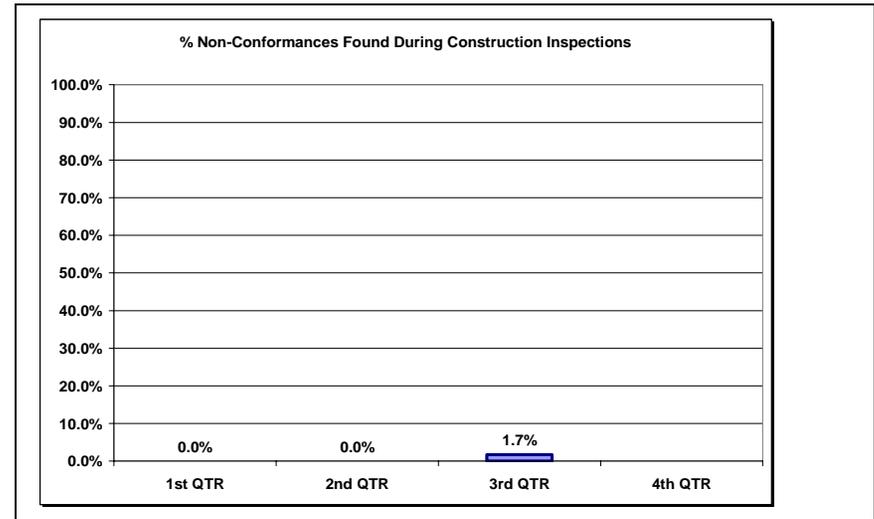
Reviews/Audits

Independent Oversight will be conducting Phase 2 of the Construction Safety Program Review in the fourth quarter, which will include construction work at the RSB and CFN.

Why Monitor the Risk?

The Laboratory is committed to ensuring a safe and healthy workplace, addressing the identification, evaluation, and control of hazards in the workplace, and providing processes for identifying and controlling hazards that prevent work-related accidents, injuries, and illnesses.

Construction activities are a higher hazard and risk to the institution. Contractors are primarily responsible for construction and are more of a challenge to control. Construction at the Laboratory is increasing and there will be a re-focus on construction site safety.



Data on the Graph Represents

The percent of non-conformances found during construction inspections conducted during the quarter.

This Graph Produced From

Input from the Facilities and Operations Directorate.

Contact Point for More Information A. McNerney (631) 344-8627

2.1.5 Unplanned Worker Radiation Exposure

Commentary

There have been no unplanned worker exposures that exceed administrative control limits this year to date. A target of zero has been established. Further, there have been no worker exposures that have exceeded the BNL administrative control level of 1,250 mrem/year.

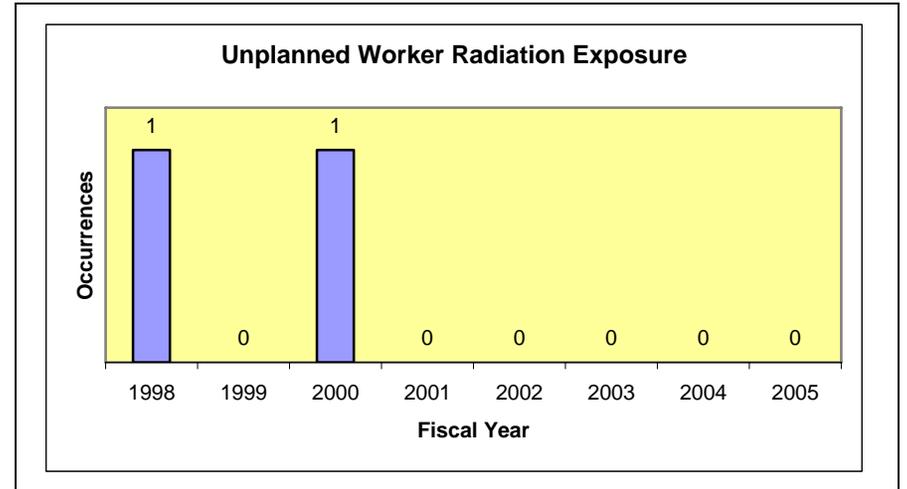
Progress has been made in reducing the nuclear materials inventory onsite as a component of reducing potential worker exposure. In June, six shipments containing twelve PuBe sources were made to Los Alamos National Laboratory, reducing the BNL plutonium inventory by 60%, as of the end of this quarter.

Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

It is BNL policy that no radiation dose limits for radiological workers, workers without training, or members of the public will be exceeded. The risk is monitored for the protection of workers and the public from the hazards of radiation, and protection of the Laboratory from radiological issues. The work environment is monitored to ensure that exposure is As Low As Reasonably Achievable (ALARA) and that work is conducted within regulatory limits.



Data on the Graph Represents

The number of radiation exposure occurrences (year to date) reported in the Occurrence Reporting and Processing System as Nature of Occurrence Group 6C (radiation exposure). Radiation exposure occurrences are defined by the following (as of 11/10/03):

- Determination of a dose that exceeds the limits [i.e., 100 mrem Total Effective Dose Equivalent (TEDE) for offsite exposure to a member of the public].
- Any unmonitored exposure that exceeds the values per 10 CFR 835 for providing personnel dosimeters and bioassays.
- Any single occupational exposure that exceeds an expected exposure or dosimetry result by (1) 500 mrem Committed Effective Dose Equivalent (CEDE), or (2) the greater of 10% or 100 mrem effective dose equivalent due to external exposure.
- Determination of an estimated annual dose that exceeds 10 mrem TEDE for offsite exposures to a member of the public (from air pathways only).

