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# Memo

*date:* *June 27, 2003*

*to:* *Tom Sheridan*

*from:* *James Tarpinian*

*subject:* *Evaluation of BNL's Worker Safety & Health Management System*

Enclosed is the report documenting the evaluation of BNL's Worker Safety & Health Management System, which took place on May 28, 2003. The objective of this evaluation was to evaluate the performance of the management system with respect to the Definition, Implementation and Planning, Assessment & Improvement criteria, and to provide the Worker Safety & Health Management System Steward and Point of Contact with information on the strengths and areas for improvement for this system.

This evaluation is part of the FY03 Critical Outcome Performance Measure 3.2 – Planning & Assessment.

The MS POC is required to develop a response to this evaluation that includes actions to improve the MS performance. These actions shall be entered into the Institutional ATS within 45 days of the date of this report.

The Quality Programs & Services Office will use the feedback on this evaluation process to further refine the Management System evaluation methodology.

cc: O. White
R. Lebel

# BROOKHAVEN NATIONAL LABORATORY
# WORKER SAFETY & HEALTH
# MANAGEMENT SYSTEM EVALUATION

Submitted June 27, 2003

FACILITATORS:

Jessica R. Wilke

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WORKER SAFETY & HEALTH MANAGEMENT SYSTEM:

Otto White, MS Point of Contact

James Tarpinian, MS Steward

## LIST OF ATTACHMENTS

Attachment 1 Worker Safety & Health Management System Evaluation Team Members

Attachment 2 Worker Safety & Health Management System Information Package

Attachment 3 Pre-Evaluation Workshop Meeting Presentation

Attachment 4 Worker Safety & Health Management System Point of Contact Presentation

# EVALUATION REPORT
# BNL WORKER SAFETY & HEALTH MANAGEMENT SYSTEM

## Introduction

The purpose of the evaluation of the Laboratory's Worker Safety & Health Management System (WS&H MS) that took place on May 28, 2003 was to provide the WS&H Management System Steward and Point of Contact (POC) with information on the strengths and areas for improvement for the Management System.

This evaluation is part of the recently developed Laboratory Management System Assessment Process, and is part of the FY03 Critical Outcome Performance Measure 3.2.

## Scope

This evaluation focused on the Worker Safety & Health MS as defined and described in the Worker Safety & Health Management System description of the Standards Based Management System (SBMS) as well as its implementation throughout Laboratory organizations. The key purpose of the WS&H MS is to assist line and operations management in ensuring that a safe and healthy workplace is provided to all employees, visitors, guests, vendors and subcontractors of the Laboratory. The key processes include Industrial Hygiene Services and Systems and Safety Engineering Services and Systems.

## Evaluation Method

The evaluation method consisted of the following steps:

1) The MS Point of Contact (POC) selected a representative team of stakeholders (Attachment 1).

2) The POC developed and distributed an Information Package that contained a description of the assessment process and information about the management system for review prior to the evaluation workshop (Attachment 2). The information was prepared in response to a standard set of questions provided by the Quality Programs & Services Office and organized to address the three criteria, Definition, Implementation, and Planning, Assessment & Improvement. The document was distributed on May 21, 2003.

3) Team members reviewed the Information Package as well as their own internal data about the WS&H MS in preparation for the Evaluation Workshop.

4) A Pre-Workshop meeting was held on May 23, 2003 to familiarize team members with the evaluation process and the criteria (Attachment 3)

5) The POC sponsored an Evaluation Workshop on May 28, 2003 to evaluate the WS&H MS maturity in each area –Definition, Implementation, and Planning, Assessment & Improvement. The workshop was facilitated by two trained BNL facilitators who are not directly involved with the management system

a) The lead facilitator presented the workshop agenda.
b) The POC gave a presentation that provided an overview of the MS and addressed the status of the MS against the three criteria (Attachment 4).
c) The team then used the Management System Evaluation Guide to score the process' maturity after each of the three sections of the presentation: Definition, Implementation, and Planning, Assessment & Improvement.
d) The scoring process included a discussion/clarification of the information on the Worker Safety & Health Management System pertinent to the criteria prior to the individual scoring. After the scoring, the team discussed the differences in individual scores and worked toward developing a consensus score. This discussion resulted in the identification of strengths and areas for improvement for the management system.
e) A closing discussion was held to gather feedback about this evaluation method.
f) A report documenting the evaluation was prepared for all team members as well as the MS Steward and POC. The report is submitted to the Deputy Director for Operations.

The Evaluation Team consisted of 15 members representing science and technology, support organizations, and the Safety & Health Services Division. Observers included DOE BAO and other members of the Safety & Health Services Division. Team members spent time reviewing the Information Package provided by the WS&H MS POC. Those who were not familiar with this evaluation process attended the Pre-Workshop meeting.

**Results**

The Worker Safety & Health Management System was found to be fairly mature. Out of a possible high score of 5, Definition was rated at 3+, Implementation was rated at 3, and Planning, Assessment & Improvement was rated at 3+. It was noted during the evaluation that the Worker Safety & Health MS is still involved in the transfer of legacy ES&H Standards into Subject Area and the projection for completing the process is FY04. Sustaining performance measures in Occupational Safety and Health remains to be a challenge and current initiatives to address sustainability are ongoing. Completion of the entire set of Worker Safety and Health Subject Areas, increased management commitment to safety in general and worker involvement in safety initiatives were identified as major areas for increased maturity of the MS. Certainly benchmarking the Laboratory's performance against the "Best in Class" performers and addressing program gaps will result in the desired improvement in maturity.

Resources also represent an impediment to maturity. Right sizing the ESH&Q resources to ensure adequate and appropriate allocation of resources in the worker safety and health program is paramount to achieving the desired maturity level. It is important that ESH&Q customers are not penalized with high cost ESH services and duplication of services from other service providers. The Worker Safety & Health MS POC pointed out that the former

Safety & Environmental Protection Division system where Radiological Control and Safety & Health Services Division services were provided from the same organization was a more efficient and effective model.

It takes time for a process to be developed and fully deployed, or *mature* – the point at which behavioral and performance results are realized. The life cycle of a system consists of five phases of maturity:

- Development: documentation of policies and procedures
- Implementation: Policies and procedures are put into use
- Verification: Demonstrated wide-spread use and acceptance
- Behavioral Impacts: Change in culture, attitudes, and work habits
- Performance Results: Improved operational performance

The Development phase is captured primarily in the Definition criteria; the other phases are captured jointly by the Implementation and Planning, Assessment & Improvement criteria.

The evaluation workshop results are summarized in the following table. Each asterisk represents an individual team member's score.

| Score | Definition | Implementation | Planning/Assessment Improvement |
|---|---|---|---|
| 0 | | | |
| 1 | | | |
| 2 | * | * * | * |
| 3 | * * * * * * * * | * * * * * * * * * * | * * * * * * |
| 4 | * * * * | * | * * * * * * |
| 5 | | | |

**Discussion - Definition**

The majority ranked this criterion at 3, with some team members ranking at 4 – there was consensus at 3+.

*The following Areas for Improvement were noted:*

1. Records of Decision: The question of the completeness of the RODs was raised – POC indicated that as part of the annual contract development process, requirements were reviewed.

2. The MS description needs to be revised to include the ES&H Coordinators and the line organization ES&H professionals and SMEs. POC indicated that the next revision of the MS would include the responsibility of the ESH Coordinator and Line ESH professional and SMEs.

3. Concern regarding whether legacy documents are kept current. The POC also indicated that the self-assessment process always included a document review. During this phase the adequacy of the guidance documents are examined and findings and observations are made when the BNL documents are not current with Regulatory Requirements.

The Aviation/Marine Safety requirements are not included in the prioritization since they do not impact operations. The DOE was a driver in the process of reviewing the aviation procedures – as in the Record of Decision for the revised administrative changes to DOE Order 440.2A, Aviation Management and Safety.

- Most legacy documents include web-based training. Sometimes this only needs to be taken once.

*The following Strengths were noted:*

1. A risk-based system is used to determine the order of conversion of legacy documents to SA as well as new SA development. Legacy documents continue to be used but attempts are made to ensure these documents are kept current. POC indicated that SHSD has scheduled the completion of conversion legacy documents by the end of FY04.

2. Having the Material Safety Data Sheets on –line is considered strength as it ensures uniform availability of MSDS' to all workers on site.

3. SMEs, and other SHS staff that line organizations need to go to for guidance is well defined – SMEs, ESH Coordinators. This facilitates contact with SHSD SMEs ensuring correct interpretation of applicable codes and standards.

4. There was a discussion about SBMS as a construct/vehicle for disseminating guidance.

   The following points were raised:
   - Some/many Subject Areas are too generic, so line organizations have to develop their own Internal Procedures. The Lead SA has very good, specific instructions; Chemical Management is too generic.

- The Laboratory Standard Computer Based Training contains good, specific information that could/should be on SBMS? SBMS should provide additional documentation?
- The SBMS construct drives to this end. Subject Areas are meant to be generic enough to be applicable Lab wide. Guidance will reside as an attachment to the SA.

A second concern regarding SBMS was the fact that the SBMS Office does not have the resources to meet the needs of this MS's SA development process.

The key, bottom line question to the Steward/POC was whether they felt comfortable with this approach/situation. Did they feel that this was effective for the WS&H MS? The POC indicated he is comfortable with the current approach.

**Discussion – Implementation**

There was consensus at 3.

*The following Areas for Improvement were noted:*

1. Concern about resource issues
   - To fully implement the program, line organizations will need more SME time – in the field.
   - The RadCon/ SHSD Direct Funding issue - the RadCon Technicians providing some level of SHS expertise. "The Line" cannot afford the direct charge of both the RadCon SME and the needed SHS SME. This issue needs to address by the WSH MS Steward and POC.
   - SHS and RCD need to coordinate their field services to avoid duplication and minimize cost to "the line".
   - MS POC: a correction factor needs to be made due to the creation of the RadCon Division, which included the transfer of non Rad resources. This is a weakness in the ESH&Q delivery system.

2. Contributors to the downward trend *(1996-2000)* in safety measures were new management (BSA), the off-ramp clause in the DOE contract, and earlier Performance Measures (Senior Managers walk-throughs, et.al.).
   - Need to create **sustained** improvement – how do we do that?
   - The WS&H construct is probably in place. The POC indicated that current safety improvement initiatives are designed to sustain improvement.

3. Including a RadCon person on Tier I inspections for Instrumentation is an issue that was raised by an evaluation team member, i.e. since only 5% of the findings on these inspections are RadCon related. Safety & health issue predominate Tier I findings and are

the more likely causes of serious injuries, yet ESH&Q staffing for these organizations is not commensurate with that personnel exposure.

4. Need to explore the potential ESH issues that exist in the Nanomaterials area of research. The Center for Functional Nanoscience is rapidly coming on line. The POC provided the following in response to this issue:

   - During this evaluation workshop, there were several questions regarding Safety and Health Services Division's preparedness to meet the challenges presented by doing nano research. Key concern was that there are many resource issues SHSD is dealing with that may preclude undertaking this new initiative. The MS POC (the SHSD Manager) reported that there is significant SHSD involvement in the Nanoscience research safety and health review. Steve Hoey and Andy Ackerman play lead roles but Nicole Bernholc, Terry Monahan, and Rich Travis from SHSD are key contributors. An initial Safety review at CDR-0 has been performed and SHSD staff members have participated in the review.

5. Should ISM be included in this MS? WS&H is a key player in ISM as is Work Planning. The principles of ISM serve as the drivers for WSH MS.

6. Feedback on MS – will there be an additional instrument used, which will provide an assessment of the MS? The POC and Management Steward will track recommendations for improvement of the management system. The goal of the POC is to achieve a score of 5 in the three evaluation categories. Future maturity evaluations will provide feedback on the progress.

*The following Strengths were noted:*

1. The links between WSH MS SMEs in SHSD and the line organizations and the ESH Coordinator/Training Coordinators, etc. are the greatest asset to this program.

2. There is confidence that people know what is available to them – documents, SME guidance – a mature system.

**Planning, Assessment & Improvement**

Although the scores were split across 3 and 4, there was consensus at 3+.

*The following Areas for Improvement were noted*:

1. Line organizations should send the results of their Safety & Health assessments to the SHSD. Currently this sharing occurs incidentally, by request of the line organization. The Laboratory as a whole would benefit by sharing this info with SHSD as it would

allow for a central point and facilitate trending around site and allow identification of areas requiring greater resources. The required line assessment tool for this MS will meet this objective. All line organizations will be required to complete the assessment and return the assessment form to SHSD manager annually.

2. Investigate the Root Cause regarding 1.3.5/1.3.6. A new subject area on causal analysis is near completion. It will serve as an excellent tool for evaluating causes of incidents related to worker safety and health.

3. Has a review of the MS been done to accommodate new major initiatives, for example the Nanocenter? Users are expected this fall. POC Response: SHSD SME's have been in discussions with nanoscience ES&H Leads (Steve Hoey and John Taylor) and participated in the Nanocenter's Preliminary Hazard Assessment.

4. The FY03 Occupational Safety and Health performance measure was challenged because in order to not lose fee the Lab needs to be within 140% of the DOE Research average for Occupational Injuries as measured by Lost Workday Case Rates. Although there is no fee associated with exhibiting Outstanding or Excellent performance, BSA could lose fee if the measure is not met. Current indication is that the Laboratory will meet this measure. The real issue is whether these OI rating improvement can be sustained and whether the measure should focus on leading indicator rather this and similar lagging indicators.

5. There is a difference between the DOE definition of Excellence as per the performance measure and the DuPont definition. Up to this point the lab performance has been compared to similar contractors within the DOE community, the DuPont project was a comparison against "World Class" performance. Movement toward the Dupont rating will allow BNL to exceed the performance of other DOE contractors

6. Surveys conducted by SHSD should be adjusted to evaluate the corrective actions that were put in place to address the issues raised in this (and other) evaluations and assessments. The POC indicated that the Assessment findings and observations from are tracked until closed by the action owner. The assessment is not closed until the assessment owner (WSH MS POC) review the adequacy of the corrective action and concur with the action owner.

**Areas for Improvement/Concerns for the WS&H MS overall**

1. There needs to be a better understanding of routine processes.

2. The emphasis on strict compliance without regard to worker safety is too strong.

3. Will the results of this assessment affect DuPont's evaluation? The POC indicated that while is likely to be similarity in some the areas for improvement between the two processes the two reviews are independent using different evaluation criteria and approaches. They should serve to validate areas of overlap.

**Evaluation of the Management System Evaluation Methodology**

The team discussed the evaluation method and provided the following Strengths and Areas for Improvement.

What Worked:

- Diversity of team members
- Comments were worthwhile
- Continue with the process of breaking up the POC presentation and scoring for each criterion
- Having team members knowledgeable of the Integrated Assessment Program and the Standard Based Management System was beneficial.
- Having the MS Steward commit to taking actions.

What Needs Work:

- The numbers, the scores themselves do not carry any meaning.
- QPSO/IAP should provide guidance to the MS Stewards and POCs regarding the level of detail required in the documents distributed to the team before the Evaluation Workshop. The material provided for this MS evaluation was more usable than that provided in other MS evaluations.
- Team members questioned whether changes had been made as a result of the MS evaluations.
- It was pointed out that future surveys conducted by Safety & Health Services Division should incorporate an evaluation of the changes that were made as a result of the issues raised in this (and other) evaluations and assessments.

The key question is how the information learned from these evaluations is being used. Surveys conducted by SHSD should be adjusted to evaluate the corrective actions that were put in place to address the issues raised in this (and other) evaluations and assessments.

**Conclusion**

This evaluation did assess the maturity of the Worker Safety & Health MS. The results indicate adequate system effectiveness, with specific areas for improvement noted.

As a result of this evaluation, the WS&H MS Steward and POC have information that will lead to improvements to the system. This process also provides a good baseline of system effectiveness that will be useful in subsequent evaluations to show improvements and/or declines in performance.

The MS POC has committed to developing an improvement plan to address the Areas for Improvement. These improvements will be tracked in ATS.

The Quality Programs & Services Office will use the feedback on this evaluation process to further refine the Management System evaluation methodology.

# WORKER SAFETY & HEALTH MANAGEMENT SYSTEM EVALUATION MAY 28, 2003

## TEAM MEMBER LIST

| | |
|---|---|
| Andy Ackerman | National Synchrotron Light Source |
| John Boccio | Energy, Environment and National Security |
| Diane Cabelli | Chemistry |
| Kay Conkling | Radiological Control Division |
| Robert DiNardo | Instrumentation |
| Ann Emrick | Life Sciences |
| Ron Gill | Physics |
| Ken Mohring | Staff Services |
| Dave Passarello | Collider Accelerator |
| Doug Ports | Integrated Assessment |
| John Searing | Emergency Services |
| Jim Tarpinian | Environment, Safety, Health & Quality |
| Doug Warren | Safety & Health Services Division |
| Otto White | Safety & Health Services Division |
| Pat Williams | Facilities & Operations |

Facilitators:

| | |
|---|---|
| Jean D'Ascoli | Community Involvement & Public Affairs |
| Jessie Wilke | Quality Programs & Services |

Observers:

| | |
|---|---|
| Peter Kelley | DOE Brookhaven Area Office |
| John Peters | Safety & Health Services Division |
| Terry Monahan | Safety & Health Services Division |
| Jack Ellerkamp | Safety & Health Services Division |
| Robert Petricek | Safety & Health Services Division |
| Robert Selvey | Safety & Health Services Division |

# Attachment 2

# Worker Safety & Health Management System Information Package

Safety & Health Services Division

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for the U.S. Department of Energy

*Date:* May 13, 2003

*To:* Team Members

*From:* Otto White, Jr. TB for OW

*Subject:* Worker Safety & Health Management System Evaluation

Thank you for being part of the evaluation team that will participate in a workshop to evaluate the Workers Safety & Health Management System. The workshop will be held **May 28, 2003, from 1:30 to 5:00** pm in Berkner Hall, Room B.

As part of BSA's contract with DOE, selected SBMS management system evaluations must be conducted in FY03. The Worker Safety & Health Management System (WSH MS) is one of the management systems scheduled for assessment in the FY-03 Critical Outcome 3.2.1.1 "Management System Objectives and Assessment Activities."

The enclosed information package is being sent in advance so you may have the opportunity to formulate questions, as well as determine preliminary scores to the best of your ability. The package includes the following:

- Management System Evaluation Guide
- Management System Evaluation Process Desc.
- List of Team Members
- Management System Evaluation Question Set
- Safety & Health Services FY03 Self-Assess. Plan
- Safety & Health Services FY02 Self-Evaluation
- Worker Safety & Health Required Assessment Aid

It is suggested that you review the Worker Safety & Health Management System at https://sbms.bnl.gov/mgtsys/ms0x/ms0xd011.htm.

Your efforts in this evaluation will not only enable us to meet our FY03 contractual commitment, but assist us in ensuring our management system is fully implemented at the Laboratory.