This Graph Produced From

Input from the Radiological Control Division.

Contact Point for More Information C. Schaefer (631) 344-4728

2.1.6 PAAA Trends

Commentary

In the third quarter, 32 documents consisting of Occurrence Reporting and Processing System (ORPS), Radiological Awareness Reports (RARs), Non-Compliance Reports (NCRs), assessment reports and other documents, were reviewed for Price Anderson Amendment Act (PAAA) applicability and reportability. Of these, seven were determined to be PAAA noncompliances and one was reported in the DOE Noncompliance Tracking System (NTS). This reportable condition involves the inappropriate deletion of emergency exposure procedures and was determined to be symptomatic of the Emergency Management Program deficiencies previously reported in NTS-CH-BH-BNL-BNL-2004-0001, "Programmatic Deficiencies Involving the Emergency Management Program." With the concurrence of the BHSO PAAA coordinator and the DOE Office of Enforcement, the emergency exposure procedures deficiency was reported in an addendum to the existing NTS. There have been no DOE PAAA enforcement actions year to date and none are anticipated.

Since 2001, on average 38% of documents reviewed were categorized as PAAA noncompliances. The seven PAAA non-compliances categorized in the 3rd Quarter of FY2005 represent 22% of documents reviewed; well below normal BNL levels. The PAAA Coordinator issued a memorandum for each of the non-reportable noncompliances requesting responsible organizations to complete a causal analysis and identify, implement, and track corrective and preventive action.

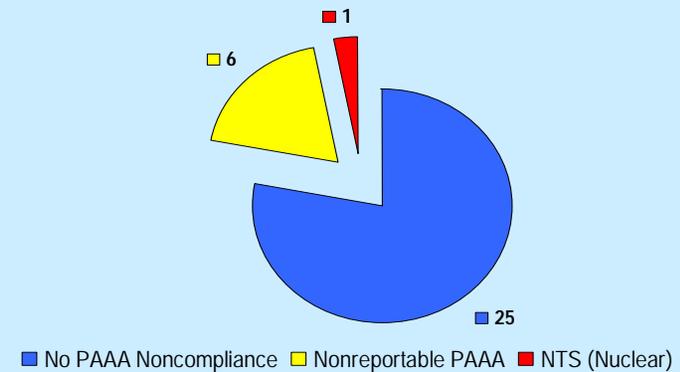
Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

The BNL PAAA Compliance Validation and Noncompliance Reporting Program routinely reviews and analyzes Laboratory-wide performance information to identify and report noncompliances with Nuclear Safety Rules (NSRs). This

Documents Reviewed By PAAA Status Period 4/01/2005 – 6/30/2005



Data on the Chart Represents

The chart shows the number of documents reviewed for PAAA categorization during the third quarter, in three categories:

- No PAAA Non-compliance
- Non-reportable PAAA Non-compliance
- Reportable PAAA Non-compliance NTS (Nuclear)

This Graph Produced From

Input from the Internal Audit and Oversight Office.

Contact Point for More Information C. Dimino (631) 344-2407

Quarterly PAAA Review Summary and Trend Analysis describe PAAA program activities and analyze PAAA performance data to identify trends that may point to possible programmatic deficiencies.

2.2 ENVIRONMENTAL STEWARDSHIP

2.2.1 Environmental State Pollution Discharge Elimination System (SPDES) Permit Limit Exceedances

Commentary

There were no SPDES permit violations during the third quarter. Total number of SPDES violations for 2005 is 6 (2 nitrogen, 1 ammonia, 1 pH and 1 Oil and Grease).

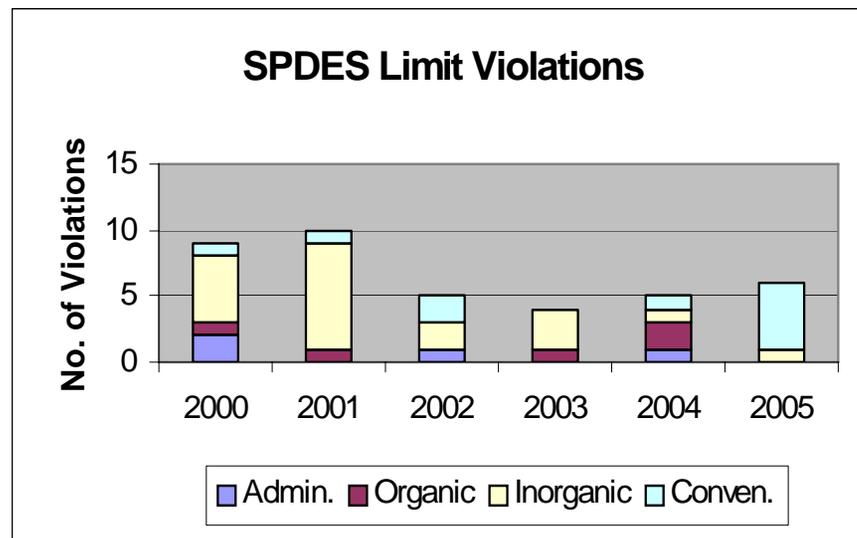
Reviews/Audits

The Suffolk County Department of Health Services (SCDHS) conducted its quarterly inspection of the Sewage Treatment Plant (STP) on May 23. There were no deficiencies noted.

The New York State Department of Environmental Conservation (NYSDEC) conducted inspections in February and March. No deficiencies were noted.

Why Monitor the Risk?

BNL strives to minimize or eliminate adverse effects and risks that may be associated with its research and operations. Permit violations could negatively impact the environment, lead to enforcement actions and damage the positive relationship BNL has with neighbors in the community, regulators, DOE, and other stakeholders.



Data on the Graphs Represents

The total number of SPDES limit violations is plotted for 2000 through 2005. Parameters such as nitrogen, ammonia, Biological Oxygen Demand (BOD), Total Suspended Solids (TSS) and pH have been categorized as conventional pollutants. Administrative violations include failure to meet a removal requirement or collect a sample.

This Graph Produced From

Input from the ESH&Q Directorate Environmental and Waste Management Services (EWMS) Division.

Contact Point for More Information R. Lee (631) 344-3148

2.2.2 Environmental Air Permit Limit Exceedances

Commentary

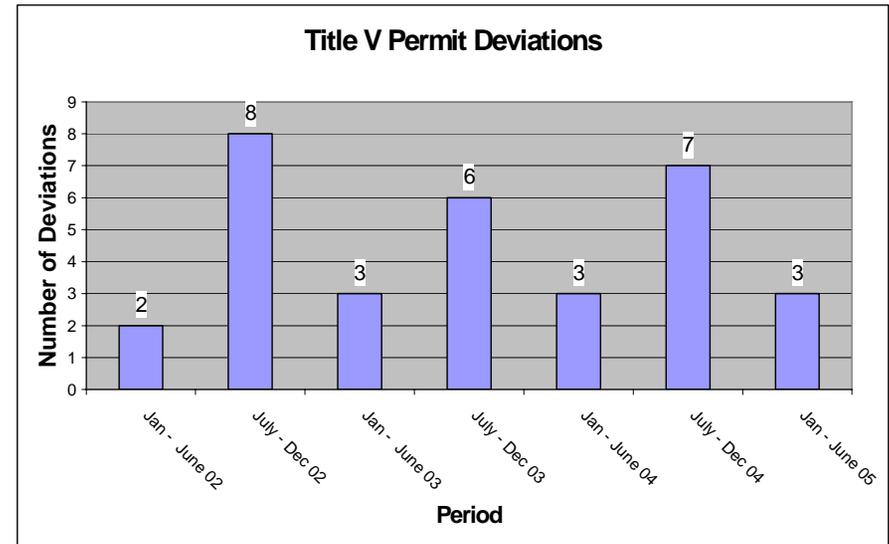
The Title V Facility Permit requires the Laboratory to submit a Semi-Annual Monitoring Report and an annual Compliance Certification Report. The respective reports discuss the Laboratory's conformance with monitoring requirements associated with our emission sources and compliance with permit conditions and regulatory requirements applicable to BNL sources. There were three deviations from permit requirements reported for the first half of 2005.

Reviews/Audits

Findings from internal assessments of permitted operations conducted by EWMS are used to prepare the two reports. Corrective and preventative actions that have or will be taken to address deviations or prevent them from reoccurring are noted in the reports. These actions are tracked to completion in the Assessment Tracking System (ATS).

Why Monitor the Risk?

BNL strives to minimize or eliminate adverse effects and risks that may be associated with its research and operations. Permit violations could negatively impact the environment, lead to enforcement actions and damage the positive relationship BNL has with neighbors in the community, regulators, DOE, and other stakeholders.



Data on the Graphs Represents

The number of deviations from monitoring and other applicable regulatory requirements found in our Title V Permit. Deviations charted from July – December include those from monitoring requirements and other regulatory requirements that were noted in the annual Compliance Certification Report.

This Graph Produced From

Input from the ESH&Q Directorate Environmental and Waste Management Services Division.

Contact Point for More Information R. Lee (631) 344-3148

2.2.3 Unplanned Environmental Releases

Commentary

The total number of spills and more importantly, the number of spills reported to outside agencies has decreased. There were nine minor spills at the Laboratory this quarter. Three required outside agency notification and none were ORPS reportable.

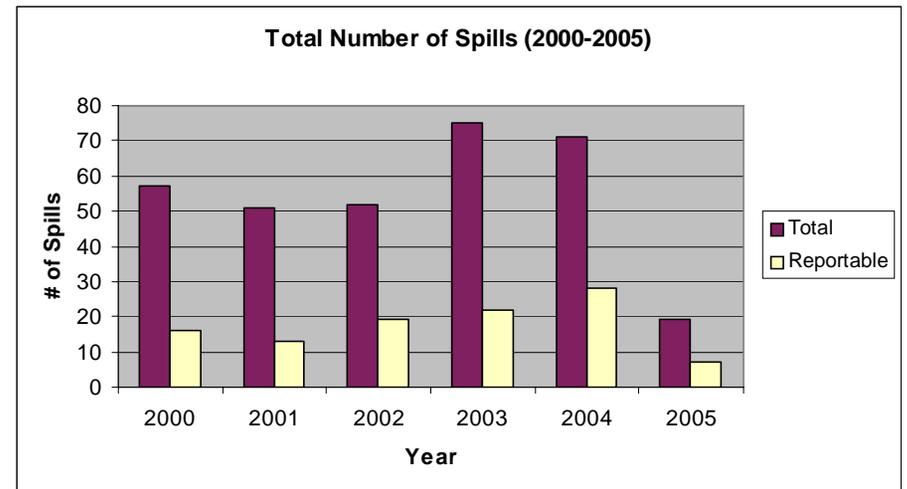
Year to date in FY05 there have been a total of 19 spills and 8 have been reportable. This is in contrast to a total of 43 spills in FY04 with 18 of those being reportable. The significant reduction in the number is attributable to the successful use of the Environmental Management System (EMS) to target this area for improvement.