If you have any questions please contact me on ext. 4248 or Tracy Blydenburgh on ext. 4422

OW/tb
Enclosures

Team Members:

| | | | |
|---|---|---|---|
| J. Boccio (DA) | A. Emrick (BO) | R. DiNardo (IO) | J. Wilke (QA) |
| P. Williams (EP) | K. Mohring (SS) | K. Conkling (RC) | R. Gill (PO) |
| D. Passarello (AD) | J. Searing (EM) | D. Warren (WM) | |
| D. Cabelli (CO) | A. Ackerman (LS) | T. Powers (DE) | |

cc: J. Tarpinian

| Rank | Definition | Implementation | Planning, Assessment, and Improvement |
|---|---|---|---|
| 1 | Documentation:<br>• Key program requirements not defined in lab documents (SBMS or dept/div internal procedures). Guidance/ requirements are largely administered through rogue documents.<br>Requirements Management:<br>• Regulatory and contractual requirements generally identified but traceability to Lab implementing documents has not been fully established. (Requirements Management process- see next bullet)<br>• Records of Decision (RODs) are not complete for current regulatory and contractual drivers; existing RODs have identified major gaps in system compliance.<br>Alignment/Integration:<br>• Alignment with supporting or related laboratory processes is weak. Examples of integration include the establishment of T&Q requirements, R2A2s | Awareness:<br>• Awareness of program elements by affected /individuals is low.<br>• Major gaps exist is the assignment of key system responsibilities within laboratory.<br>• T&Q requirements are not met by organizations.<br>Implementation:<br>• Early stages of system deployment; major gaps exist.<br>Acceptance Indicators:<br>• Feedback if any, on system performance is negative. | Planning:<br>• Systematic planning for system improvement/change does not exist.<br>Assessment:<br>• Little evidence of systematic approach to self-assessment and improvement of the processes within the MS.<br>• Most information is being obtained from external sources (i.e. external audits, assessments).<br>Improvement:<br>• Improvement actions are identified but not necessarily prioritized or tracked to closure. |
| 2 | Documentation:<br>• Major program requirements are sufficiently defined in SBMS implementing documents. Legacy documents for some processes still in use.<br>Requirements Management:<br>• SBMS RODS are completed sufficiently to ensure full conformance with applicable requirements and contractual expectations. Identified gaps are relatively minor.<br>Alignment/Integration:<br>• There is evidence of improvement in alignment with other laboratory process. Continued improvement is needed to improve MS effectiveness. | Awareness:<br>• Awareness of program elements by affected /individuals is inconsistent; major gaps still exist.<br>• Key system responsibilities have been assigned throughout most of the laboratory.<br>• There is evidence that some organizations are fulfilling T&Q requirements.<br>Implementation:<br>• Early stages of system deployment. Minor gaps exist, which impact system effectiveness.<br>• Some functions of the MS are integrated with related/supporting systems and programs, but improvement is needed.<br>Acceptance Indicators:<br>• Feedback on system performance is mixed.<br>• Emerging recognition of, and planning for the resource needs of the management system. | Planning<br>• Planning for system improvement/change occurs only sporadically, usually in response to a near term, specific initiative.<br>Assessment:<br>• Beginning of routine systematic self-assessment process is in place.<br>• Feedback is obtained from internal and external customers.<br>Improvement:<br>• Beginning of improvement process is in place, with prioritization and tracking elements.<br>• High priority improvements and performance measures have been identified and, as appropriate, captured in the Institutional Plan and Critical Outcome Trees. |

| | Definition | Implementation | Planning, Assessment, and Improvement |
|---|---|---|---|
| 3 | Documentation:<br>• Program requirements are defined sufficiently to ensure consistent interpretation and efficient deployment across the laboratory.<br>• Program requirements have been developed and approved and are being maintained through SBMS processes.<br>Requirements Management:<br>• RODs are complete for existing regulations and contractual requirements.<br>• There is an awareness of impact of pending changes to regulatory/contractual requirements. Feedback to regulatory bodies occurs routinely.<br>Alignment/Integration:<br>• Alignment with supporting processes has been largely established, with only minor inconsistencies. | Awareness<br>• Awareness of system elements by affected organizations is adequate.<br>• T&Q requirements are routinely maintained by most organizations.<br>Implementation:<br>• Processes are sufficiently deployed to achieve system objectives.<br>Acceptance Indicators:<br>• Feedback on process performance is generally favorable and includes constructive opportunities for improvement.<br>• There is an understanding of resource requirements and budgeting for the key elements of the system. | Planning<br>• Planning for MS improvement/change occurs regularly and is based on Laboratory near term (1-2 years) initiatives, Critical Outcomes, external drivers and stakeholder input.<br>• Resource needs are part of the planning process.<br>Assessment:<br>• Routine systematic self-assessment process is in place. Assessment activities are based on system objectives, past performance, and customer expectations and feedback.<br>• Self-assessment activities include field observation as well as information from external sources.<br>• Information from self-assessment is included in Lessons Learned activities.<br>Improvement:<br>• Improvement process well established.<br>• Improvement actions are identified and prioritized based on assessment results.<br>• Performance measures are based on system objectives, past performance and customer expectations and feedback. |
| 4 | Documentation:<br>• Major process requirements are fully defined in SBMS.<br>Requirements Management<br>• A process exists for the analyzing the impact of pending changes in regulatory and contractual requirements and preparing for their impact ahead of schedule.<br>• The MS works effectively with SBMS to make changes to documentation as necessary.<br>Alignment/Integration:<br>• High degree of alignment with related laboratory processes has been established. | Awareness:<br>• Awareness of system processes and requirements by depts/divs is good and still improving.<br>• T&Q requirements routinely maintained by all depts./divs.<br>Implementation:<br>• Processes are consistently deployed across the laboratory.<br>• Implementation of the MS functions and their integration with supporting systems/processes has been validated by independent and/or peer review groups.<br>Acceptance Indicators:<br>• Feedback from affected organizations is highly favorable.<br>• Resource requirements for management system operation are routinely captured in the budget cycle. | Planning<br>• Planning for MS improvement/change occurs regularly and is based on Laboratory Institutional initiatives (2-3 years), Critical Outcomes, external drivers and stakeholder input.<br>• Institutional resource needs are part of the planning process.<br>Assessment/Improvement:<br>• MS performance is measurable (quantitatively and/or qualitatively):<br>  • Levels of excellence are generally sustained<br>  • High priority objectives are generally achieved<br>• Improvement actions are effectively, efficiently implemented. Follow-up assessments are routinely performed to verify the effectiveness of implemented corrective and improvement actions. Very few recurring findings. |

| | Definition | Implementation | Planning, Assessment, and Improvement |
|---|---|---|---|
| 5 | Documentation:<br>• All system documentation are routinely reviewed and updated as necessary. No legacy documents exist.<br>Requirements Management:<br>• Analysis of the impact of, and preparation for pending changes in regulatory and contractual requirements is highly effective.<br>• Laboratory staff involved with regulatory bodies, committees in the development of regulatory /contractual requirements.<br>Alignment/Integration:<br>• Any alignment enhancements are considered minor. | Awareness:<br>• Awareness of system requirements and processes is high.<br><br>Implementation:<br>• MS processes fully implemented. Exceptions have minor impact.<br>Acceptance Indicators:<br>• Staff initiates improvements<br>• Affected organizations are proactively involved in the ongoing development of the MS. | Planning<br>• Planning for MS improvement/change occurs regularly and is aligned with Laboratory Strategic initiatives (5+ years), Critical Outcomes, external drivers and stakeholder input.<br>• Institutional resource needs are part of the planning process.<br>Assessment/Improvement:<br>• MS performance is measurable (quantitatively and/or qualitatively):<br>  • Levels of excellence are consistently sustained.<br>  • High priority objectives are consistently achieved. |

## MANAGEMENT SYSTEM EVALUATION GUIDE
### Instructions for Use

This evaluation tool is based on the Baldrige National Quality Award scoring system. The specific statements have been changed to reflect the application to BNL's Standards Based Management System, specifically the Management Systems piece of the SBMS approach. The concept of Approach/Definition, Deployment/Implementation, and Assessment, Operational Performance and Improvement reflect the concepts of Approach, Deployment and Results used by Baldrige Examiners. The Rank bands are also based on Baldrige. The objective is for the team to come to a consensus rank for each criterion. The ranking process must be based on objective evidence, but there is room for incorporating subjective judgment based on team members' experience and collective knowledge of system performance. It is important to capture the Areas for Improvement that will move the MS toward full maturity.

Using this Guide to rank management system maturity:
After reviewing information about the management system as provided by the MS POC in the Information Package and incorporating your knowledge of the MS and the points made in the discussion at the MS Evaluation Workshop, evaluate the system against each of the criteria - Definition, Implementation, and Planning, Assessment, and Improvement.

Each team member should evaluated the MS from the perspective of the system's overall performance at the Laboratory level, based on the information supplied in the Information Package and the POC Presentation at the Evaluation Workshop, as well as their individual knowledge based on experience with the MS and the discussion during the Evaluation Workshop.

Tips on scoring: Rank each criterion separately. For each criterion, review the statements in the Rank 3 box. Suggest using check marks next to the statements that are met, and plus signs (+) if the MS exceeds that statement. If the MS does not meet all the statements in the Rank 3 box, move down to Rank 2 and review those statements, again using check marks and plus signs to indicate degree of fulfillment of each statement. If the MS meets all of the statements in the Rank 3 box, move to the Rank 4 box and review those statements. Work your way through the statements up and down along the scale. Use the Notes column to comment on the reasons for your marks. Review the entire sheet, noting where most of the checks and plusses fall. The Rank box containing the most checks and plusses *should* be the Rank. If the marks straddle two ranks, note the what is not satisfied in the lower Rank (Areas for Improvement), what is satisfied in the higher Rank, and determine a single rank.

The goal is to have the team come to a consensus on the rank for each of the three criteria.
If consensus cannot be reached, be sure to record the reasons why team members would not change their ranks.
If ranks are in adjacent boxes (some in Rank 2 some in Rank 3) the differences are probably minor.
If ranks are farther apart, or scattered across a range, the Evaluation Team needs to understand the differences and identify specific Areas for Improvement.

# MANAGEMENT SYSTEM EVALUATION PROCESS DESCRIPTION

## MANAGEMENT SYSTEM EVALUATION

The Management System Evaluation Process has been designed to assess the maturity of a given Management System, that is, the degree to which they are defined, implemented, evaluated and continuously improved. This approach is consistent with the laboratory's approach to Integrated Safety Management (ISM) and the BNL Institutional Plan. It takes time for a system to be developed and *fully* deployed – the point at which behavioral and performance results are realized. The life cycle of a management system consists of five phases of maturity:

- Development: documentation of policies and procedures
- Implementation: Policies and procedures are put into use
- Verification: Demonstrated wide-spread use and acceptance
- Behavioral Impacts: Change in culture, attitudes, and work habits
- Performance Results: Improved operational performance

Management Systems are evaluated against three criteria: Definition, Implementation, and Planning, Assessment & Improvement. (These criteria have been adapted from the Baldrige National Quality Award methodology for assessing organizational performance.) The Development Phase of system maturity is captured primarily in the Definition criteria; the other phases are captured jointly by the Implementation and Planning, Assessment & Improvement criterion.

## THE MS EVALUATION PROCESS

The steps of the evaluation process are listed below. It is important to understand that there are two key elements to this process.

**First**, the evaluation team needs to include MS Steward/POC and staff as well as laboratory department/division stakeholders. Large facilities and bench top science and technology need to be represented.

**Second,** the MS Steward/POC is to to present information about the MS at the laboratory level. To the extent possible, this information should come from recent past assessments/evaluations of the MS and its processes, including information from management walk-throughs, external assessments/audits, self-assessments, performance data and trends, essentially *any and all* information sources that exist.

This MS Evaluation process was designed to take advantage of the fact that many operations, programs and processes are reviewed in some manner already, and that information can be gathered together and used to assess the Management System as a whole. If there is not enough information to complete the Information Package, the MS Steward/POC may need to conduct some level of review in order to gather the information necessary to develop the Information Package.

Specific MS Evaluation Process Steps:

1) The QP&SO MS SME meets with the MS Steward/POC to discuss the process, outline the requirements, and determine a schedule for conducting the evaluation.

2) Point of Contact (POC) assembles Evaluation Team
   a) 8-12 people
   b) Cross section of stakeholders/affected organizations; facilities, bench top science, supporting organizations.

3) POC distributes an Information Package to Evaluation Team 1-2 weeks prior to the Evaluation Workshop. The package contains the Evaluation Question Set, Evaluation Guide, and other materials the POC feels are relevant to the team members understanding of the MS. A draft of the presentation the POC will make at the Evaluation Workshop should also be included.

4) QP&SO holds a meeting prior to the Evaluation Workshop to explain the evaluation process and the scoring criteria and process to the team members.

5) In preparation for the Evaluation Workshop, Evaluation Team members individually review Information Package, and develop their preliminary scores on the Management System Evaluation Guide.

6) POC conducts Evaluation Workshop, (facilitated) consisting of the following elements:
   a) Introductions/Purpose
   b) Steward/POC makes a presentation about the MS, as well as any other relevant data about the performance of the MS.
   c) Team discusses the information presented as well as their own knowledge of how the MS works and uses the Management System Evaluation Guide to develop a consensus "rank" of the MS, noting strengths and opportunities for improvement. A rank is developed for each criteria - Definition, Implementation, and Planning, Assessment, & Improvement.
   d) The facilitator gathers feedback on the Maturity Evaluation Process

7) A report documenting the process and summarizing the results of the evaluation is prepared by the MS POC and submitted to the MS Steward.

# Worker Safety and Health Management System Evaluation Team

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# WORKER SAFETY AND HEALTH
# MANAGEMENT SYSTEM EVALUATION QUESTION SET

This question set was developed as part of the Management System Maturity Evaluation process. It is designed to work with the Management System Evaluation Guide. The Management System Steward or Point of Contact is to develop responses to these questions and distribute the Information Package to all members of the Evaluation Team for their review before the Evaluation Workshop.

The goal of this question set is to have the MS Stewards/POC create a document that is a summary of the state of the MS – how well it has been defined and implemented, how well it is performing as evidenced through assessments and performance indicators, and how it is being improved. The information needed to answer the questions should already exist. A major objective of this process is to base the MS evaluation on a wide variety of activities that BNL uses at the MS, Process and Department/Division level to monitor and measure performance.

The questions are worded to elicit a descriptive answer, not a simple yes or no. The section on Planning, Assessment and Improvement should provide both a description of assessment and improvement processes and a summary of recent assessment and performance results, and improvements.

Responses should be based on, include, or refer to objective evidence (Qualitative or quantitative information, records or statements of fact, based on observations, measurements or tests, which can be verified.) Examples can also be provided to clarify a response.

## DESCRIPTION OF MANAGEMENT SYSTEM:

A. What is the purpose of the management system (MS)?

BNL's Worker Safety and Health (S&H) Management System was established to assist line and operations management in ensuring that a safe and healthy workplace is provided to all employees, visitors, guests, vendors, and subcontractors of the Laboratory. This management system addresses the identification, evaluation, and control of hazards in the workplace by providing direct technical assistance to those conducting work, including line, facility, and project managers, as well as staff. The objective of the system is to provide processes for identifying and controlling hazards that prevent BNL work-related accidents, injuries, and illnesses involving Laboratory staff, contractors, and visitors.

B. What is the role of the "Owning" organization for the MS?

**Manager, Safety and Health Services Division**
The Manager, Safety and Health Services Division, is responsible for the following: directing and executing the S&H Program; overseeing S&H administration; self-assessments of the Occupational S&H Program; maintaining occupational S&H records including occupational injury and workers compensation information; conducting regulatory analysis; and maintaining standards. The Manager as requested also supports other staff in identifying hazards; evaluating hazards; recommending and implementing hazard controls; maintaining safety-related equipment; and conducting investigations.

**Staff, Safety and Health Services Division**
The Staff of the Safety and Health Services Division (SHSD) provide expert technical support; support Line Managers ES&H Coordinators and Work Control Managers in evaluating hazards; recommend hazard controls; assist in implementing S&H requirements; track and report results of investigations and trends; maintain inventories of certain hazards; conduct regulatory compliance analysis; maintain standards; and interface with Occupational Medicine Clinic.

The SHSD is organized into four major working groups, with program and field services components in each:

- Safety Engineering
- Industrial Hygiene
- Chemical Management System
- Workers Compensation System.

C. What is the role of other Laboratory organizations in deploying the MS?

**Department Chairs/Division Managers**
Department Chairs/Division Managers are responsible for ensuring safe, effective, and compliant operations, and for holding staff and supervisors accountable for performance expectations of safety and health as defined in the Management System, the tenets of Integrated Safety Management System (ISMS) and individual Standards and Subject Areas.

**Staff**
Staff is responsible for conducting work safely and stopping unsafe work. Staff are involved as necessary in the following: directing the program; self-assessments of the occupational S&H Program and of S&H in work areas; identifying hazards; evaluating hazards; recommending and implementing hazard controls; maintaining safety-related equipment; ensuring continued eligibility/authorization to perform work by maintaining appropriate training and certification, conducting investigations;

maintaining inventories of hazards; developing and maintaining S&H standards and guidance documents; and providing potential exposure information to the Occupational Medicine Clinic, which could trigger medical surveillance.

### Immediate Supervisors

Immediate Supervisors are responsible for ensuring that hazard controls are implemented; guaranteeing that staff follow requirements and procedures for safety and health; holding staff accountable for the performance of safety and heaith; self-assessments of S&H in work areas; evaluating hazards; recommending and implementing hazard controls; maintaining safety-related equipment; ensuring staff maintain appropriate training and certification to perform assigned work; and conducting investigations.

Supervisors are involved as necessary in the following: directing the program; maintaining occupational S&H records; participating in injury investigations; identifying hazards; maintaining inventories of hazards; conducting regulatory analysis and maintaining standards; and providing information on workplace hazards to the Occupational Medical Clinic.

### Project Manager/Investigators

Project Managers and Investigators are responsible for ensuring that known hazards are identified and that appropriate controls are implemented; guaranteeing that staff follow the requirements and procedures for safety and health; holding staff accountable for safety and health performance; self-assessments of S&H in work areas; evaluating hazards; recommending and implementing hazard controls; maintaining safety-related equipment; and conducting investigations. They contribute, as necessary, to directing the program; self-assessments of the Occupational S&H Program and of S&H in work areas; conducting evaluations of hazards; recommending and implementing hazard controls; conducting investigations; maintaining inventories of hazards; conducting regulatory analysis; and maintaining standards.

### Facility Managers

Facility Managers are responsible for self-assessments of S&H in work areas; identifying and evaluating hazards; recommending and implementing hazard controls; maintaining safety-related equipment; establishing a mechanism to ensure appropriate qualification of individuals before they're involved in work for their organization; and conducting investigations. They contribute as necessary to the following: self-assessments of the Occupational S&H Program; maintaining occupational S&H records; maintaining inventories of hazards; conducting regulatory analysis; and maintaining standards.

D. Who are the key stakeholders of the MS?

Key stakeholders are BNL employees, visitors, and guests, BNL supervisors and managers, BSA and DOE (BAO, CH and HQ).

E. What resources are used to define and implement the MS?

Overhead funds are provided at the Institutional Level to support staff and programs to define and implement the Management System. Line organizations use overhead and direct funds to implement Management System to provide qualified staff and line organizations' specific systems.

F. What is the MS doing well?

This Management System has well defined and constructed Safety & Health Standards and Subject Areas to ensure comprehensive protection of BNL workers safety & health. In some cases, these Standards and Subject Areas mimic external requirements, while in other areas they provide innovative approaches due to an absence of Nationally Recognized Consensus Standards (NRCS). Upper management is committed to a safe and healthy work environment.

New subject areas are developed with input from line organizations that have direct knowledge of the particular needs of operating units and potential implementation obstacles that might occur. The new documented programs have faced little resistance in implementation at the operating unit level and are often welcomed when they provide targeted, effective guidance. By the very nature of this MS, the subject areas address S&H regulatory drivers that are often complicated, multi-tiered, or written with operations in mind that bear little resemblance to BNL operations. When the WSH MS develops effective guidance to line organizations that ease their compliance efforts and ensure they can operate within regulatory limits while meeting operational needs, the MS succeeds. Many of the WSH subject area satisfy this objective. An example of a success story from this MS is the Lead subject area that has streamlined compliance activities from some organizations and raised the awareness, safety and compliance of other organizations.

G. What aspects of the MS need improvement?

Over the last few years, a significant shift in resources and reorganization of the ESH&Q Directorate has created a situation where there is a significant lack of field deployed Safety & Health professionals when compared to environmental disciplines and radiological protection staff. Without a significant increase in resources or change in resource allocation, correction of this need is difficult. However, Safety & Health Services has maximized their field presence in spite of conflicting priorities.

Specifically, re-alignment of SHSD IH professionals within the Industrial Hygiene Group (IHG) and professionals within the Safety Engineering Group (SEG) has been made to maximize the hours available to support field service activities. For the IHG the personnel assigned to program development, primarily subject area creation, self-assessment, and internal control documentation has been reduced by this emphasis on field service. However, it is felt that adequate staffing (two professionals) is provided to allow completion of the IH Groups development of the MS by close of FY04, which based on the prioritization of subject area development (based on risk) closes the gap in an acceptable time and does not overwhelm the technical writing staff at the SBMS office.

DOE initiatives for external regulations and for expanding PAAA to OSHA compliance have resulted in enhancing the urgency for WSH resource needs. Full compliance with OSHA regulations has identified the needs for additional resources and field deployment of Safety & Health Services Division technical and professional staff.

H. What are the key obstacles that must be overcome to implement and sustain MS performance?

The SHSD organization shares its field presence with Facility Support personnel from RCD and the Environmental professionals from ESD. The IH Group has aligned as much of the personnel resource as possible to increase field presence (3.75 FTE + 2 FTE direct funded), but for effective coverage IHG relies on the RCD personnel for much of the daily interaction with line organizations. The interface between SHSD and RCD continues to be difficult to achieve despite repeated efforts at coordination because of the different core missions of the two organizations. The IHG is exploring mechanisms to increase field presence that reduce the dependence on RCD for IH field presence, such as direct funded IH personnel that report to SHSD as opposed to direct funded RCD representatives or technicians that have peripheral knowledge and accountability for IH services and do not report to IHG or SHSD. The Safety Engineering group is also functioning with minimal staffing. Many of the SEG support functions are relegated to line organizations as the result of resource shifts and realignment over the past few years.

All workers on site regardless of affiliation are stakeholders in this MS. As such, each employee must have a voice in S&H aspects of their jobs consistent with ISMS and our goal to be certified in the OSHA Voluntary Protection Program. Now, there are various strata of workers on site. Some of them have the perspective that S&H rules and regulations are for the other guy and not for them.

**DEFINITION CRITERIA:**

**Documentation**

1. What is the existing and yet to be developed Subject Areas, Program Descriptions, legacy documents to be retired. What is the plan/schedule for producing any remaining documentation?

   The IH Subject Areas in the WSH management system are:

   - Asbestos
   - Beryllium
   - Biohazards in Research
   - Lasers
   - Lead
   - Respiratory Protection
   - Working with Chemicals
   - Bloodborne Pathogens (ESH Standard to be converted to a subject area)
   - Personal Protective Equipment (ESH Standard being converted to subject area)
   - Noise and Hearing Conservation (ESH Standard being converted to subject area)
   - Confined Spaces (ESH Standard being converted to SBMS)
   - Toxic Exhaust System Design (ESH Standard being converted to SBMS)
   - Microwaves and RF ESH (ESH Standard to be converted to a subject area)
   - Sanitation (ESH Standard to be converted to a subject area)
   - Heat Stress (ESH Standard to be converted to a subject area)
   - Pesticides (ESH Standard to be converted to a subject area)

   A similar list exists for Safety Engineering.

   FY03 - Industrial Hygiene Subject Area Development
   Reproductive Hazards (Declaration of Pregnancy (Non-Rad) –1st Qtr
   Noise and Hearing Conservation –2nd Qtr
   Exhaust Ventilation –3rd Qtr
   Bloodborne Pathogens –4th Qtr
   Working with Chemicals –Upgrade –4th Qtr

   FY03 - Safety Engineering Subject Area Development
   Underage Worker Workers –2nd Qtr
   Construction Safety – 4th Qtr
   Lifting Safety –Upgrade –3rd Qtr
   Incident/Accident Investigation –Upgrade – 3rd Qtr
   Electrical Safety (Std) –Upgrade – 1st Qtr
   Lockout/Tagout (Std) –Upgrade – 4th Qtr

FY04 - Industrial Hygiene Subject Area Development
Non-Ionizing Radiation
Heat Stress / Cold Stress
Building Crawl Spaces & Attics
Outdoor Work- Biohazards
Sanitation

2. Describe the overall approach for ensuring MS documentation is kept current (MS Description, Subject Areas, legacy standards and procedures, et. al.)?