Reviews/Audits

During the FY04 Management Review the number of spills at the Laboratory was identified as an issue that required some attention. As a result, reduction of spills was identified as a major objective and target for departments/divisions to consider incorporating in their EMS Program for FY05.

Why Monitor the Risk?

BNL strives to minimize or eliminate adverse effects and risks that may be associated with its research and operations. Unplanned environmental releases could negatively impact the environment, BNL's programs, and the positive relationship BNL has with neighbors in the community, regulators, DOE, and other stakeholders.



Data on the Graph Represents

The total number of spills reported in the calendar year and those spills that required outside agency notification (e.g., SCDHS and NYSDEC).

Why the reduction in spills?

- Continued maintenance/replacement of hydraulic hoses and retrofitting with vegetable oil
- Holding toolbox and staff meetings on spills associated with overfills due to thermal expansion
- Eliminate the practice of parking vehicles/equipment on non-paved surfaces

Contact Point for More Information J. Williams (631) 344-5587

2.2.4 Environmental Enforcement Actions

Commentary

There have been no environmental enforcement actions against BNL in FY05. BNL's Self-Assessment Program continues to improve overall compliance status and significantly reduces the risk of environmental enforcement actions.

Reviews/Audits

Compliance with regulatory requirements is verified through routine monitoring and inspections, operational evaluations, and focused compliance audits. The program consists of the following:

Self-Assessments:

- Quarterly reviews of EWMS Self Assessment Plan
- Programmatic Assessments (with Brookhaven Site Office {BHSO} Observation)
 - 2–3 per year
- Internal Lab-wide EMS ISO 14001 Assessments
-

Independent Assessments:

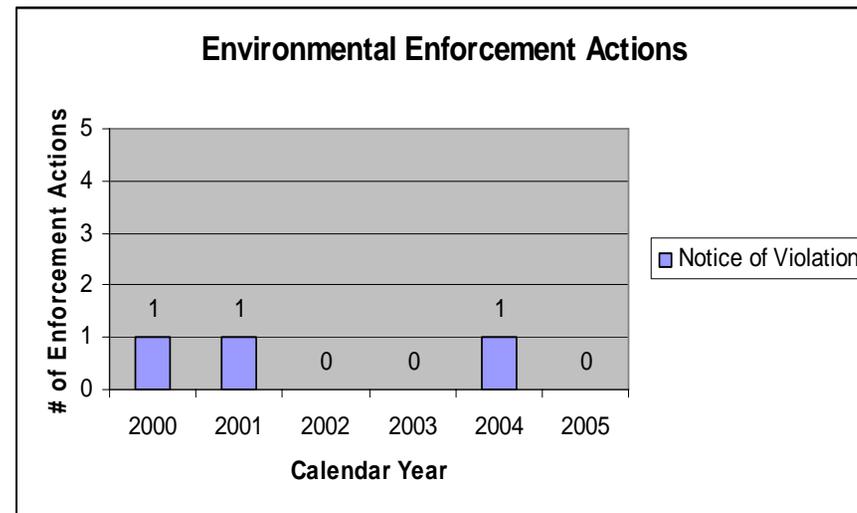
- Verify the effectiveness and adequacy of management processes (including self-assessment programs) at all levels at the Laboratory
-

External Assessments:

- NYSDEC Inspections (RCRA, SPDES, CBS, MOSF)
- SCDHS Inspections (SPDES, STP)
- Independent third party ISO 14001 registration audits

Why Monitor the Risk?

Results of external, independent, and internal compliance assessments are a good indicator of the effectiveness of our environmental self-assessment. BNL's exceptional knowledge of its potential environmental vulnerabilities and robust self-assessment program should self identify and self correct



Data on the Graph Represents

The total number of environmental enforcement actions (Notice of Violations) received in the calendar year. The Notice of Violations (NOVs) issued in 2000, 2001, and 2004 were all associated with RCRA inspections performed by NYSDEC. In all cases, violations were either corrected to the satisfaction of the NYSDEC prior to the conclusion of the inspection or documentation was provided confirming that BNL had satisfactorily addressed all noted deficiencies.

This Graph Produced From

Input from the ESH&Q Directorate Environmental and Waste Management Services Division.

Contact Point for More Information M. Davis (631) 344-2165

compliance issues before they are found and cited by external compliance inspections.

2.2.5 Environmental Management System (ISO 14001) Certification Status

Commentary

The Laboratory's EMS was designed to meet the rigorous requirements of the globally recognized International Organization for Standardization (ISO) 14001 environmental management standard, with additional emphasis on compliance, pollution prevention, and community involvement.

Results of internal and external assessment indicate the system is well established and maintained.

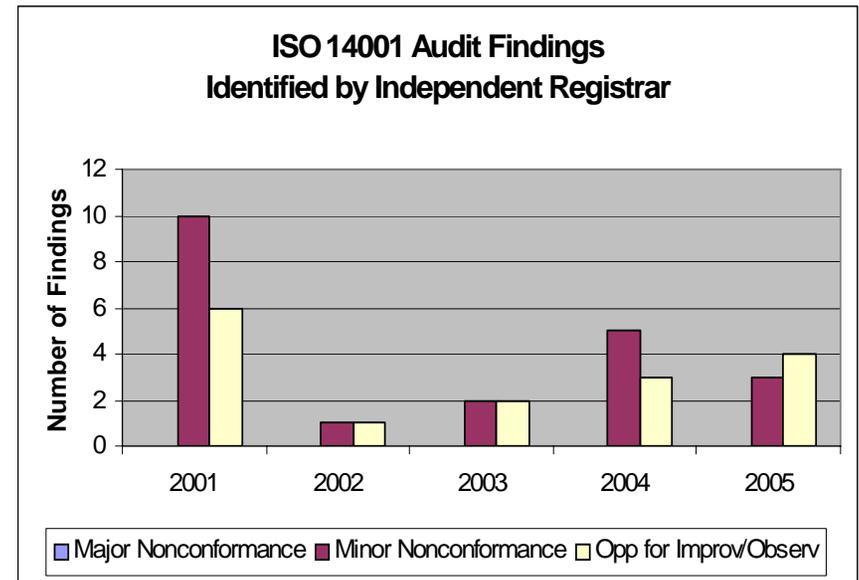
Reviews/Audits

The most recent independent audit in June 2005 certified the Laboratory's EMS to ISO 14001:2002, making BNL the first National Lab certified to the revised standard. The audit found three minor nonconformances, four opportunities for improvement, and numerous examples of continual improvement.

Results of internal EMS assessments found seven minor non-conformances and ten opportunities for improvement.

Why Monitor the Risk?

One of BNL's highest priorities is ensuring that the Laboratory's environmental performance measures up to its world-class status in science. An EMS ensures that environmental issues are systematically identified, controlled, and monitored. Moreover, an EMS provides mechanisms for responding to changing environmental conditions and requirements, reporting on environmental performance, and reinforcing continual improvement.



Data on the Graph Represents

The total number of non-conformances (both major and minor) and opportunities for improvement identified by independent audits during annual registration and surveillance audits. BNL has never had a major nonconformance. A major nonconformance results in loss of certification. 2004 was a full re-registration audit. The scope included audit of all elements of the standard in all Laboratory organizations.

Calendar year 2001 was the first year the Laboratory was audited and registered to the ISO 14001:1996 standard.

This Graph Produced From

Input from the ESH&Q Directorate Environmental and Waste Management Services Division.

Contact Point for More Information G. Goode, 631-344-4549

2.3 PROTECTION OF NATIONAL SECURITY & GOVERNMENT PROPERTY

2.3.1 Security Alarm System Performance

Commentary

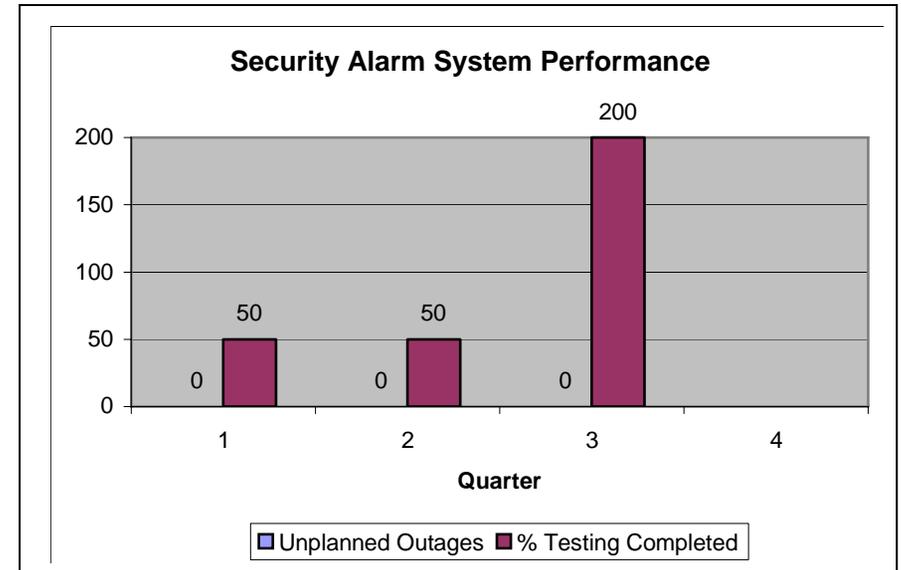
Security Alarm System testing and maintenance activities were conducted as scheduled this quarter. There were no unplanned outages. This measure looks at the number of buildings, security areas, radiation areas, and duress alarms tests that fail during the quarter. There were twenty-nine (29) tests performed this quarter with no failures. There were no unplanned outages this quarter. The backlog of testing that was not completed during the first and second quarters was completed during the third quarter (200%).

Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

The Security Alarm System provides protection of physical property (including nuclear material) and intellectual property (classified and unclassified) of the government, and BNL in regards to theft and sabotage. The alarm system performance is monitored to ensure the effectiveness of the system controls.



Data on the Graph Represents

The total number of unplanned security alarm outages and % of alarm testing are shown, by quarter.

This Graph Produced From

Input from the Facility & Operations Directorate

Contact Point for More Information A. McNerney 631-344-8627

2.3.2 Security Forces Response Time

Commentary

There were 3 duress alarms (false alarms) this quarter with an estimated average response time of less than 5 minutes. An average response time of less than 5 minutes is acceptable based on size of the Laboratory and the number of Security Police Officers that are available to respond.

This measure includes response times for Property Protection Area alarms, the discovery of suspicious items, duress alarms, and drills. A more accurate method of measuring Security Response Times will be put into place during the fourth quarter to address this measure.

Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

Security response times are measured from notification of a security incident to the time all designated security responders arrive at the scene. Incident responses include, but are not limited to; suspicious articles, alarm response, domestic disputes, criminal acts. Response times are crucial to

2.3.3 Security Incidents/MC&A Incidents

Commentary

There were no security incidents involving loss or theft of property, or compromise of nuclear or classified material this quarter. There were no reported property losses or material balance area reports indicating discrepancies.