Upon receipt the SBMS Office's notification of a revised or newly released document, a Record of Decision is prepared to demonstrate how the newly developed or revised Nationally Recognized Consensus Standards (NRCS) impacts the laboratory program. In addition, the ROD documents, Standards & Subject Areas should remain evergreen because Subject Matter Experts (SA POC's) attest that they meet the letter and or intent of the current NRCS periodically

SHSD program managers conduct periodic reviews of their programs and subject areas. Part of these reviews is a literature search and review of regulatory drivers and consensus standards. Under current staffing levels, each area is reviewed on a three to five year basis depending on inherent risk of the hazards controlled. Some subject areas have mandatory drivers requiring annual review, and these are examined annually- Lockout/Tagout, Respiratory Protection, Noise and Hearing Conservation, HEPA, Chemical Use, and Permitted Confined Space Entries.

Requirements Management

3. Provide a status of Records of Decision (RODS) applicable to this MS
   - Have all RODS been completed?
   - How many remain to be completed?
   - What is the plan/schedule for completing these?[1]
   - How confident is the MS steward of the completeness of the ROD's?

Worker Safety and Health Management System ROD's are completed.

4. Describe the process (if any) for analyzing the impact of pending changes in requirements, preparing for these changes in advance, and incorporating the changes into MS documentation. What level of proactive "impact analysis" exists in understanding and preparing for pending changes?

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[1] If the MS is not affected by ROD's, indicate how the MS is made aware of changes to external requirements. An example is the Acquisition Management System (AMS) where the external driver is the Prime Contract, not agency orders. Contract modifications are not captured in the ROD process; however, the AMS has a process for learning about and analyzing the impact of pending contract mods.
[3]Include assessment and operational results of the processes and functions within the MS.

SHSD program managers conduct an annual review of the regulatory drivers for the key programs. Part of that review is tracking of proposed regulatory driver changes or creation. Key SHSD professional staff also monitors internet "bulletin boards", are monitor H&S internet discussion group, and are members of DOE program manager groups that track regulatory agency efforts on drivers. Additionally, SHSD professional staff attends professional conferences, and meetings as well as professional development courses. All of these activities serve to keep staff knowledgeable of pending changes to requirements.

The ROD process is responsible for ensuring that BNL documents meet current Safety & Health standards. The ROD process involves the Subject Matter POC and parsed experts in the review process and they make a determination with regard to laboratory impact.

Alignment

5. Describe how the requirements of this MS are aligned with supporting/related management systems and processes.

Most SHSD subject areas are heavily aligned with the Work Planning and Control Integrated Assessment and OMC processes IH/SE Group subject areas have established link to contact SHSD service providers for recognition and evaluation & analysis of hazards.

- Describe any areas that are not aligned. For example, elements of alignment include but are not limited to the identification and establishment of roles and responsibilities (R2A2 Process), training and qualification needs (T&Q MS).
- What is the relationship of the MS with other MS and Laboratory Programs, for example Inputs and Outputs as delineated in the MS Description.

There are significant links between many of the MS' (e.g., Worker Safety & Health; Work Planning and Control; Facility Safety; Occupational Medicine; Training and Qualification; Emergency Preparedness; Emergency Response; and Integrated Assessment Program). Often impact in any of these areas affects the others.

## IMPLEMENTATION CRITERIA

Awareness

6. Are responsibilities and accountabilities for key system requirements being carried out as required throughout Laboratory departments and divisions (depts/divs)? Yes.
   - How do you know?

Participation and feedback in Extensive field Assessments, ERE's, Tier 1's, and Site Tours.

After the development of a new subject area, SHSD IHG/SEG typically targets that subject for a Self Assessment of the program and line implementation within a year of adoption. This has been done for Electrical Safety, Operational Readiness Evaluations, Lead, Beryllium, Respiratory Protection and OSHA Regulated Chemical use. Assessments are planned to measure the effectiveness of the new subject area. Other assessments have been done to measure the effectiveness of BNL programs under the legacy ESH Standards and these assessments have been used to highlight the needed additions/modification when Subject Area Development occurs. This is the case for Biohazards, Confined Spaces and Exhaust Ventilation.

This type of horizontal self-assessment has revealed instances where system requirements have not been uniformly completed lab-wide. An example is the annual updating of Beryllium Use Review Forms by line organizations. The SHSD assessment determined that this SBMS requirement was not being uniformly accomplished at the site. Mechanisms have been established to prevent future occurrences.

7. What responsibilities are not yet assigned and what are the plans for designating the responsibility? In the interim, how is the system meeting these requirements?

The ownership of the remaining Subject Areas that are being developed or planned have been assigned to the Group Leaders, and have assigned to the appropriate SME. Because the development of the remaining subject areas is scheduled for over two years, the actual person who will conduct the development may change, but the ownership is tracked in the IH/SE professional goals and the goals are updated when personnel assignments change.

Responsibilities are well defined in the text of the Subject Areas and Standards. For MS,. the POC and the System Stewart are responsible to ensure definition and communication of those responsibilities.

8. What methods of communication does the MS Steward use to ensure awareness of the responsible individuals in the Depts/Divs?

Various methods are used to ensure communication of responsibilities including various forms of training and dissemination of the SBMS Subject Areas and Standards. A number of forums have been established to ensure these responsibilities are understood (e.g., ES&H Coordinator Meetings, Work Control Coordinator meetings, Building Manager meetings, Chemical Safety Advisory Group meetings, emails and workshops).

- How is the effectiveness of these communication methods gauged?

The effectiveness is gauged via the information exchange processes above, discussions and e-mails.

9. How are the T&Q requirements defined and maintained by affected employees and contractors?

WSH MS subject areas each address both regulatory drivers and best management practice driven worker training and qualification. New or existing training courses are revised to be compliant with the subject area and re linked to the subject area.

- Are the requirements of MS processes (appropriate job functions) included in Job Training Analyses (JTA)?

IH/SE practitioners who provide identification, evaluation and control consultation to line organizations are trained and qualified to deliver quality service and this qualification is tracked in the OTQ JTA system.

Implementation/Integration

10. Describe the extent to which the processes/activities of the management system are being carried out according to system requirements/subject areas.

The WSH MS is one of the largest management systems with many subject areas covering many types of hazards and many different line organizations with varied missions. Extensive effort has been extended by the SHSD staff to update the policies and implementation guidance to line organizations in the form of SBMS Subject Areas and/or to make sure that the existing standards are current with requirements. The transition from ESH Standards to subject area is proceeding and as the individual components are brought on-line, the operation and interaction of various elements becomes smoother and more natural. SHSD management is pleased with the general acceptance and implementation of the subject area requirements and guidance by line organizations.

- What are the specific issues preventing depts/divs from working within the MS?

Not all elements of the WSH MS have been converted into SBMS Subject Areas. Certain topics have old guidance or policy documents that need to be replaced and their guidance may not match the current processes in place at the Lab. New subject areas are scheduled to be written to enhance line implantation of regulatory drivers and /or recognized hazards.

A good example of this is Indoor Air Quality investigations. At present, in the absence of regulatory drivers, BNL development of guidance on this subject has not been given a high priority. However, major investigations now suffer from a lack of a coherent

project plan that identifies responsibilities for the investigation and corrective actions. The new IAQ subject area that is nearing approval by management will do a great deal to establishing effective response to employee concerns.

Another example is Heat Stress. Over the last three years, BNL has involved a state-of-the-art Heat Stress notification system that has been effectively rolled out for BNL line organizations, demonstrated at a national exhibition, and shared with other DOE facilities and nongovernmental entities. The new system is functioning well, but is not documented in the WSH MS. Instead, an out of date ESH standard is documented in SBMS. That Standard contains an appropriate hazard description, but much of the description of notification system is out of date. That subject area needs replacement but will not be developed until the 1st quarter of FY04 due to higher priorities, limited SME development time, and the limited number of subject area developments that the SBMS office can support at any one time.

On the positive side, because of the effective transition of ESH 1.3.5 and 1.3.6 into the Work Planning and Control subject area with increased emphasis in that document of hazard identification and evaluation, many potential problems with the WSH MS are eliminated. Because there is an ever-stronger work-planning program in place, new WSH subject area need only interface with that MS to direct the hazard evaluation mechanism.

Some organizations claim directives are cumbersome and impede production/work without significant increase in safety & health for workers.

- What are the plans for improving implementation?

Within the resource capabilities of both SHSD program teams and the SBMS technical writing teams, a risk based priority schedule of creation/conversion of SBMS subject area requirement/guidance documents has been performed. High hazard issues have been completed. Mid-level hazard documentation development is now well underway and four are awaiting site review and adoption. When missing documentation or gaps are completed, areas that currently have weak guidance will be corrected. This will occur in FY03 and FY04 and includes Bloodborne Pathogen, Heat Stress, and Sanitation.

Worker assistance in the development of these regulations would facilitate worker buy-in for the document. This is a component of the ISMS and VPP programs.

SHSD and line organization involvement in the SBMS development process is significant. SHSD is working to develop implementation tools for the line organization. Examples include CMS PDA for performing chemical inventories and a new/revised OSMIS Database.

11. How has the implementation of the MS been validated?

SHSD has conducted WSH topic targeted self-assessments and independent organizations have conducted selected assessment of BNL operations. Examples of internal and external assessments that have looked at implementation of the WSH MS include: Electrical Safety, Workers Compensation, Operational Readiness Evaluation, Construction Safety, Beryllium, Noise and Hearing Conservation, OSHA Regulated Chemicals, Respiratory Protection, Etiologic Agents, Lead, and Confined Spaces. These assessment tend to agree that line management has adopted and incorporated the WSH MS and its subject areas into the mode of operation.

- How confident can the Lab be with the results?

Recent external assessments tend to find less programmatic issues and isolated cases of implementation lapses. As the MS becomes more ingrained in daily operations, the number of instances of no compliance is becoming smaller. A good example of this is the use of etiologic agent. Before the creation of the subject area, a lab wide program did not exist. SHSD in conjunction with Life Sciences Directorate lead the development of a site wide Subject Area. SHSD conducted a self-assessment that helped identify elements for inclusion in the Subject Area and implementation gaps. An external, independent assessment of the program occurred soon after the subject area and internal assessment were completed and found the BNL program to be operating acceptably.

- Does the MS and its processes interact effectively with related/supporting MS and processes?

Yes, but often issues arise from lack of communication.

- Describe areas that work well, those that need improvement.

Former Standards ESH 1.3.5 and 1.3.6 have been converted into the Work Planning and Control subject area and that document matches well with new SHSD subject areas to link the delivery of services for hazard identification and evaluation.
New WSH MS subject areas effectively use the OT&Q BTMS and JTA mechanisms to ensure regulatory training requirements are met

Acceptance Indicators

12. Describe the processes for periodically seeking feedback from stakeholders.

WSH subject areas provide links to the SME in Section Steps as well as the POC line for direct feedback and one-on-one discussions. Examples are Lead, Asbestos, and Respiratory Protection. In addition, a SHSD self-assessment typically includes

interviews with workers, particularly true in the Confined Space Cancelled Permit reviews.

13. Summarize the feedback received about the system requirements and operation - from customers and other stakeholders.

During the ISM verification, WSH (identified in ISM as Occupational Safety and Health) received no findings or areas for improvement. BAO reduction of independent assessments represents a clear recognition of effectiveness of the WSH. Input on the system's day-to-day effectiveness is obtained informally through SHSD staff's s interactions with ESH Coordinators and line personnel. In addition, input/comments can be submitted thorough the SHSD web pages, and at ESH Coordinator meetings.

Customer surveys are used to obtain periodic feedback. Within the 3rd Quarter of FY03, the IH Group has plans to begin submitting short task specific "quality of service" questionnaires to its customers of services. This has been tested internally and will be operational by July 1, 2003.

14. Is unsolicited feedback received, and through what channels?

One-on-one meetings with BNL and DOE Stakeholders, emails, and telephone calls are the key mechanisms for unsolicited feedback. Additionally, feedback is also received from group meetings such as ESH Coordinators Meetings, Management Council, Extended Operations Council, Safety explicative presentations, SBMS and Steering Committee.

The same mechanisms as listed in question 14 are used.

Unsolicited feedback is obtained through various means (Work Permit form, ES&H Coordinator meetings, Worker Safety Council, Chemical Safety Advisory Group, and the Management Council.

Clear positive feedback via requests from line management to conduct/assist in their self-assessments, notes of appreciation, and stakeholders' recommendations for WSH owning staff to receive BNL awards.

15. Provide examples where stakeholders have provided recommendations for improvement and describe the involvement of stakeholders in initiating improvements.

(1) The Working with Chemicals subject area requirements on OSHA Regulated Chemicals (ORC) was put to the test during an OSHA compliance inspection. Prior to the inspection, SHSD had conducted a Technical Basis Document evaluation of ORC use at BNL. Use of ORC was reduced as the result of this

special attention by line organizations to nearly 90% reduction in types of material with a similar nearly 90% reduction in number of containers. That information was provided to the OSHA personnel. The findings of the OSHA inspection corroborated and expanded the SHSD findings, and prompted a second program improvement by SHSD and line organizations. The result of these two special emphasis programs has now positioned the Lab to have only one remaining use of ORC (that one use has no alternative). In the process of this effort, many organizations developed and shared alternative products that assisted in this dramatic reduction in hazard.

(2) The Biosafety in Research subject area and a concurrent Implementation Plan for N450.7 were joint efforts of the Life Sciences Directorate (LSD) and SHSD. This subject area expanded many existing processes and mechanisms that LSD and its IBC had in place and shared them with other BNL users of these types of hazards. The SHSD SME's enhanced the awareness of newly changing regulatory drivers and the resulting collaborative effort resulted in a comprehensive and regulatory compliant subject area being brought on-line in a short period of time and in time to be instrumental in BNL meeting new CDC and USDA reporting deadlines.

## PLANNING, ASSESSMENT AND IMPROVEMENT CRITERIA

Planning

16. How are improvement actions identified and prioritized (risks as well as positive impacts)?

The IHG has a strategic plan that outlines its components in the WSH MS subject area development. That plan maps the creation and revisions of subject areas and elimination of legacy documents. The priority is based on available existing legacy documents, risk of hazards, and degree of regulatory requirements. The subject areas developed to date have had external assessment actions, immediate regulatory compliance gaps, or high risks. Those subject areas under development in FY02 and those under development in FY03 have mid level priority. The remaining subject areas targeted for FY04 have the lowest risk or have existing legacy documents in full compliance. A similar but less formal approach exists for SEG.

- How are these plans aligned with Laboratory vision, mission, strategies and initiatives?

Based on the very nature that WSH subject areas pertain to a key health or safety hazards, they align directly with one of the main Laboratory visions, i.e. developing world-class research in a manner that is safe for workers and the environment. Every WSH subject area positively affects this vision and assists the Lab in reaching these goals.

- How have stakeholders' input been considered in the planning process?

Line organizations are participants in the development teams and each document is developed until a consensus is reached. Additionally, the SBMS Steering Committee provides input and comments before approval of new and revised Subject Areas. With regard to Assessments, BAO Team members participate in both scoping and deployment phases.

17. How are high priority improvements incorporated as appropriate into strategic plans, the Institutional Plan, and Critical Outcomes?

Division Manager provides input to Institutional Plan and BSA Contract Performance Measure. Many Worker Safety & Health Issues are short-term issues, thereby requiring actions immediately.

At the group level, the high priority WSH MS subject areas have been prioritized and are part of the IHG strategic plan. That plans broadly defines and tracks the schedule and resources for self-assessment and subject area development. Because the resources available for Subject Area development are small, the strategic plan's main functions the tracking of the progress on the development. Addition of staff to close the gap sooner is not on the horizon. The emphasis on field deployment is in direct conflict with placing staff emphasis on MS development, and SHSD senior management is involved in the decision of allocation of all staff.

18. How are the resource requirements of this MS incorporated into the budgeting process for line organizations?

Most WSH subject areas involve some degree of recognition and evaluation of hazard. In some cases, the evaluation requires the expertise of ESH professionals that are linked to in the subject area. Often, the evaluation requires analytical or instrumentation that is provided by overhead ESH organizations. However, some cost may need to be passed on to the line organization requiring the analysis. This MS and its subject area do not directly interface with the individual line organization's budgeting process, but internal mechanisms in SHSD provide past years trending data for line organizations to project costs. Some cost are borne by the SHSD and passed to the Laboratory via the SHSD's overhead mechanisms. This is true of most instrument calibration costs. A small percentage of analysis can be recovered from the BNL general liability insurance carrier.

Based Budget for staff and other resources at the line levels are drawn by the line organization and the ADS process.

Assessment

19. Describe the process for assessing MS performance - consider the following:

- PLANNING
  - How is the scope of assessments developed?

SHSD Self-Assessment Plan identifies the Management System components that will be evaluated each year. The selection of program elements for assessing is based upon risk and exposure. The FY03 Self-Assessment Plan (Attachment #1) lists the assessments of 2003. The FY02 Self-Evaluation (Attachment #2) documents Safety & Health Services performance on the FY02 Self-Assessment Plan.

SHSD subject matter experts leading the assessment conduct a scoping meeting with SHSD senior management and the DOE counterpart. During this meeting, the regulatory drivers are defined, organizations covered by the drivers are identified, and then a sampling strategy for field compliance inspection is set.

  - Are assessments based on high priority system objectives and past performance? If not, what are they based on?

A certain number of annual assessments are mandated by regulatory drivers and they tend to be for the highest hazards. For example, the SHSD is tracking 100% completion of these for the last three years. The SHSD attempts to conduct two to four other horizontal self assessment each year and these are targeted for the remaining high hazards, new or recently changed regulatory drivers, or topics that have not received an assessment.

  - How frequently are they performed?

Annually for regulatory driven assessment. The balance of the 11 IH main subject areas are scheduled for a 3-year cycle, although during the subject area development period, until the MS is mature, some topics of the lowest hazard will be on a five-year cycle. A similar strategy is used for Safety Engineering elements.

  - Describe "ongoing" and "focused" assessment activities.

The ongoing assessments are HEPA Filter surveillance, Respiratory Protection, Chemical Hygiene, Noise and Hearing Conservation, Beryllium, and Confined Space Cancelled Permit. For many of these assessments, each year a certain horizontal or vertical program element is examined. For example, in recent years the Respiratory Protection assessment has targeted a unique element each year: selection of equipment, fit testing, issuing, or training.

- What are the qualifications of those performing the assessments?

The IHG assessments are conducted by the Program section of the IHG and lead by an ABIH Certified Industrial Hygienist. The CIH is typically the recognized SME on the topic.

SEG assessments are conducted by the designated Subject Matter Expert for that topic. A number of nationally recognized certifications are held by members of the SEG including Certified Safety Professional and Professional Engineer.

- What external assessment information is obtained? From who? How?

BAO, CDC, NIH have recently assessed one or more of the WSH SHSD topics. The reports of these assessments in transferred into ATS actions that are tracked to closure and programmatic improvements are made based on the actions of these external reviewers.

- CONDUCT
  - Describe the assessment approaches (document review, field observations, interviews).

SHSD assessments follow a written project plan with WBS steps, assigned responsible parties, and intermediate and project due dates. The assessments follow the format of:

(a) Scoping meeting,
(b) Review of regulatory drivers and compilation of program and field I implementation checklists,
(c) Review of the written program,
(d) Field observations of implementation by line organizations,
(e) Creation of a draft report for assessment team consensus,
(f) Distribution and review of factual accuracy draft to the line organizations reviewed,
(g) Creation of a final report incorporating the comments of all parties,
(h) Distribution of a draft corrective action plan (CAP) to the line organizations reviewed,
(i) Finalization of the corrective action plan,
(j) Creation of ATS actions to address the CAP, and
(k) Tracking of the ATS items to closure.

- How is benchmarking or external comparative analysis performed, if appropriate?

The SHSD staff participates in EFCOG IH/SE Subgroups where past bench marking and compensation analyses have included response to N450.7, Be Program, Performance Measures, etc.
OSHA compliance costs were generated for SC Labs as part of DOE exercise to determine estimated costs for full OSHA and NRC compliance.

MS performance is measured through self-assessment activities, Technical Basis Document creation, and other mechanisms. Several recent activities have been done that included comparison of BNL operations to other DOE organizations. BNL recently completed a TBD analysis of its beryllium program in which BNL operations were bench marked to other DOE sites. BNL is currently assisting BAO in conducting a questionnaire on HEPA Filter QA testing which is scaling BNL filter use to other DOE sites.

Benchmarking is also done on an on-going basis by SHSD participation in EFCOG groups such as the Chemical Safety and Respiratory Protection Program Administrator group. Occupational Safety Industrial Hygiene/Industrial Safety Engineering Sub Group. In addition, SEG participates in the various DOE Industrial Safety Programs like Electrical Safety, Firearms Safety, Material Handling and the EEOICPA.

- How are assessment results documented and communicated?

Draft and formal Assessment Reports and Corrective Action Plan are prepared, and circulated for review to BNL senior management and affected line managements Their inputs and comments are incorporated into the final version. This distribution usually includes Level II managers, ESH Coordinators, and individual's interviewed/contacted during the field review phase of the assessment.

- ANALYSIS OF RESULTS
  - How is assessment results analyzed?

The conditions observed are compared to regulatory driver or internal best management practice criteria. Non-conformance is noted in the Assessment report and gap closure mechanisms are identified, implemented, and tracked in the Corrective Action Plan.

- IMPROVEMENT ACTION MANAGEMENT
  - How are improvement actions tracked to closure?

BNL corporate ATS when BAO collaborates or observed and/or the corrective action is external to the division and in the SHSD family ATS when performed independently by SHSD and corrective actions are limited to SHSD.

- What follow-up mechanisms are used to insure improvements are effective?

  ATS and FATS tracking to closure. Action items are closed by the action owner. Validation by the condition owner is required. Feedback from BAO line organization and SME provide information on the effectiveness of actions.

- How is information from assessments shared - lessons learned activity?

When an assessment finding represents a site wide condition or multi-organization condition, the corrective action plan is expanded to effect a site wide correction. Distribution of the report and the corrective action plan includes the Deputy of Operations, ALD and Level II Managers of all affected organization units. This information is also shared with the Lessons Learned Coordinator.

**Operational Performance**

20. What trends are evident, based on assessment results?

Recent program assessments have shown that ownership of hazards and their control has been accepted by line organizations. The results show an ever-increasing involvement of ESH professionals on a consulting basis in the work planning and control process. Recent improvements in the BNL WSH written program (i.e. subject area requirements), have led to increased compliance, especially evident in the more mature WSH subject areas like lead and asbestos. The BNL safety philosophy is understood by most workers. Self-Assessments find issues that are typical of mature safety & health programs. Field presence hours, chemical terminations, transfers, deletions, inventory, peroxide chemicals, injury/illness statistics show trends that are related to assessment results.
Are there any Critical Outcomes related to this MS?

Yes. OSHA Reportable Injury and Chemical Safety Management Performance Measures relate to this MS.

- If so, what is the performance against those Critical Outcomes?

FY02 Performance results: OSHA Reportable Injury – Excellent
Chemical Terminations – Outstanding
Chemical Safety Management - Excellent

The FY99 to FY02 CO's relating to Chemical Management have been eliminated in the FY03 contract. They are still tracked at a Division level. See #23.

The FY03 Contract Performance Measure is below:

**FY03 PERFORMANCE MEASURE**

3.3.2.2 OSHA Reportable Injury Management

The weight for this Measure is 0%.

**Background:**

Although BSA/BNL successfully met the BSA Contract Off-Ramp provision in FY 2000, the Laboratory's performance in this measure has been deteriorating. The FY 03 incentive is aimed to ensure that BNL works to regain and sustain the 2000 performance (i.e., DOE Research Contractor Average Lost Workday Case Rate (LWCR).

BNL will seek to achieve excellence in worker safety and health protection. In the area of Occupational Safety and Health BNL will seek to improve the following reportable rate:

Lost Workday Case Rate (LWCR)

Where: $\text{LWCR (per 100 FTEs)} = \frac{\text{Number of Lost Workday Cases} \times 200{,}000}{\text{Total Hours Worked}}$

For FY 2003, BNL's LWCR will improve to within 40% of the DOE Research Contractor Average for CY2002 (Ex., If DOE Research Contractor LWCR Average for CY2002 is 1.0, BNL must improve its LWCR performance to below 1.4). The DOE Research Contractor Average will be the data reported in the CAIRS Table S3 (http://tis.eh.doe.gov/cairs/cairs/summary/main.html) for the period of January to December 2002. The BNL performance value is calculated from the BNL Occupational Safety Management Information System (OSMIS) Database and will represent the 12 months of FY 2003 data.

**Performance Incentive**

BNL LWCR for FY03 must improve to within 40% of the DOE Research Contractor Average for CY2002. A penalty of $1K will be assessed to available fee for every 1% (of the DOE Research Contractor Average for CY 2002) increment in the BNL LWCR above 140% of the DOE Research Contractor Average for CY2002. (Ex., If the BNL LWCR is 159% of the DOE Research Contractor Average, a penalty of $19K will be assessed.) This penalty will be capped at $100K.

21. What core indicators are used to gauge the system's effectiveness, efficiency, and productivity?

DOE/BAO Oversight; BNL Line organization; Performance Measures; Customer Feedback/Survey

- How is the system performing against those indicators?

The system is showing increased confidence and trust from stakeholders. BAO reduced oversight and BNL organizations increased funding of SHSD resources.

Quality of services is a key driver for the SHSD. SHSD programs are routinely compared to QA drivers such as N-QA-1 and consensus standards on performance such as N-509 and N-510 for HEPA filter surveillance testing. The long range goal of the SHSD is full documentation of the mechanisms for the services provided, including: comprehensive instrument calibration, valid Chain of Custody, defensible principles of sampling, accurate operation of instrumentation, standardized documentation of analysis, and secure recordkeeping. To achieve these goals to all customers, a practitioner qualification program is underway. SHSD has a project plan that tracks this development effort and is on track to completion of the program on schedule.

Safety is the key driver for 100% of SBMS subject areas and SOP's developed for SHSD operations contain an analysis of the hazard of the operation, hazard of areas the hazard is likely to occur in, and protective measures required of the personnel performing the operation covered by the SOP.

Environmental Protection is a key driver for the SHSD. 100% of SBMS Subject Areas and SOP's developed for SHSD operations contain an analysis of the release to the environment and waste minimization and/or appropriate waste disposal requirement.

One measure tracked by SEG is the LWCR as defined in the BSA contract. This is an often-cited measure used to determine effectiveness of the safety philosophy.

22. What indicators are used to gauge customer satisfaction?

CMS Working Group; ESH Coordinators Meeting; Customer Feedback/Surveys

Several WSH subject areas provide links to the SME in Section Steps as well as the POC line. Input on the system's effectiveness is informally obtained through SHSD Service representative's interactions with ESH Coordinators and line personnel. Positive and negative comments are addressed as both indicate that customers are active in the subject area.

- How does the system perform against those indicators?

The increasing success of the direct funded IH Service Representatives is an indicator that internal customers positively recognize the quality of services delivered by the SHSD IHG.

Solicitation of worker level feedback is key. The IBEW Union has been engaged to facilitate their buy-in and assist in the improvement of the program.

**Improvement**

23. What significant improvements to the MS have been accomplished?

Portions of the SEG and the IHG components of the WSH MS are still under development because there are remaining subject areas to be created. Eighty-eight percent (88%) of ES&H Legacy documents have been converted to SBMS Subject Areas. Most t existing subject areas have not been revisited for improvement. However, a main WSH subject area, Working with Chemicals, is currently under revision to improve its regulatory compliance. Visible Upper Management support is becoming evident through a number of mechanisms including the Safety Awareness Day, DuPont Safety Benchmarking Program, the SIT, and the Worker Safety Council.

A new tool to evaluate line management's implementation of the WSH MS has been developed. The Worker Safety and Health Required Assessment Aid (Attachment #3) will provide bi-annual or annual feedback from each line organization.

24. What do you hope to accomplish in the near future (3-5 years) to improve the overall "maturity" of the MS?

All Worker Safety & Health Subject Areas will be drafted with development team consensus by the end of FY04. They should all be adopted and in place by mid FY05, which is 2.5 years from this writing. The balance of this 5-year period will involve review of the earlier subject areas to determine if improvements are needed. At the beginning of FY04, the SHSD program personnel will devote more time to self-assessments, particularly vertical assessment that will drive the completion of SHSD internal control documents that guide the IH Service Representative in field activities. This will include review of SHSD program SOP's that document elements of site wide and SHSD level activities that are not captured in subject areas.

Complete revision of the legacy document to the SBMS Subject Area format and continue to improve communication of requirements therein.

Safety is an individual and corporate value and site-wide acceptance that accidents are preventable. As cited in various presentations, "Working Safely is a condition of employment".

A recent Safety Leadership Workshop established a two-year goal for enhancing BNL safety program to a level of "excellent".

It is anticipated that the BNL Safety Program will reach a level of excellence through a vision and commitment that "Accidents are Preventable" and a goal of zero.

Attachment 1

BROOKHAVEN
NATIONAL LABORATORY

# Safety and Health Services Division

## SHSD Self-Assessment Plan

## FY03

Prepared By: Richard Travers 4/4/03
Date

Approved By: [signature] 4/7/03
Date

4/4/03

## Objective & Methodology:

The objective of this document is to describe Safety and Health Services Division's self-assessment program for fiscal year 2003. Implementation, documentation and management concepts associated with the Self-Assessment Program are included. A primary goal of the program is to critically monitor the effectiveness, efficiency and adequacy of Safety and Health Services' organizational processes along with progress on improvement projects. The approach of the SHSD Self-Assessment Program includes both vertical and horizontal components:

- *Vertical* (within the scope of Safety and Health Services Division (SHSD) line responsibilities)
- *Horizontal* (across all BNL organizations with operations that have occupational health and safety and facility safety responsibilities)

This self-assessment plan addresses each of the following performance categories as defined by the Assessment Planning Criteria framework in the BNL Assessment Program:

1. Leadership Commitments and Involvement.
2. Human Resource Development and Management
3. Customer Focus and Satisfaction
4. Process Management.
5. Business and Operational Results.
6. Compliance with Laws, Regulations, and Contractual Requirements

### Vertical Assessments

Division level self-assessment activities have been strengthened in FY03. New initiatives and continuing programs include:

- Bi-weekly walk-through self inspections of the SHSD laboratories
- Bi-weekly testing of the emergency eyewash station
- Quarterly employee/management interviews in the Industrial Hygiene group
- SME standard operating procedure development and practitioner qualification. Topics this year included Local Exhaust Ventilation testing, HEPA Surveillance testing, and Surface Wipe testing.

### Horizontal Assessments

In addition to activities required and measured by the DOE/BSA contract, additional assessments were developed to monitor SHSD programs based on the following criteria: important program areas; program areas in need of strengthening; areas where corrective actions had previously been implemented; new programs which had never been assessed.

Fiscal year 2003 (FY03) assessments continue to place more emphasis on driving behavior that will support a future comprehensive compliance audit, as compared to previous assessments, which focused more towards program development and implementation.

Assessments identified in the ESH&Q Directorate Level Plan are not repeated in this Division Level Plan. In order to ensure workers health and safety and facility safety concerns are assessed Laboratory-wide, SHSD recommends that line organizations incorporate the following assessment areas into their own Division/Department Self-Assessment Plans, as appropriate:

- Interlock Protection Programs
- Operational Readiness Evaluations
- Contractor Vendor Training
- Beryllium Use Reviews
- Confined Space Permits

These assessments and Workers Health and Safety, and Facility Safety related SBMS Subject Areas should be tracked in their Family Assessment Tracking System (FATS). Many evaluations of the Laboratory's occupational health and safety and facility safety performance are included as part of established, on-going programs (e.g., annual reviews and updates of the BNL occupational health and safety and facility safety hazard assessment and monitoring programs, as required by DOE Order 440.1A). In addition, the ESH&Q's Office of Independent Oversight, along with oversight inspections by DOE-BAO, Chicago and Headquarters, periodically conduct independent assessments.

SHSD will support its BAO counterparts in determining the scope of independent assessment activities and in participating in the field phase of their independent assessment. During FY03, BAO will not conduct any independent assessments.

No collaborative assessments are identified in the DOE/BAO FY03 ES&H Assessment Plan that directly involve SHSD participation. However, there are five key assessments in which BAO will participate as observers and part of the assessment planning and implementation review teams:

1. Interlock Protection Programs
2. Operational Readiness Evaluations
3. Contractor Vendor Training
4. Beryllium
5. Ergonomics

Finally, there are several annual assessments that SHSD will perform for compliance with programmatic requirements:

1. Respiratory Protection
2. Noise & Hearing Conservation
3. Cancelled Confined Space Permit
4. Lock out – Tagout
5. Firearms Safety

6. Tier 1 inspection program

Specific assessment activities are identified in a matrix format on Attachment 1 and include a unique SHSD Self-Assessment tracking number. These activities will be tracked in SHSD FATS. The assessment matrix is organized or linked to the following prioritization/categorization levels:

- BSA/DOE Contract Performance Measure - Assessments in this category are grouped according to their respective Critical Outcome Objective and are identified with the corresponding Performance Measure number.
- Compliance related assessments – Assessments are linked to a specific compliance program
- Program Maintenance/Improvement Initiatives – Assessments relate to general SHSD deliverables, requirements and programs, such as SBMS Subject Area development.

All assessments are identified in Attachment #1 and are linked to Critical Outcome Performance Measures and Baldrige Criteria. This plan is designed to meet the requirements of the Integrated Assessment Program (IAP) and its evaluation criteria:

**Assessment Criterions:**
Criterion # 1: SHSD performance objectives must be linked to the IAP and BNL Critical Outcomes.
Criterion # 2: SHSD assessment activities must be conducted and be on schedule.
Criterion # 3: SHSD Level 2 manager must be involved.
Criterion # 4: Self-Assessment plan must identify and assign support responsibilities.

**Responsibilities:**
The SHSD Division Manager provides leadership for implementing the following self-assessment activities within the Division and Laboratory-wide. Specifically, these responsibilities are:

- Ensuring that an SHSD Self-Assessment Program is in place, and that self-assessment plans are prepared, documented and implemented within the Division in a timely manner.
- Ensuring assessments and corrective actions are tracked in the ATS or SHSD FATS, as appropriate.
- Ensuring that the R2A2's and individual performance goals of direct reports reflect expectations regarding self-assessments and are aligned with achieving organizational and institutional objectives and measures.
- Ensuring that systems, processes, guidance, tools, and expert support are provided as necessary to Laboratory Departments/Divisions to support the performance of organizational assessment activities.
- Planning and implementing management system assessments, for which the SHSD Manager is the point of contact, to ensure the system procedures (e.g. subject areas,

ESH Standards etc.) are being implemented as expected, are achieving desired results, and are continually improved.

- Reporting results of self-assessment activities that may have Directorate and Lab level implications at regularly scheduled Management Team meetings. Lessons Learned from SHSD will be used for SHSD and BNL improvement and will be communicated to the Office of Independent Oversight's Lessons Learned Coordinator.
- Ensuring that the annual Self Evaluation Presentation is presented in a timely manner.
- Developing the Self-Assessment Plan by interacting with the applicable SME's and program managers.
- Obtaining DOE-BAO input to the Self-Assessment Plan and keeping BAO informed as to the status of the Self-Assessment activities.

**The SHSD Self-Assessment Coordinator has the following responsibilities:**

- Verifying the entry of activity schedules into ATS and SHSD FATS.
- Tracking implementation of the Self-Assessment Plan and providing quarterly status reports to the SHSD Manager.
- Maintaining this SHSD assessment program document.
- Managing any corrective and improvement actions identified through assessment activities.
- Coordinating the development of the end of the year SHSD Self-Evaluation.

**SHSD Group Leaders, Program Managers and/or SME's have the following responsibilities:**

- Providing input to Self-Assessment Plan
- Performing and documenting assessments in accordance with schedule.
- Participating in assessments led by others, as appropriate.
- Evaluating assessment results, recommending corrective actions and presenting the assessment results to the SHSD Management Team.
- Entering status and assessment results/corrective actions in the ATS and FATS and updating the task tracker to indicate completion.
- Implementing corrective actions, as appropriate.
- Conducting appropriate vertical assessment activities appropriate for the group.

**Progress Monitoring & Assessment Schedules:**

The assessment plan is developed to assist SHSD in monitoring the progress of projects, commitments and compliance areas by scheduling periodic assessments ahead of the milestone dates. Progress monitoring provides an accurate account of commitment status in order that additional resources may be assigned, as necessary, to bring an activity back on schedule. The Self-Assessment Plan matrix (Attachment 1) defines the schedule assigned to each activity. These activities will be entered into the ATS (see note below) to assign responsibility, schedule, and track assessments, as well as corrective and improvement actions identified through the assessments. Activities will also be entered into the SHSD FATS to indicate SHSD assignments, schedules and show percent complete.

Notes:

1. The SHSD Family Assessment Tracking System (FATS) is a hybrid of the institutional Assessment Tracking System (ATS), and is used to track division issues that are not captured at the institutional level.
2. Quarterly - Evaluation of data or information from the preceding quarter, as a goal, within the month immediately following the quarter.
3. Annually - Evaluation of data or information from the preceding year, as a goal, within the month immediately following the year-end.

**Review and Evaluation of Assessment Results:**

Individuals responsible for coordinating or conducting the assessment activities present the results and make recommendations to the SHSD Management Team, usually at the weekly SHSD Management Team Meetings. The management team reviews the information and recommendations and determines:

- appropriate corrective and improvement actions
- need to submit identified strengths and issues in the Lab-wide Lessons Learned program
- need to report issues identified to the Laboratory Price Anderson Amendments Act Working Group.

**Corrective Action Management:**

The assigned individuals are responsible for implementing the corrective actions. Corrective and improvement actions identified through assessment activities shall be managed by the Self-Assessment Coordinator and tracked in the FATS in accordance with ESH Standard 1.2.1, Corrective Action Management and Tracking for Internal and External Assessments.

Corrective and improvement actions applicable to the Directorate and/or the Lab as a whole shall be determined by the management team and tracked to closure through the ATS.

**Lessons Learned and Program Improvements:**

SHSD will use the results from the self-assessment process to drive improvements and to identify new initiatives and assessment criteria. Our Lessons Learned will be shared with the Laboratory and BAO through the IO Lessons Learned program.

**Documentation:**

A hardcopy SHSD Self-Assessment Form (Attachment 2) is available for use in conducting and documenting the actual assessment. Individuals are encouraged to use this tool as a coversheet and attach any additional documentation.

Assessments, their results, and any follow-up actions shall be documented and electronically attached through the ATS or SHSD FATS as appropriate. Hard copies of documentation related to Directorate or Division level assessment activities will be maintained in the SHSD

Division Management Files, with information copies provided to the Assessment Coordinator, SME's, or Project Managers.

**Approval and Change Control:**

The SHSD Self-Assessment is approved by the SHSD Manager and will be controlled by use of the revision date and revision markings. Minor revisions will be indicated with revision bars and with the SHSD Manager 's signature with date. A master electronic file will be maintained with all minor revisions dating to the last major revision. Major revisions will require the approval of the Assistant Laboratory Director for ESH&Q. The SHSD Manager will determine the category of the change.