This measure includes the number of violations of Material Control and Accountability (MC&A) procedures (i.e., transfers of material, internal and external shipping), missing material, or unexplained inventory differences.

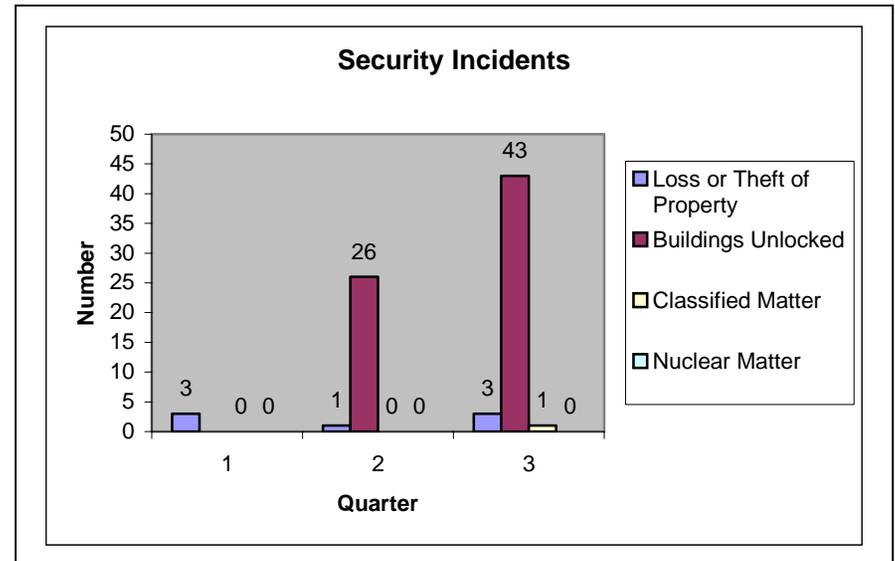
There was one classified matter incidents. This incident did not result in loss or compromise of classified data. There were no nuclear matter incidents. Forty-three unlocked buildings were identified by Security Police Officers during their rounds. The appropriate Building Managers have been notified and reminded of Laboratory Policy. There were three minor incidents of loss/theft of property. All incidents are under investigation. There were no incidents of DOE vehicles being stolen or removed without authorization.

Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

The Safeguards and Security Division support the protection of special nuclear materials, classified matter, and property (including information) whose theft, destruction, or damage would impact DOE, BSA and BNL activities and operations. Monitoring the risk is important to deter, detect, and ensure the prompt reporting and investigation into actual or suspected criminal violations, losses of classified matter or special nuclear material, and incidents of security concern.



Data on the Graph Represents

The number of security incidents by category, during the quarter.

This Graph Produced From

Input from the Facilities and Operations Directorate.

Contact Point for More Information A. McNerney (631)
344-8627

2.2.4 Cyber Security

Commentary

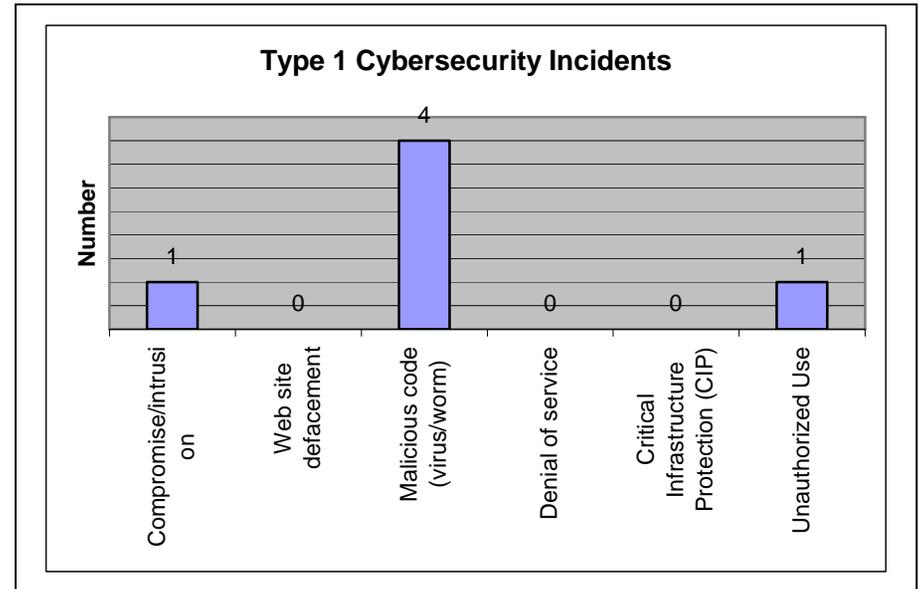
BNL had 6 Type 1 Cyber Security Incidents in the 3rd Quarter. A Type 1 incident is a successful incident that potentially creates serious breaches of DOE cyber security or have the potential to generate negative media interest. A Type 2 incident is an attempted intrusion. Although we report on these to CIAC, these are unsuccessful events, therefore they are not tracked in this metric.

Reviews/Audits

Corrective actions from the November 2004 DOE OA Audit are on schedule. BNL is working with a team from the Office of Science to establish a certification protocol for all SC labs. This work is on schedule with a projected completion date of September 30, 2006.

Why Monitor the Risk?

The cyber security program protects the information systems that the Laboratory and DOE depend on. The program works to preserve integrity, reliability, availability, and confidentiality of important information while maintaining the information systems.