# ATTACHMENT 1

## FY03
## BNL SAFETY & HEALTH SERVICES DIVISION
## Self-Assessment Plan

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.1 | Occupational Safety Excellence<br><br>Supports BSA Performance Measure 3.3.2.2, "OSHA Reportable Injury Management" | Assess SE performance and timeliness in supporting DOE/BSA Occupational Safety and Health goal to achieve excellence in worker safety and health protection. | Review reports | Ellerkamp<br>Effort: 700 person-hours | Weekly Case Management meeting with OMC | Annual |
| | | In addition to program maintenance, SHSD will evaluate several potential improvements during FY03 for Laboratory Management's consideration. These include:<br>• The deployment of Dupont Safety Services to perform an assessment and leadership workshop and other improvement initiatives.<br>• Voluntary Protection Program (VPP)<br>• Restart of the (OHR) Committee. | Variable | White<br>Effort: 40 person-hours + | Position papers, I&D papers, presentations to Management Council. | 9/30/03 |
| 03-1602.2 | SHSD Design Review, ORE AND BORE Support<br><br>Supports BSA Performance Measures 2.1.1, "EM Project Completions" and 3.4.2, "EP Project Management" | SHSD will provide timely design reviews, ORE, BORE, and ERE to support BNL missions and projects | Program Review | Travis<br>Effort: Dependent on number of requests | Conformance to SHSD goals for Design Review turnaround and ORE/BORE/ERE draft report issuance. | 9/30/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.3 | Management System Maturity Determination - Worker Safety and Health<br><br>Supports BSA Performance Measure 3.2.1.2, "Maturity Determinations" | Using the management system assessment plan developed in response to PM 3.2.1.1, "Management System Objectives and Assessment Activities" (QA responsibility.) Complete the formal, consensus based user/peer reviewer Maturity Determination. | Program Review | White<br>Effort: 100 person-hours + | Completed Maturity Determination Document<br><br>Management Analysis of the Results<br><br>Appropriate updates of the assessment plan | 9/30/03 |
| 03-1602.4 | Management System Maturity Determination - Facility Safety<br><br>Supports BSA Performance Measure 3.2.1.2, "Maturity Determinations" | Using the management system assessment plan developed in response to PM 3.2.1.1, "Management System Objectives and Assessment Activities" (QA responsibility.) Complete the formal, consensus based user/peer reviewer Maturity Determination. | Program Review | Monahan<br><br>Effort: 100 person-hours | Completed Maturity Determination Document<br>Management Analysis of the Results<br>Appropriate updates of the assessment plan | 9/30/03 |
| 03-1602.5 | Interlock Protection Programs<br><br>SHSD Program Maintenance -- ISM | Assess BNL process in maintaining a regulatory compliant Interlock Protection Program. | Horizontal and Vertical Regulatory Driver review, written program evaluation and field implementation inspection | Curtiss<br><br>With BAO observation<br><br>Effort: 200 person-hours | Verify compliance with contractual obligations as defined in the DOE/BSA contract.<br><br>Perform review of line policy and procedures. Interview workers and inspect field implementation. | 6/30/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.6 | Operational Readiness Evaluations<br><br>SHSD Program Maintenance - ISM | Assess BNL process in maintaining a regulatory compliant Operational Readiness Evaluation Program. | Horizontal and Vertical Regulatory Driver review, written program evaluation and field implementation inspection | Travis<br><br>With BAO Observation<br><br>Effort: 200 person-hours | Verify regulatory drivers via search of regulation sources<br>Perform line item review of BNL written program for compliance with drivers.<br>Inspect field operations to measure implementation of written program | 6/30/03 |
| 03-1602.7 | Contractor Vendor Training<br><br>SHSD Program Maintenance - ISM | Assess BNL process in maintaining a regulatory compliant Contractor Vendor Training Program. | Horizontal and Vertical Regulatory Driver review, written program evaluation and field implementation inspection | Krasner<br><br>With BAO Observation<br><br>Effort: 200 person-hours | Verify regulatory drivers via search of regulation sources<br>Perform line item review of BNL written program for compliance with drivers.<br>Inspect field operations to measure implementation of written program | 9/30/03 |
| 03-1602.8 | Beryllium<br><br>SHSD Program Maintenance - ISM | Assess BNL process in maintaining a regulatory compliant Beryllium Program. | Horizontal and Vertical Regulatory Driver review, written program evaluation and field implementation inspection | Selvey<br><br>With BAO Observation<br><br>Effort: 200 person-hours | Verify regulatory drivers via search of regulation sources<br>Perform line item review of BNL written program for compliance with drivers.<br>Inspect field operations to measure implementation of written program | 3/30/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.9 | Ergonomics<br><br>SHSD Program Maintenance - ISM | Assess BNL process in maintaining a regulatory compliant Ergonomics Program. | Horizontal and Vertical Regulatory Driver review, written program evaluation and field implementation inspection | Selvey/Peters<br><br>With BAO Observation<br><br>Effort: 200 person-hours | Verify regulatory drivers via search of regulation sources Perform line item review of BNL written program for compliance with drivers. Inspect field operations to measure implementation of written program | 06/30/03 |
| 03-1602.10 | Noise/Hearing Protection<br><br>Annual Assessment SHSD Program Maintenance – Required Annual IH Assessment (ISM/OSHA) | Assess BNL programs against regulatory and internal requirements. | Vertical | Selvey/Peters<br><br>Effort: 100 person-hours | Verify regulatory drivers via search of regulation sources Perform line item review of BNL written program for compliance with drivers. Inspect field operations to measure implementation of written program | 9/30/03 |
| 03-1602.11 | Respiratory Protection Annual Assessment SHSD Program Maintenance – Required Annual IH Assessment (ISM/OSHA) | Assess BNL programs against regulatory and internal requirements. | Vertical | Selvey/Peters<br><br>Effort: 100 person-hours | Verify regulatory drivers via search of regulation sources Perform line item review of BNL written program for compliance with drivers. Inspect field operations to measure implementation of written program | 9/30/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date: |
|---|---|---|---|---|---|---|
| 03-1602.12 | Cancelled Confined Space Permits Annual Assessment SHSD Program Maintenance – Required Annual IH Assessment (ISM/OSHA) | Assess BNL programs against regulatory and internal requirements. | Vertical | Selvey/Peters<br><br>Effort: 100 person-hours | Verify regulatory drivers via search of regulation sources Perform line item review of BNL written program for compliance with drivers. Inspect field operations to measure implementation of written program | 9/30/03 |
| 03-1602.13 | Lockout – Tagout (LOTO) Annual Assessment SHSD Program Maintenance – Required Annual IH Assessment (ISM/OSHA) | Assess BNL programs against regulatory and internal requirements. | Vertical | Curtiss<br><br>Effort: 20 person-hours | Verify regulatory drivers via search of regulation sources Perform line item review of BNL written program for compliance with drivers. Inspect field operations to measure implementation of written program | 9/30/03 |
| 03-1602.14 | Firearms Safety Annual Assessment SHSD Program Maintenance – Required Annual IH Assessment (ISM/OSHA) | Assess BNL programs against regulatory and internal requirements. | Vertical | Monahan or designee<br><br>Effort: 60 person-hours | Verify regulatory drivers via search of regulation sources Perform line item review of BNL written program for compliance with drivers. Inspect field operations to measure implementation of written program | 9/30/03 |
| 03-1602.15 | Tier 1 Annual Assessment SHSD Program Maintenance – Required Annual IH Assessment (ISM/OSHA) | Assess BNL programs against regulatory and internal requirements. | Vertical | Monahan<br><br>Effort: 60 person-hours | Verify regulatory drivers via search of regulation sources Perform line item review of BNL written program for compliance with drivers. Inspect field operations to measure implementation of written program | 9/30/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.16 | Chemical Management SHSD Program Maintenance – OSHA | Assess Laboratory performance and timeliness in excellence in worker safety and health protection. | Peroxidizable Chemical Survey | Selvey/Petricek<br><br>Effort: 70 person-hours | SHSD Assessment | 9/30/03 |
| 03-1602.17 | Chemical Management SHSD Program Maintenance - OSHA | Assess Laboratory performance and timeliness in excellence in worker safety and health protection. | Review Reports | Selvey/Petricek<br><br>Effort: 70 person-hours | SHSD Assessment | 09/30/03 |
| 03-1602.18 | Chemical Management SHSD Program Maintenance - OSHA | Assess Laboratory performance and timeliness in excellence in worker safety and health protection. | Random Surveys | Selvey/Petricek<br><br>Effort: 70 person-hours | SHSD Assessment | 09/30/03 |
| 03-1602.19 | Working with Chemicals Subject Area<br><br>SHSD Improvement Initiative – Subject Area Update | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area revision and deliver this document to SBMS. | Vertical | Erickson/Selvey<br>Effort: 80 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 12/01/02 |
| 03-1602.20 | Reproductive Hazards (Declaration of Pregnancy– Non Rad) Subject Area<br><br>SHSD Improvement Initiative - New Subject Area) | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area and deliver this document to SBMS. | Vertical | Selvey<br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 03/30/03 |
| 03-1602.21 | Noise/Hearing Conservation Subject Area<br><br>SHSD Improvement Initiative | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area and deliver this document to SBMS. | Vertical | Erickson/Peters<br><br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 03/30/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.22 | Exhaust Ventilation Subject Area<br><br>SHSD Improvement Initiative - Conversion from ESH Standard | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area and deliver this document to SBMS. | Vertical | Selvey<br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 06/30/03 |
| 03-1602.23 | Blood Borne Pathogens Subject Area<br><br>SHSD Improvement Initiative - Conversion from ESH Standard | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area and deliver this document to SBMS. | Vertical | Selvey/Horn<br><br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 09/30/03 |
| 03-1602.24 | Underage Workers Subject Area<br><br>SHSD Improvement Initiative - New Subject Area | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area and deliver this document to SBMS. | Vertical | Monahan/Quiros<br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 04/30/03 |
| 03-1602.25 | Construction Safety Subject Area<br><br>SHSD Improvement Initiative - Conversion from ESH Standard | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area and deliver this document to SBMS. | Vertical | Krasner<br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 09/30/03 |
| 03-1602.26 | Lifting Safety Subject Area<br><br>SHSD Improvement Initiative - Subject Area Update | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area revision and deliver this document to SBMS. | Vertical | Ellerkamp<br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 03/31/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.27 | Incident/Accident Investigation Subject Area<br><br>SHSD Improvement Initiative - Subject Area Update | SHSD Subject Matter Expert(s) will serve as the lead in the development process. The SME will obtain team concurrence on the final draft of the Subject Area revision and deliver this document to SBMS. | Vertical | Ellerkamp<br>Effort: 200 person-hours | Subject Area Concurrence Document transmitted to SBMS on schedule | 09/30/03 |
| 03-1602.28 | Voluntary Protection Program Initiative | SHSD will develop support elements to encourage BNL commitment to VPP. Elements contained in the draft FY 03 PM for Occupational Safety and Health Excellence should reviewed for specific SA measures. | Vertical | White/Monahan<br>Effort: 200 person-hours | SHSD internal memo describing the VPP related activities and recommendations. | 09/30/03 |
| 03-1602.29 | SHSD Field Activities<br><br>SHSD Improvement Initiatives | Track SME participation in SHSD and other Dept/Division Field Activities. | Vertical<br><br>Numerical Tracking System development | Monahan/Selvey/ Blydenburgh<br>Effort: 60 person-hours<br><br>SHSD Staff<br>Effort (for documenting and entry into database): 100 person- | Memo to the SHSD Division Manager that summarizes: SHD field presence, distribution among our customers, evaluates opportunities to optimize field presence, and provides recommendations for FY04. | 09/30/03 |

CRITICAL OUTCOME: OPERATIONAL EXCELLENCE
CRITICAL OUTCOME OBJECTIVE: ES&H OPERATIONAL PERFORMANCE

| SHSD Self-Assessment ID# | Supporting BSA & Division Measure(s) | Strategy | Assessment Type & Mechanisms | Responsibility and Level of Effort | Indicators | Schedule/ Due Date |
|---|---|---|---|---|---|---|
| 03-1602.30 | Create a Pool of talented, diverse, empowered, & goal oriented leaders/managers<br><br>SHSD Program Maintenance | • Update SHSD Succession Plan.<br>• Update Goals for staff.<br>• Recruit and interview diversity candidates for all open positions. | Vertical | SHSD Manager<br>• Succession Plan – 6 person-hours<br>• Goals – 6 person-hours<br>• Action Plan – 24 person-hours<br><br>Ongoing – no additional resources | • Succession Plan updated.<br>• Percentage of SHSD staff with performance goals | Succession Plan: 01/31/03<br><br>Goals for staff: 03/31/03 |
| 03-1620.31 | Lab walk through inspections | Conduct Bi-weekly to monthly walkthrough inspections of the IH laboratories for compliance with ESH&Q requirements | Vertical | Selvey<br><br>Effort: Inspection Team - 150 person hours | Documented Inspection and corrective action records kept by IH Group leader | 09/30/03 |
| 03-1620-32 | Lab Safety Systems maintenance | Conduct surveillance on SHSD safety systems to ensure ready for service status:<br>• Conduct bi-weekly testing of eyewash station<br>• Verify annual testing of face velocity of lab hood<br>• Verify annual testing of emergency shower<br>• Update placard information on room entrances | Vertical | Selvey<br><br>Effort: Inspection Team - 10 person-hours | Inspection records on equipment/rooms kept up to date | 09/30/03 |
| 03-1620-33 | Quarterly Staff Interviews | Conduct quarterly management/ employee interviews for<br>• leadership involvement,<br>• career development needs,<br>• operational and process needs. | Vertical | Selvey<br><br>Effort: 100 person-hours | Documented Interview records held by IH Group leader | 09/30/03 |

PAGE NO. ____ of ____

DATE: _____

# ATTACHMENT 2

## SAFETY AND HEALTH SERVICES DIVISION SELF ASSESSMENT

| | | |
|---|---|---|
| Facility Visited: | | |
| Scope of Assessment: | | |
| Conducted by: | Date: | Time: |
| Relevant Procedures in use: | | |
| Persons contacted: | | |
| Logs reviewed: | | |

General Discussion:

Observations, comments, and recommendations:

| Comments | Resolution | Date |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Check if continuation sheet (PX-2363A) used: [ ]

| * Corrective Action completed: (if applicable) | Building/Facility Manager Signature | Date |
|---|---|---|
| | | |

# SAFETY WORKS FOR EVERYONE

## SHSD FY02 Self Evaluation Meeting

11/14/02

Presenters: Otto White, Jr., Manager

Terry Monahan, SE Group Leader

Robert Selvey, IH Group Leader

Self-Assessment Coordinator: Richard Travis

Contributors: Safety and Health Services Division Staff

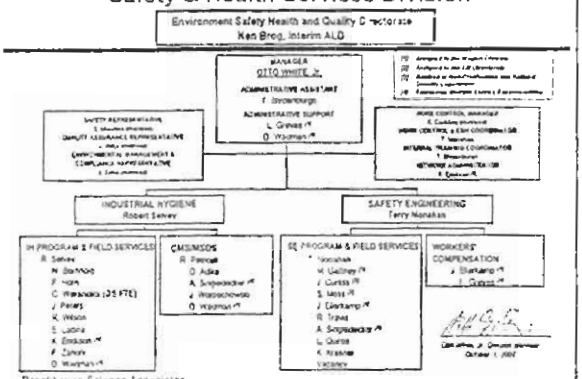


## SHS Division Mission

*To provide high quality, cost-effective support services to our external and internal customers In the fields of Industrial Hygiene, Chemical Safety Management, Workers' Compensation and Safety Engineering.*




## Safety & Health Services Division






## Introductions and Announcements

- New Staff
  - Firoza Zanoni
  - Devine Adika
  - Ken Krasner
- Key Supporting Roles
  - Rich Travis – Self-Assessment Coordinator
  - Terry Monahan – ESH Coord., WC Coord., Bldg. Mgr
  - Katherine Conklin - ESH Coord., WC Mgr.
  - Tracy Blydenburgh – Training Coord., Record Coord.
  - Linda Greves – EEO Rep.
  - Donna Wadman – EEO Rep. & United Way
  - Firoza Zanoni and Lesliam Quiros – Health Fest
  - Ken Erickson – Web Master and Cyber Security
  - John Selva – EMS Coordinator



## Introductions and Announcements

Spotlight Award



## Meeting Objectives

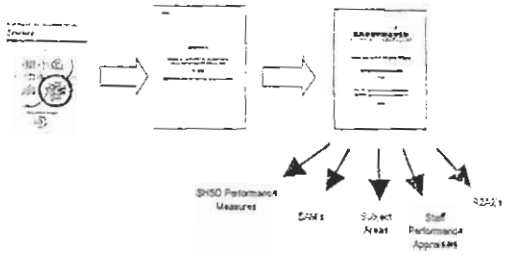
*To present SHSD FY02 activities in a forum that will provide the basis for the FY02 Self Evaluation and will also provide information for incorporation into the FY03 Self Assessment Plan*


## Meeting Agenda

- *DOE Mission*
- *BSA Contract*
- *Contract Performance Measures*
- *Supporting Assessment Measures (SAMS)*
- *SBMS Subject Area Development*
- *Support to Other Contract Requirements & SHSD Initiatives*
- *FY03 Improvement Initiatives & Focus*



## DOE Mission & BSA Contract



Contract is up for Renewal in 1/03
DOE granted 1 year extension to 1/04



## Contract Performance Measures

Key Measures for SHSD (Contract to SA Links)

- Workforce Diversity
  (App. B 3.1.3 ⟶ SA-02-923.23)
- OSHA Reportable Injury Management
  (App. B 3.2.2.3 ⟶ SA-02-923.1)
- Chemical Safety Performance
  (App. B 3.2.1.2 & 3.2.2.4 ⟶ SA-02-923.2)
- Self Assessment Measures
  (App. B 3.1.1.1 ⟶ SA-02-923.32-923.8)



## Workforce Diversity & Development

*(Link to 3.1.3 of Contract)*

Workforce Diversity

New Hires: Women, Minorities, Phys. Challenged Added to Workforce

Total Employees = 24 employees
Total Women = 7 employees (3 A, 2 T, 2 P)
Total Minorities = 8 employees

Workforce Development

Level III Managers 360 Degree Review
Managing Your Career With Power
Succession Plan
Goal Planning



## FY02 Contract Performance Measures Occupational Safety & Health Statistics

*(Link to 3.2.2.4 of Contract)*

- OSHA Reportable Injury Management for **last CY** (2001)

| Metric/Weight | Outstanding | Excellent | Good | Marginal | Unsatisfactory |
|---|---|---|---|---|---|
| TRCR/0.33<br>LWCR/0.33<br>LWDR/0.33 | <30% | <15% to 30% | +/-15% of DOE R&D Mean | >15% to 30% | >30% |
| SCORE | 4 | 3 | 2 | 1 | 0 |



## FY02 Contract Performance Measures Occupational Safety & Health Statistics

- **OSHA Reportable Injury Management for 2001**

| Metric/Weight | Outstanding | Excellent | Good | Marginal | Unsatisfactory |
|---|---|---|---|---|---|
| TRCR/0.33<br>LWCR/0.33<br>LWDR/0.33 | X | X | X | | |
| SCORE | 4 | 3 | 2 | 1 | 0 |

Composite Score = TRCR score x 0.33 + LWCR score x 0.33 + LWDR score x 0.33

FY02 Score = 2.97 (Excellent)

## FY02 Contract Performance Measures
## Chemical Safety Performance

(Link to 3.2.1.2 of the Contract)

### Legacy Chemicals

Approach:

- Number of Terminated Employees Who Reconcile Their Chemicals Within One Month of Termination
- Previous 12 months evaluated (275 Employees)
- 275 Employees Terminated, 54 Were Responsible for Chemicals



## FY02 Contract Performance Measures
## Chemical Safety Performance

### Legacy Chemicals

- Performance Measure:
  - Percentage of Terminated Staff with All Chemical Dispositioned
- Legacy Chemical Results
  - FY 2000 - 79% (Excellent)
  - FY 2001 - 83% (Excellent)
  - FY 2002 - 99% (Outstanding >90%)



## FY02 Contract Performance Measures
## Chemical Safety Performance

(Link to 3.2.2.4.1 of the Contract)

### Chemical Inventories and Accountabilities

Approach

- Survey all containers in seven randomly selected rooms
- Performance Evaluated Jointly with BAO
- Chemicals:
  - Are They Bar Coded
  - Are They in the Correct Room
  - Are They Assigned to the Correct Owner



## FY02 Contract Performance Measures
## Chemical Safety Performance

### Chemical Inventories and Accountabilities

- Performance Measure:
  - Composite score is 70% of the percentage of containers with barcodes plus 30% of the percentage of bar coded containers assigned to the correct owners.
- Random Room Surveys Results
  - FY 2000 - 80% (Excellent)
  - FY 2001 - 63% (Marginal)
  - FY 2002 - 85% (Excellent 80-90%)



## FY02 Contract Performance Measures
## Chemical Safety Performance

*(Link to 3.2.2.4.2 of the Contract)*

### Peroxide Forming Compounds

Approach:

- Survey all peroxide forming compound containers in five rooms from the pool of rooms that CMS indicates contain a chemical from Table 1 of ESH 2.1.1 *(Use lottery to select departments/divisions/rooms).*
- Measure the percentage of containers properly labeled, stored, and tested.



## FY02 Contract Performance Measures
## Chemical Safety Performance

### Peroxide Forming Compounds

- Performance Measure:
  - Percentage of Containers Properly Labeled, Stored and Tested.
- Peroxide Forming Chemical Results
  - First year for this metric – major site preparation effort
  - 4 Out of 5 Rooms were perfect. 1 had not tested the containers
  - FY 2002 - 80% (Excellent 80-90%)

## Supporting Assessment Measures (SAMs)

*(Link to 3.1.1.1 of Contract)*

- Measures selected from SHSD FY02 Self Assessment Plan
- SHSD SA Plan Identified 6 Assessments (3 IH & 3 SE)
- SHSD Assessments Started 12/01- Design Review
- BNL/BAO Established Formal SAM Program 3/02
- Formal Program Required BAO Evaluation of Scope, Deployment, and Results
- Corrective Actions Tracked on ATS



## Health & Safety

# Supporting Assessments Measures (SAMS)

**SEG Program Assessments**



## Supporting Assessments Measures (SAMS)

Completed 6 *Self Assessments* in FY02

- Design Review Program (R. Travis)
- NFPA 70 E (J. Curtiss)
- Construction Safety Inspection (D. Robbins)
- Annual Directorate Work Planning (T. Monahan)
- Annual Firearms Safety Appraisal (T. Monahan)
- Annual Lockout/Tagout Inspection (L. Quiros)



## Design Review Program Description and Results

- DOE BAO Collaborated - R.Reif – 1st Qtr FY02
- Formalized by SBMS SA "Engineering Design" and ESH 1.3.0, "Review of Facility Design.
- The Primary Focus was the Quantitative Evaluation of the SHSD Program
  - Processing Time, Timely Response & ESH&Q Response
- Qualitative Measures Included:
  - Review Depth & Quality, Comment Disposition & Labwide Use of the Design Review Program
- One Corrective Action & Fourteen Opportunities for Improvement. Status: Closed
- SAM rating of Good due to confusion over BAO PCC & Scope



## NFPA 70E Self Assessment Description and Results

- DOE BAO Collaborated – P. Kelly – 2nd Q FY02
  - Focused on compliance with NFPA 70E – *Standard for Electrical Safety Requirements for Employee Workplaces*
- Thirteen Findings resulting in **Five Corrective Actions** (80% completed)
  - Key Issues: Safety Standards, Training & Performance of electrical work
- The NFPA 70E Self Assessment received an Excellent rating on the SAM



## Construction Safety Inspection Program Self Assessment Description and Results

DOE BAO Observed – J. Bond - September 2002

- Focused on Conventional Construction Contractors (CCC) working as subcontractors on the Brookhaven National Laboratory site.
- Assessed Department/Division compliance with Construction Safety Inspection Programs as defined in DOE Order 440.1 and SBMS ESH Standard 1.3.1 Construction Safety.
- Four findings identified
- Resulted in eight Corrective Actions, which are in process
- The Construction Safety Inspection Program Self Assessment received an Excellent rating on the SAM

## Other Annual Self Assessments in FY02

- *Work Planning & Control - Annual*
  T. Monahan representing SHSD 2nd Q of FY02
- *Lockout/Tagout - Annual*
  T. Monahan representing SHSD 3rd Q of FY02
- *Firearms Safety Appraisal- Annual*
  L. Quiros 4th Q of FY02



## Next Year's Schedule

Self-Assessments planned for FY03

- *Interlock Protection Programs*
  (Curtiss with BAO) 2nd Q of FY03
- *Operational Readiness Evaluations*
  (Travis with BAO) 3rd Q of FY03
- *Contractor Vendor Training*
  (Krasner with BAO) 4th Q of FY03
- *Three required annual assessments*

Add to FY03 SA



## Health & Safety

## Supporting Assessments Measures (SAMS)

**IH Program Assessments**



## Supporting Assessments Measures (SAMS)

Completed 6 *Self Assessments* in FY02

- OSHA Regulated Chemicals (R. Selvey)
- Biohazard Research Safety (N. Bernholc)
- Exhaust Ventilation (R. Selvey)
- Noise and Hearing Conservation Annual (R. Selvey)
- Respiratory Protection Annual (R. Selvey)
- Confined Space Permits Annual (N. Bernholc)



## Self Assessments in FY02

### OSHA Regulated Chemicals

R. Selvey - lead
DOE BAC Collaborated – R. Reif
March 2002

8 BNL organizations reviewed
1 Finding, 8 Observations
Final Report; Corrective Action Plan; ATS tracking

DOE Evaluation Final Score = Outstanding

- Approach = Outstanding
- Deployment = Outstanding
- Results = Outstanding



## Self Assessments in FY02

### Biohazard Research

N. Bernholc- lead
DOE BAO Observed – R. Reif
April-June 2002

6 BNL organizations reviewed
5 Findings, 2 Observations
Final Report; Corrective Action Plan; ATS tracking

DOE Evaluation Final Score = Excellent +

- Approach = Outstanding
- Deployment = Excellent
- Results = Excellent

## Self Assessments in FY02

### Exhaust Ventilation

R. Selvey- lead
DOE BAO Observed – R. Reif & P. Kelly
September 2002

8 BNL organizations reviewed
2 Findings, 4 Observations
Final Report; Corrective Action Plan; ATS tracking

DOE Evaluation Final Score = Outstanding
- Approach = Outstanding
- Deployment = Outstanding
- Results = Outstanding



## Self Assessments in FY02

- Noise and Hearing Conservation- Annual
  R. Selvey June 2002
  Final Report; Corrective Action Plan; ATS tracking
- Respiratory Protection- Annual
  R. Selvey June 2002
  Final Report; Corrective Action Plan; ATS tracking
- **Confined Space Permits- Annual**
  N. Bernholc September 2002
  Final Report; Corrective Action Plan; ATS tracking



## Next Year's Schedule

Self-Assessments planned for FY03
- *Beryllium* (with DOE) Jan-March 2002 *R. Selvey*
- *Ergonomics* (with DOE) April-June 2002 *K. Erickson*
- Noise and Hearing Conservation (annual) *R. Selvey*
- Respiratory Protection (annual) *R. Selvey*
- Confined Space Permits (annual) *K. Erickson*

Add to FY03 SA



## SBMS Subject Area Development

*(Link to 3.1 of Contract)*
- Driven By DOE Directives and BSA Contract
- Establish Institutional Level Requirements
- Replaces ESH Standards
- More than 40 ESH Standards belonged to SHSD
- 18 Converted to SBMS
- 14 are to be Converted to SBMS
- 7 New SBMS to cover new ESH Requirements



## Health & Safety

## SBMS Subject Area Development

**Industrial Hygiene Topics**



## Subject Areas in FY02

- *Published in FY02:*
  - *Respiratory Protection*
  - *Lead**
  - *Asbestos**

* *Fulfill ISM or DOE Assessment Commitment*

## Subject Areas in FY02

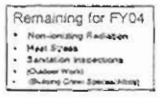
- *Submitted in FY02*
  *Multi-organization Team met and Developed a consensus document*
  - *IAQ** (J. Peters)
  - *Ergonomics** (N. Bernholc)
  - *Biohazards** (F. Horn)
  - *Confined Space** (N. Bernholc)
  - *PPE* (R. Selvey)

* *Fulfill ISM or DOE Assessment Commitment*



## Subject Areas in FY03

- *Planned for FY03*
  - *Declaration of Pregnancy* (R. Selvey)
  - *Noise & Hearing Cons.* (K. Erickson)
  - *Exhaust Ventilation* (R. Selvey)
  - *Bloodborne Pathogens* (R. Selvey)
  - *Working w/ Chem Update* (K. Erickson)




Add to FY03 SA



## FY02 IH Group Improvement Initiatives

- Upgrading IHG Documentation & Processes: In FY02, 26 New SOPs
  - Non-Ionizing Radiation
  - Biohazards/Chemical weapons
  - Sample tracking/prep
  - Equipment request and tracking
- Increased Field Presence
  - 3 Professionals set up to align with BNL organizations
  - 2 Technicians into field
  - Peroxide Forming Chemical Project conducted
- New Instrumentation
  - Noise Dosimeters
  - Sampling Pumps



## FY03 IH Group Improvement Initiatives

- Upgrading IHG Documentation
  New SOPs
  - Respiratory Protection
  - Exhaust Ventilation
  - IH Instrumentation operation

  IH Field Monitoring Database
- Increased Field Presence
  - 3 Professional assigned 100% to align with organizations
  - Time tracking system fully deployed
- Special Emphasis Programs
  - Lab Standard & Hazcom Training Update
  - Lab High Hazard Designated Area Posting
  - Perchlorate Safety
  - Peroxide Forming Compound
  - Exhaust Stack Site Survey
  - High Toxic Hazard Assessments
  - Reproductive Hazards

Add to FY03 SA



## FY03 CMS Improvement Initiatives

- Field Deploy PDA Scanners
- Web Page for Deletion and New Chemical Registration
- Convert MSDS's to Acrobat PDF's
- Develop Program to Allow Credit Card Purchases
- Develop What Gets Bar Coded Program
- Continue Static Inventory Program Improvements

Add to FY03 SA



## Health & Safety

## SBMS Subject Area Development

**Safety Engineering Topics**

## Subject Areas in FY02

- *Published in FY02:*
  - *Lifting Safety*
  - *Minors Interim Policy*
  - *Off-Site Work*
  - *Material Handling*



## Subject Areas in FY03

- *Minors Subject Area* (Monahan & Quiros)
- *Construction Safety* (K. Krasner)

Remaining for FY04
- Traffic Safety
- Compressed Gases
- Excavation Safety
- Organizational ESH Inspections
- Aviation/Marine
- Firearm Safety

Revised:
- *Lifting Safety* (J. Ellerkamp)
- *Incident/Accident Investigation* (J. Ellerkamp)
- *Electrical Safety (std)* (J. Curtiss)
- *Lockout/Tagout (std)* (J. Curtiss)

Add to FY03 SA



## Safety Engineering Group FY02 Improvement Initiatives

- OSHA General Industry & Construction Safety 10 hours courses
- Compliance Inspections
- Enhanced Exit Readiness Review process
- Refined ORE & Design Review process
- Enhanced capability: Thermal scan & coefficient of friction
- Lifting Safety Committee established
- Enhanced WC Case Management
- Safety Awareness Initiatives
- Increased field presence
- Support of several DOE initiatives (ORNL, NNPP, OEM)



## Safety Engineering Group FY 03 Improvement Initiatives

- Enhanced OSMIS system
- Realign Workers Comp program
- Refined Injury Investigation forms
- Feasibility Study for expanded OMC services (FT, FCE & PET)
- Refine OI policy & procedures
- Introduce new Safety & Health initiatives
- Continue to increase field presence

Add to FY03 SA



## Support to Other Contract Requirements & SHSD Initiatives

Key Administrative and Operational Activities Supporting Contract Requirements:

- EMS Program – Supports 3.1.1.1
- Staff Training – Supports 3.1.1.1
- SHSD Field Presence – Supports 3.1
- Safety Improvement Initiatives and Program Upgrades – Supports 3.1



## ESH&Q EMS Program

*(Link to 3.1.1.1 of Contract)*

- SHSD *Significant Environmental Aspects*
  - Hazardous Waste
- No issues identified for ISO 14001 Re-Registration
- Recycling
  - Reduced Old Chemical Inventory

## Staff Training

*(Link to 3.1.1.1 of Contract)*

- BNL has defined minimum training requirements for work to be performed, and monitors the completion of these requirements completed through Job Training Assessments (JTA's) and the Brookhaven Training Management System (BTMS).
- Training & Qualifications activities for SHSD are tracked and coordinated by Tracy Blydenburgh.
- Training reports are generated and reviewed weekly which are reported to Manager and Group Leaders during Weekly Staff Meeting. Staff with outstanding training are notified via email to complete training.



## Staff Training

*(Link to 3.1.1.1 of Contract)*

SHSD Contributions towards Laboratory Training Performance Measure (50 consecutive weeks at 100%):

- Training Completion Rate
  - Lab-wide expected employee completion rate = 95%
  - Lab-wide employee completion rate = 96%
  - SHSD training completion rate contribution = 99.6%
- Job Training Assessments (JTA's)
  - Review completed on 08/15/02.
  - SHSD hired 3 new employees, lost 1 employee
  - Total JTA requirements increased from 338 to 542 since 09/30/01.



## SHSD Field Presence (Hours)

*(Link to 3.1 of Contract)*

| FY02 | IH | CMS | SE |
|---|---|---|---|
| 1st Quarter | NA | NA | NA |
| 2nd Quarter | 1278 | 1729 | 1043 |
| 3rd Quarter | 1516 | 1710 | 1573 |
| 4th Quarter | 1926 | 2073 | 1753 |



## Improvement Initiatives & Program Upgrades

*(Link to 3.1 of Contract)*

- Improved Relationship with BAO
- CMS Improved Efficiency
- More Informative WebPages
- No Significant FY02 Assessment Findings
- Developed IH Projects Tracking Database
- Ergonomics Program Enhanced
- Response to Biologic/Etiologic Agents

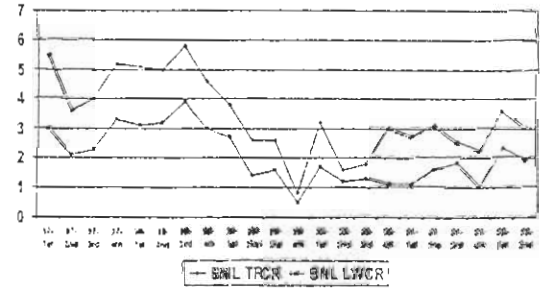


## Improvement Initiatives & Program Upgrades

- R2A2 Reviewed and Updated
- FY 2002 Self-Assessment Plan
- Staff's Goals and Performance Measures
- FY01 Self- Evaluation Completed
- Be Medical Surveillance Program Revised
- Chemical Safety Program Advanced
- Modifications in BAO Audit Approach
- Customer Feedbacks
- Manager's Tours expanded to Periodic Construction Site Tours



## BNL TRCR And LWCR Quarterly Data – CAIRS Quarterly Spreadsheet (10/18/02)



## Major Challenge: Improve BNL OI Trends

- Trends Identified in 2001
- Issue Brought to Management Attention
- Safety Improvement Plan Draft
- Safety Awareness Day
- Poster Series Initiated
- Management Council Presentations
- DuPont Safety Resources
- Pre-placement and Onsite Physical Therapy Feasibility Study
- Case Management Enhancements



## How Does BNL Rank Against Other DOE Labs?

| Standard Safety Performance Measures | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|
| Cost Index | 31 | 27 | 26 | 25 | 24 | 24 |
| Recordable Case Rate | 23 | 23 | 24 | 12 | 15 ⇩ | 17 ⇩ |
| Lost Workday Case Rate | 30 | 26 | 27 | 22 | 22 | 22 |
| Lost Workday and Restricted Duty Rate | 27 | 22 | 27 | 23 | 21 | 24 ⇩ |
| Number of DOE Labs | 31 | 28 | 27 | 27 | 27 | 27 |

Numbers in table represent BNL rank among DOE Labs

Source: DOE CAIRS Table S3



## BNL Safety Awareness Day July 8, 2002


Activities:

- AM Presentation: Billy Robbins, Motivational Speaker, "Hooked on Safety"
- PM S&T Lecture: Paul Stevens, Retired DuPont Scientist, "Safety and the Researcher"
- Department/Division All Hands Meetings
- Staff Safety Rights and Obligations Poster



## Brookhaven National Laboratory Operations Performance Review August 2002

Environment, Safety & Health Recommendation

- Consider VPP

Add to *FY03 SA*



## BNL Occupational Injury/Workers' Compensation Action Plan

VPP

### Visible Management Commitment

- Commitment to OSHA Voluntary Protection Program
- Senior Managers Walk-thrus
- Goal Setting for Workers' Compensation Case Reduction/OSHA Reportable Cases
- Safety and Health Goals for Managers



## BNL Occupational Injury/Workers' Compensation Action Plan

VPP

### Enhanced Worker Involvement

- Employee Safety Rights and Obligation Cards *(front/back)*

- Establish Worker Safety Committee
- Expand Each Standing Safety Committee to Include Floor Level Workers
- Increase Workers Involvement and Accountability in Work Planning and Control Process

## BNL Occupational Injury/Workers' Compensation Action Plan

VPP

### Enhanced Worker Involvement

**Pre-employment Screening and Functional Capacity Evaluations**

- Pre-employment Testing
- Pre-transfer Testing
- Functional Capacity Evaluations/Current employee return to work post injury

**Onsite Physical**

- Onsite Physical Therapy



## BNL Occupational Injury/Workers' Compensation Action Plan

VPP

### Worksite Analysis

- Modify Key BNL Policies that Impact Occupational Injury and Workers' Compensation
- DuPont Safety Resource Assistance
- Re-establish the Occupational Health Review (OHR) Board

VPP

### Hazard Prevention and Control

- Behavior Safety Program
- Safety Concern Cards



## BNL Occupational Injury/Workers' Compensation Action Plan

VPP

### Safety and Health Training

- Senior Managers Safety Workshop with Employee Representatives
- DuPont Executive Leadership Workshop

**Other Initiatives**

- Periodic Safety Awareness Days
- Follow-up Bulletin Article on Safety Awareness
- Publicizing organizational leaders in "Days without Lost Workday Cases"



## 12 Months Org. Units Scorecard (9/30/02)

| Organization | Occupational All Cases | Occupational TRC | Occupational LWC | Occupational WDL | Occupational WDLR | WC Cases | Open Investigation | Date of Last LWC |
|---|---|---|---|---|---|---|---|---|
| Collider-Accelerator | 21 | 10 | 4 | 44 | 135 | 13 | 0 | 6/14/2002 |
| Magnet Division | 5 | 2 | 1 | 12 | 72 | 4 | 0 | 5/6/2002 |
| Information Technology Division | 3 | 2 | 0 | 0 | 0 | - | 0 | A |
| Business Systems Division | 0 | 0 | 0 | 0 | 0 | - | 0 | A |
| Strategic Department | 3 | 1 | 1 | 7 | 23 | - | 0 | 2/13/2002 |
| BNL Directorate – All Units | 4 | 3 | 4 | 0 | 0 | 1 | 0 | A |
| Budget Office | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A |
| Chemistry Department | 6 | 2 | 2 | 24 | 0 | 2 | 0 | 1/2/2002 |
| Department of Environmental Sciences | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A |
| Emergency Services Division | 3 | 0 | 0 | 0 | 0 | 0 | 0 | A |
| Plant Engineering | 63 | 33 | 16 | 375 | 315 | 22 | 0 | 9/20/02 |
| Environmental Restoration Division | 5 | 3 | 1 | 1 | 5 | 1 | 0 | 3/21/02 |
| Environmental Services Division | 7 | 0 | 1 | 100 | 0 | 1 | 0 | 10/2/2001 |
| Fiscal Services Division | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 8/16/2002 |
| Safety & Health Services Division | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2/13/2002 |
| Internal Audit Office | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A |
| Information Services Division | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A |
| Instrumentation Division | 1 | 0 | 0 | 0 | 0 | 0 | 0 | A |
| National Synchrotron Light Source II | 4 | 1 | 2 | 0 | 0 | 4 | 0 | 2/13/2002 |
| Medical Department | 0 | 0 | 0 | 0 | 0 | 0 | 0 | A |



## DOE External Regulation Initiatives



## OSHA Transition Costs for "Full Compliance"

Process:

Identify "Full Compliance" Gaps with Sample OSHA Type Inspections

Capture Fire Protection Costs

Capture Un-funded Legacy Facilities Costs

Capture Programmatic Costs

Capture Compliance Maintenance Costs

## OSHA Type Inspections

Results:
Only 15 of BNL 400 facilities inspected

Types of Facilities: Labs, Shops, Hi-Bays, Big Mac's, Ind. Ops., S&T Shops

Types of non-compliance to OSHA Standards: Programmatic = 372, Facility Modifications = 152

General Comments from Team: BNL's vulnerabilities will be in the area of program implementation at the work level.

Estimated OSHA Cost: $9.6 million – $9.9 million



## Feedback from Customers

Contract Performance Measures
- All PM Composites Rated Outstanding or Excellent

- Supporting Assessment Measures
  - No Significant Programmatic Findings
  - BAO Evaluations: 3 Outstanding, 2 Excellent, 1 Good
  - Increase in Noteworthy Practices Cited
- Field Service Survey
  - BNL Line Units: Need more, but cannot pay more
  - BAO OMD: Identified $HSD Service Needs
- Other Feedback
  - DuPont, Liberty Mutual, OSHA Survey Teams, Meetings, E-mails, Letters, Calls, etc.



## FY 03 Assessment Plan

- Beryllium Program – SHSD (BAO collab.)
- Ergonomics Program – SHSD (BAO collab.)
- Operational Readiness Evaluations – SHSD (BAO collab.)
- Interlock Protection Program – SHSD (BAO collab.)
- Construction Safety – Contractor Training – SHSD (BAO collab.)
- Pesticide -SHSD
- Noise Program -SHSD
- Cancelled Confined Space Permit - SHSD
- Respiratory Program - SHSD

Add to FY03 SA



## FY03 Contract Performance Measure Occupational Safety & Health Statistics

For FY03, BNL's LWCR will improve its performance to within 20% of the DOE Research Contractors Average for CY2002 (Ex. If DOE Research Contractors LWCR Average for CY2002 is 1.0, BNL must improve its LWCR performance to 1.2).

Metric: BNL LWCR for FY03 will be rated "Outstanding", if the Laboratory LWCR is equal or better than 120% of the DOE Research Contractors Average for CY2002. If BNL equal or exceed this goal, BSA will receive 100% of the management fee attached to this measure. If BNL fail to reach the 120% goal but is within 140%, BSA will receive 50% of the management fee attached to this measure. If BNL fail to reach the 140%, BSA will receive 0% of the management fee attached to this measure.

Add to FY03 SA



## FY03 Contract Performance Measure Management System Assessment Planning

For FY03, BNL's will evaluate 11 Management Systems. Four Management Systems will be subjected to Consensus-based User/Peer Reviewer Maturity Determinations:

Facility Safety
Safeguards and Security
Worker Safety and Health
Radiological Control

Add to FY03 SA



## SAFETY WORKS FOR EVERYONE

Discussion and Opportunities for Input in FY03 Self Assessment Plan

# Assessment & Improvement

## Management System Maturity Evaluations

Quality Programs & Services Office

Jessica R. Wilke

March 17, 2003

1

# Management Systems

**What is a management system?**

- BNL's highest level operating/business process.
- Designed to translate/integrate external requirements into staff work practices.
- May cut across dept/div lines
  - Ex: Env'l MS includes ES, WM divisions
  - Ex: Acquisition MS is used lab-wide

2

## Management Systems

**Management System Ownership**

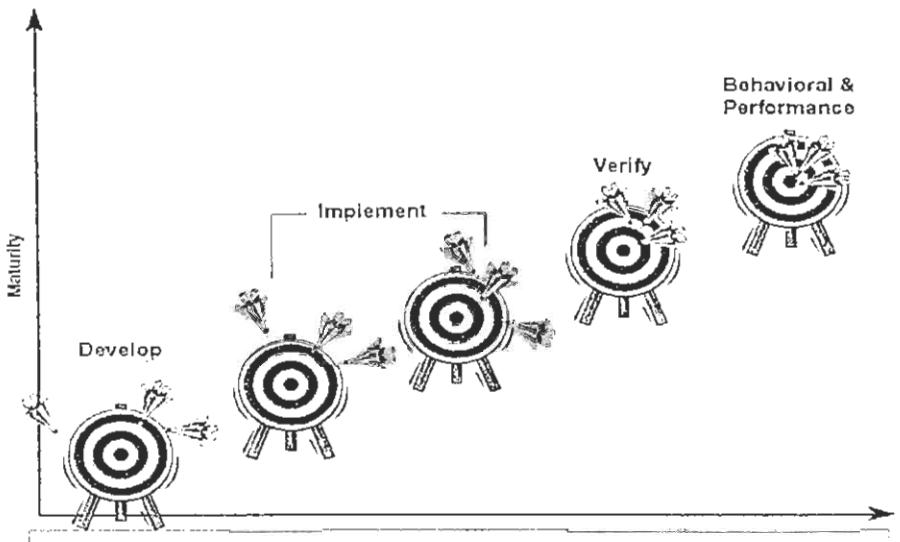
- MS Steward – Associate Lab Director
- MS Point of Contact (POC) – Division Manager
- Responsible for maintaining, assessing and improving MS operation.

3

## Management System Evaluation

- Evaluating ***maturity*** of the MS
- MS Life Cycle
  - ➢Development – design, document
  - ➢Implementation
  - ➢Verification
  - ➢Behavioral Impacts – culture change
  - ➢Performance Results – improvement

## THE PHASES OF SYSTEMS MATURITY

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## Management System Evaluation

- The process is based on Baldrige
  - ➢Organizations are viewed as systems
  - ➢System maturity is evaluated in terms of Approach/Deployment and Results
  - ➢There is no "Pass/Fail" line
  - ➢A continuum of improvement

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## MS Evaluation Process

- **The Quality Office facilitates the process**
  - Works closely with the MS POC
  - Facilitates the evaluation workshop
- **Entire process takes 6-8 weeks**
- **MS Steward/POC is the owner who:**
  1. Establishes cross functional team of stakeholders including the Quality Office and DOE BAO

*Large Science - Small Bench Top Science - Operations*

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## MS Evaluation Process

Continuation....

- **MS Steward/POC is the owner who:**
  2. Develops and distributes an "Information Package" to team
     - Based on standard question set
     - Includes objective evidence
     - Incorporates existing information
  3. Convenes an Evaluation Workshop to discuss the information and score the MS against the criteria.

## The Three Criteria

1. **Definition:**
   - Documentation of the MS, requirements, controls.
   - Requirements Management – handling change.
   - Alignment/Integration with other laboratory MS, programs, and processes. (R2A2, T & Q, IAP)

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## The Three Criteria

2. **Implementation:**
   - Awareness – do people know?
   - Implementation – are people doing?
   - Indicators of implementation and performance.
   - Acceptance Indicators – feedback, planning, decision making.

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## The Three Criteria

3. **Planning, Assessment and Improvement:**
   - Planning – ongoing planning effort based on Laboratory initiatives, critical outcomes, past performance, stakeholder input.
   - Assessment – systematic process, based on objectives and past performance, comparative analysis if appropriate.
   - Improvement – process for prioritizing, tracking improvements; peer review, staff input.

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## Operational Results

- Quantitative data indicating how the MS is performing –
  - Contract Performance Measures
  - Requirements management
  - Awareness/Training statistics
  - Productivity indicators
  - Customer satisfaction indicators
  - Assessment finding/corrective action trends

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# MS Evaluation Process

## Evaluation Tools:

- Information Package
  - Based on a set of questions that closely reflect the criteria elements.
- MS Evaluation Guide
  - Organized by the 3 criteria.
- Evaluation Workshop
  - Discuss the information provided and use team members' working knowledge of the MS.
  - Develop consensus scores.