Data on the Graph Represents

The types of cybersecurity incidents during the quarter.

This Graph Produced From

Input from the Information Technology Division.

Contact Point for More Information T. Schlagel (31) 344-8765

2.4 LOSS PREVENTION

2.4.1 Fire Alarm System Performance

Commentary

The Site Fire Alarm System experienced several unplanned outages due to communication problems between the building and the firehouse this quarter. These outages were the result of environmental problems associated with underground telecommunication lines (i.e., moisture infiltrating underground splice cases, deterioration of connections in manholes, and water from roof leaks flowing on to a building's interior communication connection panel).

BNL's fire alarm coverage on campus is divided into 8 communication loops. Typically environmental conditions sporadically disrupt communications on a single communication loop; normally only one loop is affected at a time. While 15 to 25 buildings are connected to each loop, typically only a few alarm panels on a loop will have difficulties communicating with the firehouse. The problem of communication with the building shows up for a short period of time, usually 1 minute, and then communication is restored. Locating and resolving the problem typically takes three to four hours. During the time that any one panel is showing difficulty communicating with the firehouse, the entire loop is considered as having a problem for the purpose of reporting and tracking performance. While these transient communication problems have been occurring 5 to 6 times per month, more drastic failures (e.g., cut wires, and damaged panels due to lightening for example) have been occurring about twice a year.

The underground cables are over 25 years old and were not designed to provide service for data. They have over 400,000 splice points for 800 pairs used by the fire alarm system, \$30,000

to \$60,000 has been spent each year addressing communication problem repairs.

Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

Fire alarm system performance is monitored to ensure that systems are maintained and working in accordance with operability requirements to prevent or reduce personnel injury, loss of life, and loss of property.

2.4.2 Fire Rescue Response Time

Commentary

Eighty- one calls were responded to in the third quarter with an average response time of 3 minutes. The local community's volunteer fire and ambulance services response time is typically average 10 to 20 minutes depending on the time of day.

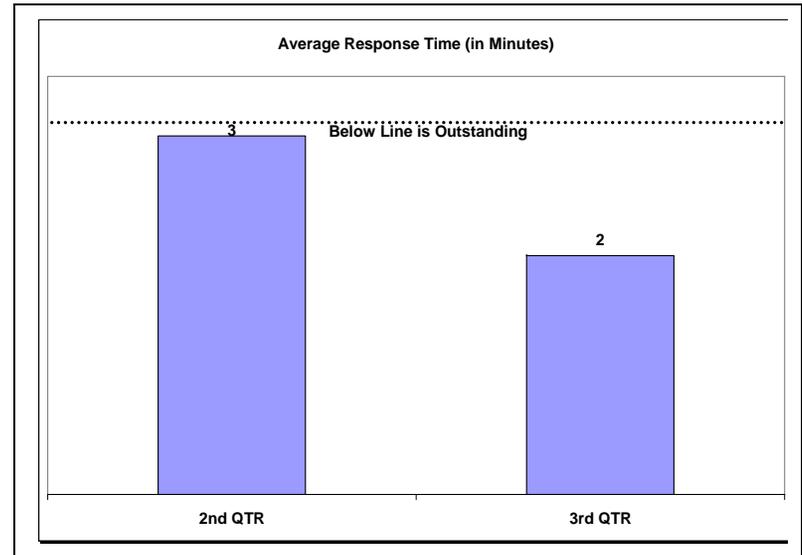
Reviews/Audits

DOE/HQ Office of Emergency Management visited BNL to plan for a no notice drill to be conducted at the end of FY05.

Why Monitor the Risk?

Fire Rescue response times are measured from the receipt of an alarm to the time the first emergency vehicle arrives at the scene of the situation. Responses by Fire Rescue to areas off site are not included in the statistics (e.g., assisting our neighboring departments). The times are for all types of emergency Fire Rescue responses, including fires, emergency medical situations, spills, automotive accidents, and requests for assistance.

The goal of 90% of the response within 4 minutes is derived from a National Fire Protection Association (NFPA) 1710, "Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments". The criteria within NFPA 1710, is intended to apply to structural fires. For the lack of any better criteria, it is being applied to all on-site response at BNL. This standard is controversial due to the difficulty of most public fire departments to meet the response criteria, yet BNL is capable of meeting it consistently.



Data on the Graph Represents

The average Fire Rescue response time by quarter.

This Graph Produced From

Input from the Facilities and Operations Directorate.

Contact Point for More Information A. McNerney (631)
344-8627

2.5 INFRASTRUCTURE STEWARDSHIP

2.5.1 Maintenance Investment Index (MII)

Commentary

The FY05 MII goal of 1.7% of Real Property Value (RPV) is on track to be accomplished. With 75% of the fiscal year behind us we have reached 81.6% of our target. However, fourth quarter project priorities are in the process of re-assessment in light of extraordinary snow removal expenditures during the winter months. We anticipate this impact, if any, to be of minor significance.

Concerns regarding refinement of RPV calculations are being addressed. The Office of Science (SC) Infrastructure Program Manager visited BNL on July 19th to discuss methodologies for insuring that all laboratories are consistent in the manner in which accelerator infrastructure is included in the RPV calculations. BNL is in the process of addressing this issue and is also re-visiting the accuracy of current building related RPV calculations. Any changes in RPV will not impact the FY05 targets.

Review/Audit

There were none this quarter. The SC Infrastructure Program manager is expected to visit BNL early in the fourth quarter to discuss the treatment of accelerator tunnels in the MII equation.