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# MS Evaluation Guide

| RANK | DEFINITION | IMPLEMENTATION | PLANNING, ASSESSMENT, and IMPROVEMENT |
|---|---|---|---|
| | *Systematic approach to define and manage the processes of the management system.* | *Implementation status of systematic processes.* | *Assessment of system performance and improvement processes implemented.* |
| 1 | Documentation | Awareness | Planning |
| | Requirements Management | Implementation | Assessment |
| | Alignment/Integration | Acceptance Indicators | Improvement |
| 2 | Documentation | Awareness | Planning |
| | Requirements Management | Implementation | Assessment |
| | Alignment | Acceptance Indicators | Improvement |
| 3 | **Documentation** | **Awareness** | **Planning** |
| | **Requirements Management** | **Implementation** | **Assessment** |
| | **Alignment/Integration** | **Acceptance Indicators** | **Improvement** |
| 4 | Documentation | Awareness | Planning |
| | Requirements Management | Implementation | Assessment |
| | Alignment/Integration | Acceptance Indicators | Improvement |
| 5 | Documentation | Awareness | Planning |
| | Requirements Management | Implementation | Assessment |
| | Alignment/Integration | Implementation | Improvement |

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## Implementation Question Set

10. Describe the extent to which the processes/activities of the management system are being carried out according to system requirements/subject areas.
    - What are the specific issues preventing Depts/Divs from working within the MS?
    - What are the plans for improving implementation?

11. How has the implementation of the MS been validated?
    - How confident can the Lab be with the results?



## Implementation Question Set

12. Does the MS and its processes interact effectively with related/supporting MS and processes?
    - Describe areas that work well, those that need improvement.

## The Evaluation Workshop

- Team of 10-12 cross-functional stakeholders meet for 3-4 hours (facilitated).
- POC makes summary presentation
- Team members discuss the information presented as well as their knowledge of the MS
- Score the MS on each of the 3 criteria using the MS Evaluation Guide.
  - Consensus process
- Develop strengths and areas for improvement.



## The Evaluation Workshop

**Scoring Process**

1. Review criteria.
2. Team members discuss criteria and information provided about the MS.
3. Each member determines their score and posts it on a board.
4. Team discusses outliers and develops consensus score.

## MS Evaluation Process

- **Final Product**
  - Report of the evaluation includes:
    - Description of the evaluation process
    - Team Members
    - Scores
    - Strengths
    - Areas for Improvement
    - Team Feedback on the process
  - MS Steward/POC responsible for follow up action on Areas for Improvement.

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## Scoring Example (Q, 3/2002)

| Rank | Definition | Implementation | Plang/Assesst Improvet |
|---|---|---|---|
| 1 | | | * |
| 2 | | | ******** |
| 3 | ****** | ********** | |
| 4 | *** | | |
| 5 | | | |

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## Strengths / Areas for Improvement

Overall Strengths

- MS POC have strong grasp of req'ts and initiatives for BNL
- Aggressive approach to implementation across the Lab
- Good integration with other MS

Improvement Areas

- Although there have been external reviews of the QMS, a systematic assessment process not clearly evident.
  - Recognition that recent effort has been on Approach and Implementation



## Scoring Example (WP 8/2001)

| Rank | Definition | Implementation | Plang/Assesst Improvet |
|---|---|---|---|
| 1 | | | |
| 2 | *** | | |
| 3 | *** | | ****** ****** |
| 4 | ****** | ********** | |
| 5 | | * | |

## Strengths / Areas for Improvement

Approach –Strengths:

- Timely revision of documents
- WPC Processes widely recognized throughout the Lab

Approach – Improvements:

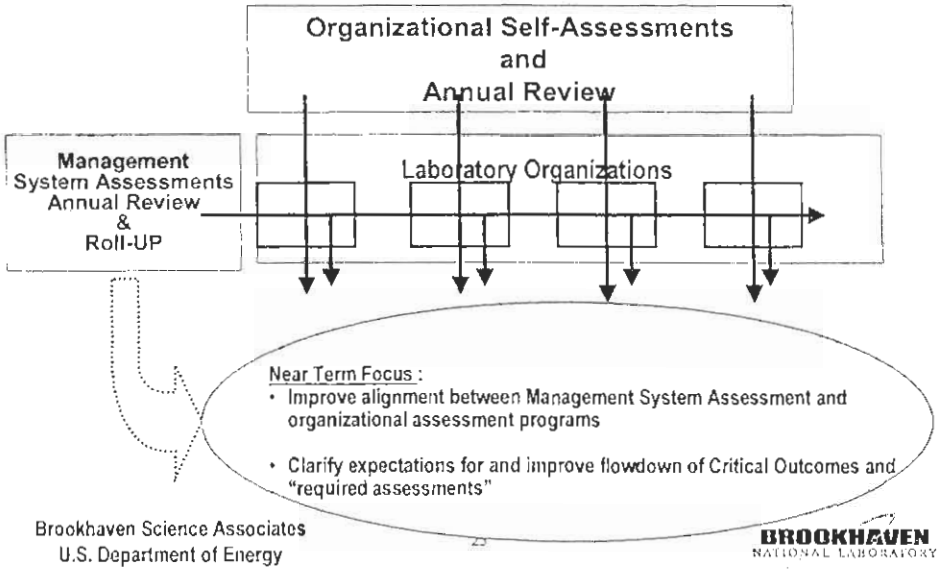
- No generic R2A2 for the ERC
- No reference to, integration with issues RE: minors, control of internal docs, Occ-Med protocols, others
- Contractor/visitor issues need improvement



## The Annual Roll-Up

- Summarize BNL Management System Reviews
- Develop & report status to Executive Management
- Target specific Management Systems for a Consensus basis evaluation for the next FY
- Annual revisit of organizational "Required Assessments" with respective Management System Stewards
  - Revise IAP SA before the next planning cycle
- Status SBMS as a process
  - As a Result Annually Plan the next Generation SA's

## Horizontal and Vertical Self-Assessment and Annual Review

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## SUMMARY

**" Variation is the chief culprit of poor quality"**
(Deming)

- The Management Systems approach ensures requirements are documented, flowed to work activities.
- MS Evaluation process is a mechanism for advancing MS through the life cycle.

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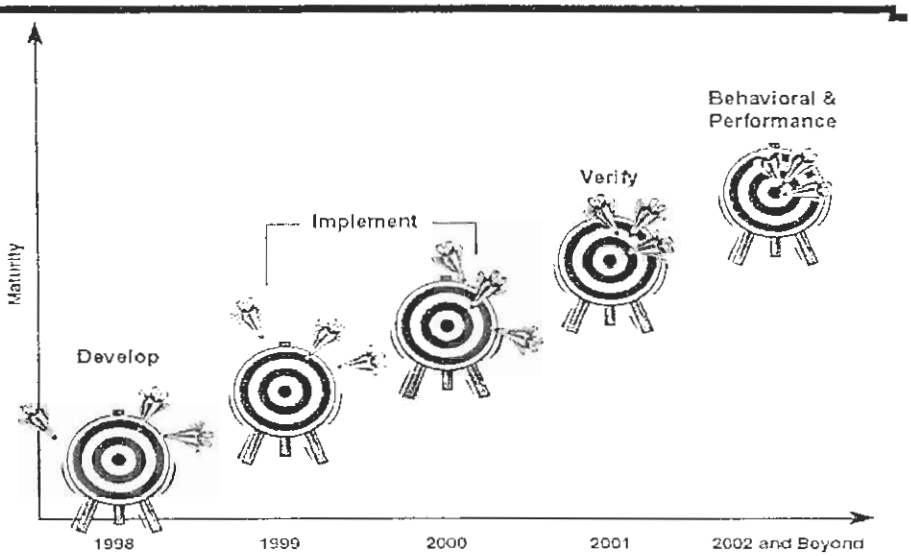
# CONSISTENCY REDUCES VULNERABILITY



# Worker Safety & Health Management System Maturity Evaluation Workshop

Otto White, Jr., Manager

Safety and Health Services Division

May 28, 2003



Worker Safety & Health Management System Maturity Evaluation Workshop

- Introduction/Objectives – Jessie Wilke
- MS Steward – Jim Tarpinian
- MS Point of Contact – Otto White
- Q&A
- Scoring & Strengths
- Feedback on Process/Close

## Worker Safety & Health Management System
### Introductions

- MS Steward
  - Jim Tarpinian, ALD ESH&Q
- MS Point of Contact (POC)
  - Otto White, Mgr. SHSD
- Facilitators
  - Jessie Wilke
  - Jeanne D'Ascoli
- Participants & Observers



## Worker Safety & Health Management System
### Driver

- Critical Outcome 3.2.1.2 Consensus-based User/Peer Reviewer Maturity Determinations
  - Facility Safety
  - Worker Safety and Health
  - Radiological Control
  - Safeguards and Security

## Worker Safety & Health Management System
### Objective

- The maturity process is based on Baldrige
- Organizations are viewed as systems
- System maturity is evaluated in terms of:
  - Definition
  - Implementation
  - Planning, Assessment & Improvement
- There is no "Pass/Fail" line
- A continuum of improvement



## Scoring Process
### *Overview*

## Worker Safety & Health Management System (MS) Evaluation
### Scoring Process (Cont'd)

- Review the scoring criteria
- Team members discuss criteria and information provided about the MS
- Each member determines their score and posts it on a board
- Team discusses outliers and develops consensus score
- Team identifies strengths and opportunities for improvement



## Worker Safety & Health Management System (MS) Evaluation
### Scoring Example

| Rank | Definition | Implementation | Planning/Assess Improvement |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | ****** | ********* | * |
| 4 | *** | | ******** |
| 5 | | | |

## Worker Safety & Health Management System
### Overview

- Addresses the identification, evaluation, and control of occupational hazards in the workplace.
- Provides processes and support services for identifying and controlling hazards that prevent work-related accidents, injuries, and illnesses involving Laboratory staff,contractors, and visitors.
- Provides direct technical assistance to those conducting work: line managers, facility managers, project managers, and staff.



## Worker Safety and Health: Key Processes
### SHSD Owning Organization

### General Technical Support Services:

- Field-deployed occupational safety engineers and industrial hygienists to support line managers
  - Work planning and control support:
    - hazard recognition; hazard evaluation; hazard prevention
    - exposure monitoring
    - design reviews
  - Incident/response/investigations/follow-up
  - assisting line self-assessment activities
- Safety and Health Systems Management
  - Design, maintain, and operate SH Systems to support implementation and compliance of safety and health requirements
  - Develop and maintain SH support systems for use by BNL staff.

## Worker Safety and Health: Key Processes
### SHSD Owning Organization

- Industrial Hygiene Services
  - Exposure Assessments to Bio/Chemical/Physical Hazards
  - Hazard Evaluations
  - Laser Safety
  - Respiratory Protection
  - Toxic Exhaust Ventilation Design Guidance
  - In-place HEPA Testing
- Industrial Hygiene Systems
  - Online Material Safety Data Sheets
  - Chemical Management System



## Worker Safety and Health: Key Processes
### SHSD Owning Organization

- Industrial Hygiene Hazard Scope
  - Biological Agents
  - Chemical Substances
  - Ergonomic Hazards
  - Noise
  - RF & Microwave Radiation
  - Heat Stress
  - Pathogens
  - Indoor Air Quality
  - Visible and IR Radiation
  - Vibration Hazards
  - Cold Stress
  - Static Magnetic Fields
  - Sanitation
  - Ultraviolet Radiation
  - Lasers

## Worker Safety and Health: Key Processes
### SHSD Owning Organization

- Safety Engineering Services
  - Hazard Evaluation and Classification
  - System Safety Reviews
  - Design Reviews
  - Accident Investigations
  - Readiness Review Coordination
  - Safety Analyses
- Safety Engineering Systems
  - Illness/Injury Statistics and Records
  - General Liability Claims Management



## Worker Safety and Health: Key Processes
### SHSD Owning Organization

- Safety Engineering Hazard Scope
  - Construction
  - Fire
  - Electrical Safety
  - Cryogenic Safety
  - Aviation Safety
  - Material Handling
  - Marine Safety
  - Compressed Gas
  - Firearms
  - Office Safety
  - Lockout/tagout
  - Pressure Systems
  - Traffic Safety
  - Walking Surfaces

# Worker Safety and Health: Key Processes
## SHSD Owning Organization

### Workers' Compensation:

- Assures proper compensation (including medical expenses) to employees for losses that are incurred as a result of injuries or illnesses related to employment at BNL.
- Assists management in developing and implementing practices that reduce the financial burden from Workers' Compensation by reducing the risk of occurrences of occupational injuries and illnesses; and enable injured workers to return to the workforce as early as possible.
- Services:
  - Assistance in determining WC injuries
  - Assistance in filing and processing a WC claim
  - Assistance in case management
  - Representation at WC Hearings
  - Work-site counseling, and work-site analysis
  - Interface with Compensation Carrier



# Key Interface with Other Management Systems

- Emergency Preparedness
- Emergency Response Services
- Environmental Management
- Facility Safety
- Integrated Assessment Program
- Occupational Medicine
- Quality Management
- Radiological Control
- Standard-Based Management System
- Training and Qualification
- Work Planning and Control

## Worker Safety and Health Management System

### Programmatic Improvements:

- Converted ESH Safety Manual to Online SBMS
- Completed Worker Safety and Health Management System
- Completed Worker Safety and Health Records of Decision
- Prioritization of 66 subject areas for development and significant progress on high priority subject areas; Asbestos, Beryllium, Chemical Safety, Investigation of Accidents, Lead, Oxygen Deficiency Hazards, Respiratory Protection, Static Magnetic Fields
- Revised Construction Safety Standard
- Significant reductions in recordable injuries, lost workdays and lost workday cases
- Increased management accountability for occupational injuries/illnesses
- Completed programmatic self-assessments in the areas of Workers' Compensation, LOTO, Firearms,



## Worker Safety and Health Management System

### Programmatic Improvements:

- Completion of major site-wide hazard evaluations, including: Beryllium current and former worker determination, Formaldehyde current operation determination, OSHA Standard Gap Analysis.
- Improvements in Case Management of Illness/Injury Cases
- Expanded Supervisors Involvement in Restricted Duty Program
- Incorporated 440.1A Hazard Assessment requirements in Work Planning and Control processes ( ESH Standards 1.3.5 and 1.3.6)
- Added Chemical Safety Performance Measures

## Worker Safety and Health System
### Priority Improvements

- SBMS Subject Area Development: SBMS Subject Areas currently underway to address the external requirement compliance issues.

  These Include:
  - Declaration of Pregnancy, Noise & Hearing Conservation, Exhaust Ventilation, Bloodborne Pathogens, Lifting Safety, Lockout/Tagout, Compressed Gas

- The following Program Improvement Initiatives are on-going or scheduled:
  - Conversion of Legacy documents into Subject Areas: Working With Chemicals, Reproductive Hazards, Noise/Hearing Conservation, Lifting Safety, Incident/Accident Investigation
  - Enhanced SHSD Field Activities
  - Enhanced Case Management
  - Chemical Management
  - Injury Reduction Initiatives
  - Improved OSMIS Database
  - OSHA Compliance



## Ownership

What is the role of the "Owning" organization?

- The **Manager, Safety and Health Services Division**, is responsible for the following: directing and executing the S&H Program; overseeing S&H administration; self-assessments of the Occupational S&H Program; maintaining occupational S&H records including occupational injury and workers compensation information; conducting regulatory analysis; and maintaining standards.
- The **Staff of the Safety and Health Services Division** provides expert technical support; support Line Mangers, ES&H Coordinators and Work Control Managers in evaluating hazards; recommend hazard controls; assist in implementing S&H requirements; track and report results of investigations and trends; maintain inventories of certain hazards; conduct regulator compliance analysis; maintain standards; and interface with Occupational Medicine Clinic.

# Deployment Roles

What is role of other Laboratory organizations in deploying the Management System?

**Department Chairs/Division Managers**

- Responsible for ensuring safe, effective, and compliance operations, and for holding staff and supervisors accountable for performance expectations of safety and health
- Staff
- Responsible for conducting work safely and stopping unsafe work.

**Immediate Supervisors**

- Responsible for ensuring that hazards controls are implemented.

**Project Manager/Investigator**

- Responsible for ensuring that known hazards are identified, and that appropriate controls are implemented.

**Facility Managers**

- Responsible for self-assessments of S&H in work areas; identifying and evaluating hazards; recommending and implementing hazard controls; maintaining safety-related equipment.



# Stakeholders

- BNL employees, visitors, and guests, BNL supervisors and managers, BSA and DOE (BAO, CH and HQ).

## Worker Safety & Health Management System (MS) Evaluation Description

- Laboratory organizations ensure compliance with the safety programs outlined in the MS
- Key stakeholders include DOE, Laboratory Management, Employees, Guests, and the public.
- Resources defining the MS
  - DOE Brookhaven Area Office, Chicago Operations & Headquarters
  - DOE directives
  - Inspections, assessments, audits
  - Feedback from users
- Worker Safety & Health Management System
  - Successfully communicates an overall view of BNL Occupational Health and Safety programs.
  - Integrates requirements into appropriate and related areas of SBMS
    - Program Descriptions, Subject Areas, Interim Procedures, SOP's



## Worker Safety & Health Management System (MS) Evaluation Description (Cont'd)

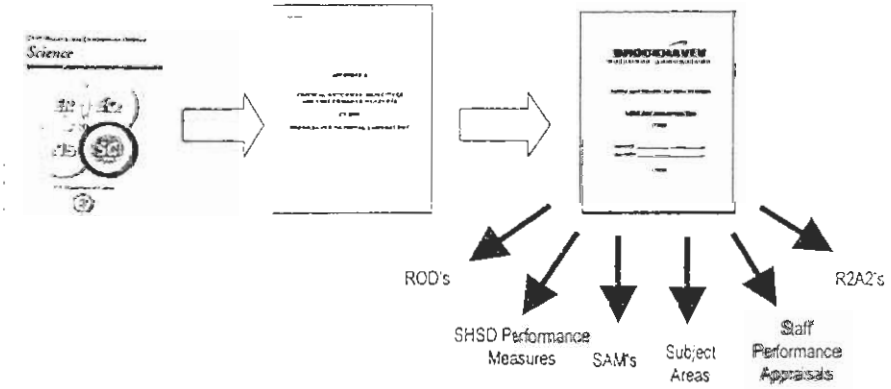
- Completion of legacy documents conversion and continued links to Requirements Management for review of new/revised DOE directives will improve the MS.
- Initial conversion of legacy documents, development of subject areas, review and update of MS information, and existing processes to review of new and revised directives are keys to sustaining MS performance.
- Obstacles to sustaining this performance include:
  - Resources
  - External Regulation Initiative
  - Staff and management acceptance that accidents are preventable

## Definition Criteria:

- Documentation
- Requirements Management
- Alignment



## DOE Mission & BSA Contract



# SBMS Subject Area Development

*(Link to 3.1 of Contract)*

- Driven By DOE Directives and BSA Contract
- Establish Institutional Level Requirements
- Replaces ESH Standards
- More than 40 ESH Standards belonged to SHSD
- 18 Converted to SBMS
- 13 are to be Converted to SBMS
- 7 New SBMS to cover new ESH Requirements



# Industrial Hygiene (IH) Subject Areas **in FY02**

- ***Published in FY02:***
  - *Respiratory Protection*
  - *Lead**
  - *Asbestos**

* *Fulfill ISM or DOE Assessment Commitment*

***Now On the Web***

- *Respiratory Protection*
- *Lead*
- *Asbestos*
- *Static Magnetic Fields*
- *Working with Chemicals*
- *Lasers*
- *Biosafety in Research*
- *Beryllium*

## IH Subject Areas **in FY02**

- ***Submitted in FY02***

*Multi-organization Team met and Developed a consensus document*

  - *IAQ** *(J. Peters)*
  - *Ergonomics** *(N. Bernholc)*
  - *Biohazards** *(F. Horn)*
  - *Confined Space** *(N. Bernholc)*
  - *PPE* *(R. Selvey)*

* *Fulfill ISM or DOE Assessment Commitment*



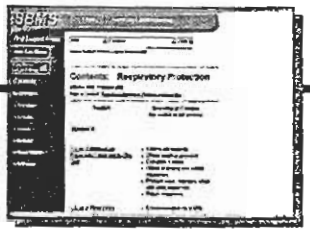
## IH Subject Areas **in FY03**

- ***Planned for FY03***

  - *Declaration of Pregnancy* *(R. Selvey)*
  - *Noise & Hearing Cons.* *(K. Erickson)*
  - *Exhaust Ventilation* *(R. Selvey)*
  - *Bloodborne Pathogens* *(R. Selvey)*
  - *Working w/ Chem Update* *(K. Erickson)*

Remaining for FY04
- Non-Ionizing Radiation
- ~~Heat Stress~~
- ~~Sanitation Inspections~~
- ~~(Outdoor Work)~~
- (Building Crawl Spaces/Attics)

# Safety Engineering (SE) Subject Areas **in FY02**



- ***Published in FY02:***
  - *Lifting Safety*
  - *Minors Interim Policy*
  - *Off-Site Work*
  - *Material Handling*

***Now On the Web***
- *Underage Workers*
- *ODH Classification/Control*
- *Operational Readiness Evaluation*
- *Incident/Accident Investigations*
- *Step Work-Imminent Danger*
- *Lifting Safety*



# SE Subject Areas **in FY03**

- *Underage (Minor) Workers* (Monahan & Quiros)
- *Construction Safety* (K. Krasner)

Revised:
- *Lifting Safety* (J. Ellerkamp)
- *Incident/Accident Investigation* (J. Ellerkamp)
- *Electrical Safety (std)* (J. Curtiss)
- *Lockout/Tagout (std)* (J. Curtiss)

Remaining for FY04
- Traffic Safety
- Compressed Gases
- Excavation Safety
- Organizational ESH Inspections
- Aviation/Marine
- Firearm Safety
- Electrical Safety
- Lockout/Tagout

## Worker Safety & Health Management System (MS) Evaluation
### Definition Criteria (Cont'd)

- **Requirements Management**
  - All Records of Decision (ROD) are completed, including any parsed units.
  - Process for preparation of RODS include:
    - WSH SME received, new, revised or draft directives
    - Reviewed for applicability to the MS
    - Formal review by Subject Matter Experts (SME)
      - Review often started before formal request from Req. Mgt.
    - Final directive is compared to SHSD comments on draft
    - ROD is prepared outlining actions required to implement
    - Adjustments, changes in operations, procedures, etc. are developed by SME's (both within the Division and with other affected organizations)
    - Change implemented once requirements become part of contract



## Worker Safety & Health Management System (MS) Evaluation
### Definition Criteria (Cont'd)

- **Alignment**
  - Several methods for aligning with related/supporting management systems
    - Active participation on subject area development teams
    - SME's involved with other MS POCs (i.e., OMC, Work Planning)
    - DOE directive alerts
    - Committee participation
    - SHSD Self-Assessment Plan
    - Line organization assessments, audits, inspections
    - Interaction with Requirements Management Office
    - ESH Coordinators & Representatives Meetings
    - Injury/Illness Reports
    - CAIRS Reports
    - Management Council Presentations
    - Subject Area Development
    - Issue & Decision Papers for SBMS Steering Committee include implementation milestones

## Break for Discussion and Scoring



## Implementation Criteria:

- Awareness
- Implementation/Integration
- Acceptance Indicators

## Worker Safety & Health Management System (MS) Evaluation
### Implementation Criteria (Cont'd)

- Awareness
  - Responsibilities and accountabilities are verified through DOE Inspections, self-assessments, and ISM verification
  - Specific assessments are performed by SHSD
  - Requirements are communicated through training, program descriptions, subject areas, SBMS Interim Procedures, Lab-wide e-mails, Monday memos
  - Effectiveness of communication is indicated by daily interaction between SHSD field staff and the Lab population
  - Training performance is tracked through the Lab T&Q Database by SHSD Training Coordinator and is a standing staff meeting agenda item
    - Monthly performance reporting includes training completion status
    - R2A2 profiles are provided on the SBMS for safety related responsibilities associated line organizations
    - SHSD staff Job Task Analyses reviewed on an annual basis



## Worker Safety & Health Management System (MS) Evaluation
### Implementation Criteria (Cont'd)

- Implementation/Integration
  - Processes/activities associated with the MS are not new to the Laboratory
    - Implemented through SPI's, BNL ES&H Standards, manuals/procedures specific to small programs, constant interaction with users
    - Ongoing conversion of legacy documents will clarify and improve these processes
  - MS processes are validated through DOE inspections and BNL's self-assessment program
    - Successful self-assessment program (with BAO) has led to less DOE independent assessments
    - DOE ratings continue to be high – best indication that MS processes are carried out according to system requirements
  - Requirements Management process ensures close coordination between related/supporting management systems
  - Interaction with groups such as the OMC, Fire Rescue, Radiological Controls, and line organizations enhances the effectiveness of MS processes.

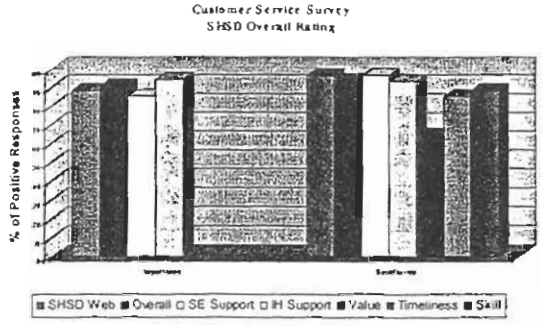
## Worker Safety & Health Management System (MS) Evaluation
### Implementation Criteria (Cont'd)

- Acceptance Indicators
  - Input received from DOE Brookhaven Area Office, Chicago Operations Office and Headquarters
  - Line Organization self-assessments and mini audits such as Biological Agent Investigation, Construction site tours, SHSD Staff Participation on Tier I and Work Planning
  - Specialized safety training of other line organizations allow discussions on processes
  - Unsolicited feedback is received in many forms: verbally, formal letters, e-mails, and telephone
  - Example of stakeholder involvement can be found in the Management Council, ESH Coordinators, Chemical Safety Advisory Group
    - Meetings have resulted in many suggested improvements and, in some cases, active involvement by the stakeholders in implementing new and improved processes



## Feedback from Customers

- Customer Surveys
  - Industrial Hygiene
  - Safety Engineering
  - SHSD Overall

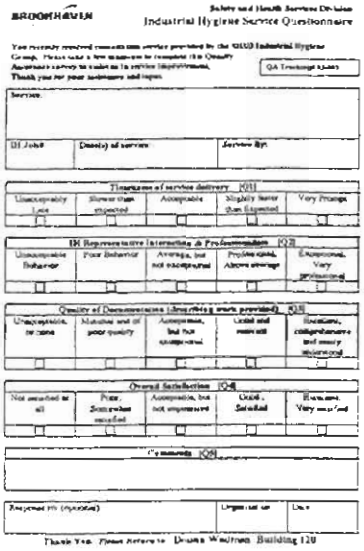


# Feedback from Customers

- Contract Performance Measures
  - All PM Composites Rated Outstanding or Excellent
- Supporting Assessment Measures
  - No Significant Programmatic Findings
  - BAO Evaluations: 3 Outstanding, 2 Excellent, 1 Good
  - Increase in Noteworthy Practices Cited
- Field Service Survey
  - BNL Line Units: Need more, but cannot pay more
  - BAO OMD: Identified SHSD Service Needs
- Other Feedback
  - DuPont, Liberty Mutual, OSHA Survey Teams, Meetings, E-mails, Letters, Calls, etc.



# IH Feedback Slide



BROOKHAVEN
Industrial Hygiene Service Questionnaire

## Break for Discussion and Scoring



## Planning, Assessment and Improvement Criteria

- Planning
- Assessment
  - Planning
  - Conduct
  - Analysis of Results
- Operational Performance
- Improvement

## Worker Safety & Health Management System (MS) Evaluation
### Planning, Assessment and Improvement Criteria

- Planning
  - Improvements identified through self-assessments, self-evaluation, line organization assessments, vulnerability analyses, risk assessments, Requirements Management review process, and external inspections.
  - Plans are aligned with the Laboratory's strategic plans.
  - High Priority improvements are identified in Laboratory plans such as the Institutional Plan and, when appropriate, Critical Outcomes. Safety & Health Services Division management is involved in review and development of these plans.



## Worker Safety & Health Management System (MS) Evaluation
### Planning, Assessment and Improvement Criteria

- Assessment
  - Planning
    - SHSD Self-Assessment schedule is based on risk and vulnerability.
    - Input from BAO, ESH&Q Management, SHSD and feedback process.
    - Strategy is to review all program elements over a 3 year period.
  - Conduct
    - DOE inspections and self-assessments rely on document review, field observations, and interviews with responsible organizations/individuals.
    - Assessment results are summarized with corrective actions or improvement suggestions highlighted and communicated through written report to affect organizations.
    - In some cases, actions are immediately taken to correct deficiencies.
    - Corrective actions are tracked to completion.

## FY02 Contract Performance Measures
## Occupational Safety & Health Statistics

- OSHA Reportable Injury Management

| Metric/Weight | Outstanding | Excellent | Good | Marginal | Unsatisfactory |
|---|---|---|---|---|---|
| TRCR/0.33 | | X | | | |
| LWCR/0.33 | | | X | | |
| LWDR/0.33 | X | | | | |
| SCORE | 4 | 3 | 2 | 1 | 0 |

Composite Score = TRCR score x 0.33 + LWCR score x 0.33 + LWDR score x 0.33

FY02 Score = 2.97 (Excellent)



## FY02 Contract Performance Measures
## Chemical Safety Performance

### Legacy Chemicals

- **Performance Measure:**
  - Percentage of Terminated Staff with All Chemical Dispositioned
- **Legacy Chemical Results**
  - FY 2000 - 79% (Excellent)
  - FY 2001 - 83% (Excellent)
  - **FY 2002 - 99% (Outstanding >90%)**

## FY02 Contract Performance Measures
## Chemical Safety Performance

### Chemical Inventories and Accountabilities

- **Performance Measure:**
  - Composite score is 70% of the percentage of containers with barcodes plus 30% of the percentage of bar coded containers assigned to the correct owners.
- **Random Room Surveys Results**
  - FY 2000 - 80% (Excellent)
  - FY 2001 - 63% (Marginal)
  - **FY 2002 - 85% (Excellent 80-90%)**



## FY02 Contract Performance Measures
## Chemical Safety Performance

### Peroxide Forming Compounds

- **Performance Measure:**
  - Percentage of Containers Properly Labeled, Stored and Tested.
- **Peroxide Forming Chemical Results**
  - First year for this metric – major site preparation effort
  - 4 Out of 5 Rooms were perfect, 1 had not tested the containers
  - **FY 2002 - 80% (Excellent 80-90%)**

## Supporting Assessment Measures (SAMs)

*(Link to 3.1.1.1 of Contract)*

- Measures selected from SHSD FY02 Self Assessment Plan
- SHSD SA Plan Identified 6 Assessments (3 IH & 3 SE)
- SHSD Assessments Started 12/01- Design Review
- BNL/BAO Established Formal SAM Program 3/02
- Formal Program Required BAO Evaluation of Scope, Deployment, and Results
- Corrective Actions Tracked on ATS



## Supporting Assessments Measures (SAMS)

**Completed 6 Safety Engineering *Self Assessments* in FY02**

- **Design Review Program** (R. Travis) (Good)
- **NFPA 70 E** (J. Curtiss) (Excellent)
- **Construction Safety Inspection** (D. Robbins) (Excellent)
- Annual Directorate Work Planning (T. Monahan)
- Annual Firearms Safety Appraisal (T. Monahan)
- Annual Lockout/Tagout Inspection (L. Quiros)

## Design Review Program Description and Results

- DOE BAO Collaborated - R.Reif – 1st Qtr FY02
- Formalized by SBMS SA "Engineering Design" and ESH 1.3.0, "Review of Facility Design.
- The Primary Focus was the Quantitative Evaluation of the SHSD Program
  - Processing Time, Timely Response & ESH&Q Response
- Qualitative Measures Included:
  - Review Depth & Quality, Comment Disposition & Labwide Use of the Design Review Program
- One Corrective Action & Fourteen Opportunities for Improvement. Status: Closed
- SAM rating of Good due to confusion over BAO POC & Scope



## NFPA 70E Self Assessment Description and Results

- DOE BAO Collaborated – P. Kelly – 2nd Q FY02
  - Focused on compliance with NFPA 70E – *Standard for Electrical Safety Requirements for Employee Workplaces*
- Thirteen Findings resulting in Five Corrective Actions (80% completed)
  - Key Issues: Safety Standards, Training & Performance of electrical work
- The NFPA 70E Self Assessment received an Excellent rating on the SAM

## Construction Safety Inspection Program Self Assessment Description and Results

DOE BAO Observed – J. Bond - September 2002

- Focused on Conventional Construction Contractors (CCC) working as subcontractors on the Brookhaven National Laboratory site.
- Assessed Department/Division compliance with Construction Safety Inspection Programs as defined in DOE Order 440.1 and SBMS ESH Standard 1.3.1 Construction Safety.
- Four findings identified
- Resulted in eight Corrective Actions, which are in process
- **The Construction Safety Inspection Program Self Assessment received an Excellent rating on the SAM**



## Supporting Assessments Measures (SAMS)

Completed 6 Industrial Hygiene ***Self Assessments*** in FY02

- **OSHA Regulated Chemicals** (R. Selvey) (Outstanding)
- **Biohazard Research Safety** (N. Bernholc) (Excellent)
- **Exhaust Ventilation** (R. Selvey) (Outstanding)
- **Noise and Hearing Conservation Annual** (R. Selvey)
- **Respiratory Protection Annual** (R. Selvey)
- **Confined Space Permits Annual** (N. Bernholc)

## Self Assessments in FY02

### OSHA Regulated Chemicals

R. Selvey- lead
DOE BAO Collaborated – R. Reif
March 2002

8 BNL organizations reviewed
1 Finding, 8 Observations
Final Report; Corrective Action Plan; ATS tracking

DOE Evaluation Final Score = **Outstanding**

- Approach = Outstanding
- Deployment = Outstanding
- Results = Outstanding



## Self Assessments in FY02

### Biohazard Research

N. Bernholc- lead
DOE BAO Observed – R. Reif
April-June 2002

6 BNL organizations reviewed
5 Findings, 2 Observations
Final Report; Corrective Action Plan; ATS tracking

DOE Evaluation Final Score = **Excellent +**

- Approach = Outstanding
- Deployment = Excellent
- Results = Excellent

# Self Assessments in FY02

## Exhaust Ventilation

R. Selvey- lead
DOE BAO Observed – R. Reif & P. Kelly
September 2002

8 BNL organizations reviewed
2 Findings, 4 Observations
Final Report; Corrective Action Plan; ATS tracking

DOE Evaluation Final Score = **Outstanding**

- Approach = Outstanding
- Deployment = Outstanding
- Results = Outstanding

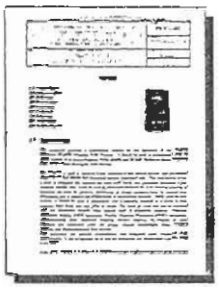


# FY 03 Assessments

- Beryllium Program – SHSD (BAO collab.)
- Ergonomics Program – SHSD (BAO collab.)
- Operational Readiness Evaluations – SHSD (BAO collab.)
- Interlock Protection Program – SHSD (BAO collab.)
- Construction Safety – Contractor Training – SHSD (BAO collab.)
- Pesticide -SHSD
- Noise Program -SHSD
- Cancelled Confined Space Permit - SHSD
- Respiratory Program - SHSD

## FY02 IH Group Improvement Initiatives

- Upgrading IHG Documentation & Processes: In FY02, 26 New SOPs
  - Non-Ionizing Radiation
  - Biohazards/Chemical weapons
  - Sample tracking/prep
  - Equipment request and tracking
- Increased Field Presence
  - 3 Professionals set up to align with BNL organizations
  - 2 Technicians into field
  - Peroxide Forming Chemical Project conducted
- New Instrumentation
  - Noise Dosimeters
  - Sampling Pumps





## FY03 IH Group Improvement Initiatives

- Upgrading IHG Documentation

  New SOPs
  - Respiratory Protection
  - Exhaust Ventilation
  - IH Instrumentation operation

  IH Field Monitoring Database
- Increased Field Presence
  - 3 Professional assigned 100% to align with organizations
  - Time tracking system fully deployed
- Special Emphasis Programs
  - Lab Standard & Hazcom Training Update
  - Lab High Hazard Designated Area Posting
  - Perchlorate Safety
  - Peroxide Forming Compound
  - Exhaust Stack Site Survey
  - High Toxic Hazard Assessments
  - Reproductive Hazards

## FY03 CMS Improvement Initiatives

- Field Deploy PDA Scanners
- Web Page for Deletion and New Chemical Registration
- Convert MSDS's to Acrobat PDF's
- Develop Program to Allow Credit Card Purchases
- Develop What Gets Bar Coded Program
- Continue Static Inventory Program Improvements



## Safety Engineering Group FY02 Improvement Initiatives

- OSHA General Industry & Construction Safety 10 hours courses
- Compliance Inspections
- Enhanced Exit Readiness Review process
- Refined ORE & Design Review process
- Enhanced Instrumentation Capability: Thermal scan & coefficient of friction
- Lifting Safety Committee established
- Enhanced WC Case Management
- Safety Awareness Initiatives
- Increased field presence

## Safety Engineering Group
## FY 03 Improvement Initiatives

- Enhanced OSMIS system
- Realign Workers Comp program
- Refined Injury Investigation forms
- Feasibility Study for expanded OMC services (PT, FCE & PET)
- Refine OI policy & procedures
- Introduce new Safety & Health initiatives
- Continue to increase field presence

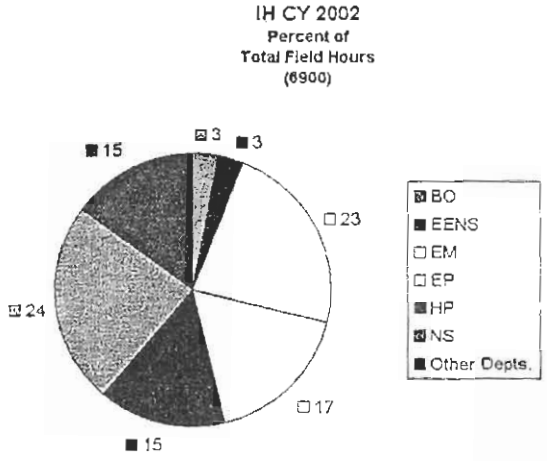


## SHSD Field Presence (Hours)

*(Link to 3.1 of Contract)*

| FY02 | IH | CMS | SE |
|---|---|---|---|
| 1st Quarter | NA | NA | NA |
| 2nd Quarter | 1278 | 1729 | 1043 |
| 3rd Quarter | 1516 | 1710 | 1573 |
| 4th Quarter | 1926 | 2073 | 1753 |

# SHSD Field Presence






# Improvement Initiatives & Program Upgrades


*(Link to 3.1 of Contract)*

- Improved Relationship with BAO
- CMS Improved Efficiency
- More Informative WebPages
- No Significant FY02 Assessment Findings
- Developed IH Projects Tracking Database
- Ergonomics Program Enhanced
- Response to Biologic/Etiologic Agents
- BAI Assessment
- SHSD Web Page
- IH Project
- Bio Agent Inventory

## Improvement Initiatives & Program Upgrades

- R2A2 Reviewed and Updated
- FY 2003 Self-Assessment Plan
- Staff's Goals and Performance Measures
- FY02 Self- Evaluation Completed
- Be Medical Surveillance Program Revised
- Chemical Safety Program Advanced
- Modifications in BAO Audit Approach
- Customer Feedbacks
- Manager's Tours expanded to Periodic Construction Site Tours



## Major Challenge: Improve BNL OI Trends

- Adverse Trends Identified in 2001
- Issue Brought to Management Attention
- Safety Improvement Initiatives
- Safety Awareness Day
- Poster Series Initiated
- Management Council Presentations
- DuPont Safety Resources
- Pre-placement and Onsite Physical Therapy Feasibility Study
- Case Management Enhancements

## Management Council Reviews
## 12 Months Org. Units Scorecard (04/30/03)

| Organizations | Code | All Cases | TRC | TRC Rate | LWC | LWC Rate |
|---|---|---|---|---|---|---|
| Plant Engineering Div. | EP | 37 | 12 | 3.64 | 6 | 1.82 |
| Collider-Accelerator Dept | CA | 20 | 8 | 2.05 | 6 | 1.54 |
| Central Shops Div. | CS | 12 | 7 | 12.59 | 1 | 1.80 |
| Physics Dept. | PO | 8 | 1 | 0.41 | 1 | 0.41 |
| Staff Services Div. | SS | 8 | 2 | 4.08 | 1 | 2.04 |
| Nat. Synchrotron Light Src. | LS | 6 | 2 | 1.47 | 1 | 0.74 |
| Proc. & Prop. Mgmt. Div. | PR | 8 | 4 | 7.36 | 4 | 7.36 |
| Safeguards & Security Div. | SE | 6 | 2 | 3.93 | 2 | 3.93 |
| Waste Management Div. | WM | 6 | 1 | 5.18 | 1 | 5.18 |
| Accelerator Magnet Division | AM | 4 | 2 | 2.66 | 2 | 2.66 |
| Biology | BO | 4 | 0 | 0.00 | 0 | 0.00 |
| Emergency Services Div. | EM | 4 | 1 | 2.98 | 0 | 0.00 |
| Energy, Sci. & Techn. Dept | NE | 4 | 1 | 1.44 | 0 | 0.00 |
| Chemistry Dept. | CO | 3 | 0 | 0.00 | 0 | 0.00 |
| Information Services Div. | ID | 3 | 1 | 4.54 | 1 | 4.54 |
| Radiological Controls Div. | RP | 3 | 1 | 1.48 | 0 | 0.00 |
| Business Systems Div. | BD | 2 | 0 | 0.00 | 0 | 0.00 |
| Environ. Restor. Div. | ER | 2 | 1 | 3.23 | 1 | 3.23 |
| Medical Department | MO | 2 | 0 | 0.00 | 0 | 0.00 |
| Comm. Educ. Gov & Pub Aff. | PA | 1 | 1 | 4.00 | 1 | 4.00 |
| Dept. Environ. Sciences | EE | 1 | 0 | 0.00 | 0 | 0.00 |
| Finance & Admin. Dir. | DI | 1 | 1 | 10.33 | 0 | 0.00 |
| Occupational Medicine Clinic | OM | 1 | 1 | 6.85 | 1 | 6.85 |
| Office of Indep. Oversight | OS | 1 | 0 | 0.00 | 0 | 0.00 |

> DOE Research Lab Avg. | □ DOE Research Lab Avg.



## OSHA Type Inspections

**Results:**

Only 15 of BNL 400 facilities inspected

Types of Facilities: Labs, Shops, Hi-Bays, Big Mac's, Ind. Ops., S&T Shops

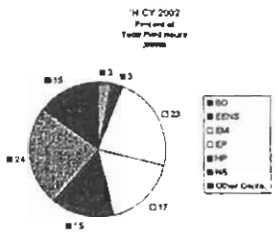
Types of non-compliance to OSHA Standards: Programmatic = 372, Facility Modifications = 152

General Comments from Team: BNL's vulnerabilities will be in the area of program implementation at the work level.

Estimated OSHA Cost: $9.6 million – $9.9 million

# Major Accomplishments

- Received "Outstanding and Excellent" ratings on two Chemical Safety FY02 Performance Measurements
- Received "Excellent" in Occupational Safety and Health FY02 Performance Measurement
- Other Key Program Accomplishments
  - Safety Awareness Initiatives
  - OSHA Inspections
  - SHSD Staff Field Presence
  - Reduction of TRCR and LWCR
  - Reduction in Site Chemicals





# Current Challenges & Plans for Remedy

- Sustaining Worker Injury Improvements
  - Safety Enhancement Initiatives ($? Not in Inc. Bud. Req.)
- Congress Mandate: External OSHA and NRC Regulations for SC Labs
  - Increase IH and SE Field Presence (FY04 Incremental Budget Request)
- Expansion of PAAA for OSHA Regulations
  - Same as # 2 plus line and Independent Oversight needs

## Worker Safety and Health System Summary

- BSA is committed to worker safety and health
- The system is evolving. Although significant gains, there are opportunities for improvement.
  - Gaps identified/prioritized. Closure in progress.
  - Strong connection to other systems and processes
  - Refinement of processes owned by the system
  - Increased focus on flow down through organizations and increased participation at the organizational level and worker level
- No major deficiencies



## Break for Discussion and Scoring