Why Monitor the Risk?

MII is the Maintenance Investment Index. This is a measure based upon DOE guidance that is structured to reflect the adequacy of annual maintenance investments. This annual investment reflects the maintenance allocation required not only to maintain facilities to current standards but also the allocation required to reduce the maintenance backlog in accordance with DOE standards of acceptability.

2.5.2 Asset Condition Index

Commentary

BNL's Asset Condition Index (ACI) remains driven by the need to rehabilitate permanent science buildings. The newly assigned Alternative Financing Project Manager has been tasked to begin planning for possible application of alt financing to this need.

BNL's ACI for the 3rd quarter of FY 2005 is 0.997. BNL's ACI remains driven by the need to rehabilitate permanent science buildings. The newly assigned Alternative Financing Project Manager has been tasked to begin planning for possible application of alternate financing to this need.

Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

ACI is the corporate measure of the condition of its facility assets. The ACI reflects the outcomes of real property maintenance and recapitalization policy, planning, and resource decisions. The index is one (1) minus the Facility Condition Index (FCI). The FCI is the ratio of Deferred Maintenance to Replacement Plant Value and is derived from data in the Facilities Information Management System (FIMS). The $ACI = 1 - FCI$. Ratings are assigned to ACI range measures. The goal is for the ACI to approach one (1). The ACI increases and approaches one (1) as the condition of facilities improves at a site.

2.5.3 Facility & Utility Reliability

Commentary

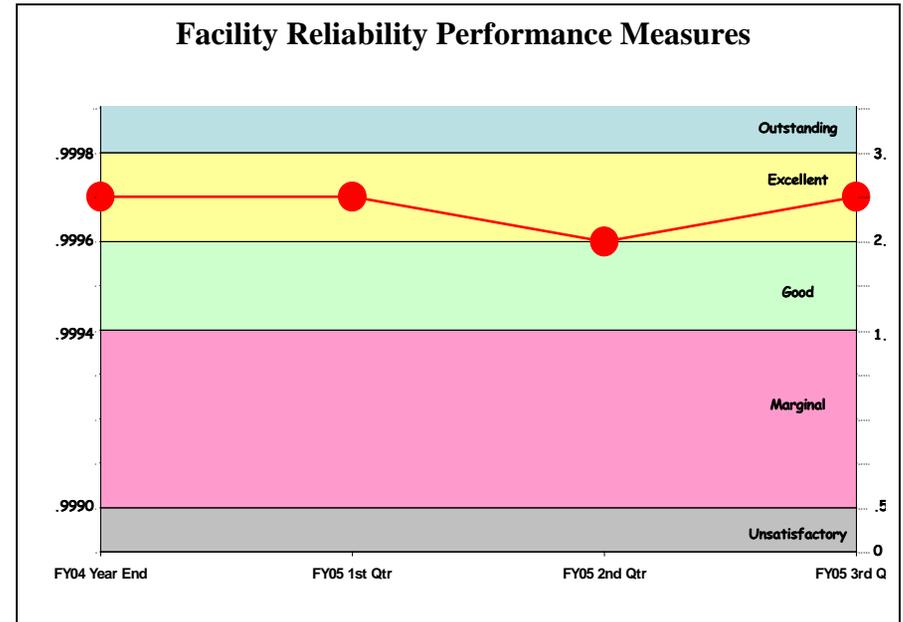
Facility and utility reliability continue to meet expectations, with a rating of excellent at 99.997%. During this quarter there was one power interruption to Building 30, the cause of which is unknown.

Reviews/Audits

There were no reviews this quarter.

Why Monitor the Risk?

This measure is the blended result of 60% electric system reliability and 40% facility reliability. Steam leaks, water main breaks, electric feeder failures that are on site, are some of the events that would negatively impact this measure. This measure does not include interruptions to electric power outside the control of the Laboratory.



Data on the Graph Represents

The blended result of 60% electric system reliability and 40% facility reliability by quarter.

This Graph Produced From

Input from the Facilities and Operations Directorate.

Contact Point for More Information A. McNerney (631) 344-8627

2.5.4 Project Management

Commentary

Project management activities continue to be successful, with the exception of the CFN, which received conventional construction bids significantly above the project budget. This will impact the contract performance measure for Project Management. The CFN has been successfully re-bid and a revision to the project baseline is being discussed with DOE that should result in improved performance in the fourth quarter. Work continues on formation of the BNL Project Management Organization, a matrix organization intended to provide a continuing developmental experience for new and experienced project managers. An early FY06 launch is planned.

Project Management rating for the 3rd Quarter was 68.5%, which corresponds to a “Marginal Rating”. This is primarily due to high bids and delay in receipt of CD-3 for the CFN. The cost and obligation plan for the CFN will be re-baselined in the fourth quarter and performance results should improve to a “Good” or “Excellent” rating.

Reviews/Audits

DOE Quarterly Project Review conducted April 29th, 2005.

Why Monitor the Risk?

The project management performance measure is an algorithm that quantifies elements that are indicative of project management performance. The measure is based on percent of funds obligated versus plan (a1) and costed versus plan (a2). These elements are indicative of funds management and schedule performance. The measure includes percent of small projects (GPP) completed on schedule (b1) and Line Item Project major milestones (b2) completed on schedule, which directly indicate schedule performance. The measure also includes the percent of projects that have completed their baseline scope within the project budget (c). This element is indicative of cost estimating and scope/cost management performance. The resulting algorithm is:

Project Management Performance= $0.2(a_1+a_2) + 0.2(b_1+b_2) +$
 $0.29(c)$