Approved by:	
S Dawson 1-26-06	
Physics Department Chair	Date
[signature]	2/6/06
Associate Lab Director for HENP	Date

Physics Department, BNL
ESSH Self-Assessment Program
Department Summary
Fiscal Year 2006

The Physics Department at Brookhaven National Laboratory performs basic research targeted at advancing the frontier of scientific knowledge on the structure of matter. The Department is organized into research ***Groups*** with either an ***Experimental*** or a ***Theoretical*** focus in Nuclear and High Energy Physics. The Experimental groups lead world-renowned activities at BNL-based facilities, including our own Accelerator Test Facility, as well as at other major research laboratories. The Theoretical groups are at the scientific forefront in advancing new concepts in understanding the physical universe. The Physics Department also hosts the RIKEN - BNL Research Center and the RHIC and ATLAS Computing Facilities. The staff and these activities attract a large number of scientists from around the world and the Department supports an active visitor program to foster both national and international exchanges.

The primary outputs of the Department are:

1. Leading-edge scientific knowledge;
2. Key ideas and concepts for future research directions, for the Laboratory, the Nation, and the World Scientific Community.

The Physics Department services the following ***customers*** and ***stakeholders***:

1. The DOE, in support of its mission in Energy Research;
2. The U.S. scientific community, as well as the broader World-based research community;
3. Brookhaven Science Associates in its efforts to carry out the mission of Brookhaven National Laboratory;
4. Other BNL Departments, in providing leadership and expertise needed to carry out important research programs.

Self-Assessment Program - Goals

The Physics Department has established a set of goals that contribute to the Institutional Plan of the Laboratory:

1. Continued excellence in scientific research and commitment to advances in scientific research;
2. Maintenance of a collegial atmosphere, which aids in the recruitment and retention of leading scientists, and in which new ideas and breakthroughs can occur;
3. Maintenance of its stewardship of resources and capabilities;
4. Compliance with safety and environmental laws, rules, and regulations;
5. Continued registration with ISO 14001 and OHSAS 18001.

Basic science and applied research seldom produce immediate results. Applications that touch the public often take many years. Hence, this endeavor requires a long-term perspective along with a commitment to continuous improvement in scientific research carried out with safe and environmentally sound operational practices. The Physics Department is committed to an active and comprehensive program of self-assessment to assure our continued excellence, and leadership in the scientific community.

ESSH Self-Assessment Program - Roles, and Responsibilities

Associate Laboratory Director, High Energy and Nuclear Physics - The ALD is responsible for the management and oversight of the Physics Department's self-assessment program for High Energy and Nuclear Physics Groups. The ALD is also responsible for submitting a year-end evaluation report to the Deputy Director for Science and Technology.

Department Chair - The Physics Department Chair is responsible for the development and implementation of a self-assessment program and the preparation of a year-end evaluation report for submission to the ALD for High Energy and Nuclear Physics. The Department Chair shall appoint a Self Assessment Committee (SAC) and an Environmental Assessment Committee (EAC) to collect and evaluate information related to the defined measures. The Chair is also responsible and accountable for ensuring that appropriate corrective actions are taken to address identified weaknesses, commensurate with hazard, risk, vulnerability, and overall business objectives.

Staff - The staff (including guests and collaborators) is responsible for assessing and improving their work and work processes.

ESSH Self Assessment Committee - This Committee shall consist of at least the ES&H Committee Chair and ES&H Coordinators who will collect and evaluate information related to the defined measures and report the results of this evaluation along with suggested measures for the following year to the Chair. The Committee evaluation includes measures and targets set by the Department's OHSAS 18001 program and includes a review of the Department's adherence to the 5 Core Functions of Integrated Safety Management (ISM) in the evaluation of work being performed. The Committee also reviews how we implement the Guiding Principles of ISM.

Environmental Assessment Committee - The EAC will consist of at least the Department Environmental Management System (EMS) Representative and the Environmental Compliance Representative. The EAC will collect and evaluate information related to the defined environmental measures and report the results of this evaluation along with suggested measures for the following year to the Chair. The EAC is responsible for ensuring that the EMS Compliance Assessment, the EMS System Assessment and the EMS Management Review are performed as required by ISO 14001.

Self-Assessment Program - Overview

The Physics Department's Self-Assessment Plan (SAP) for FY 2006 is based on the Laboratory's Critical Outcomes and Performance Measures. The Department assesses the elements that are relevant to its internal strategic plans, operations, and objectives, with the goal of enhancing the performance of the Physics Department and contributing to the Critical Outcomes of the Laboratory. As the primary mission of the Department is to facilitate the basic research and development activities of its scientific staff and the excellence of its research programs, the SAP emphasizes those areas critical to enhancing this mission. Essentially, the process entails:

1. The collection of data on the Department's performance measures;
2. The analysis of these data against the Department's objectives; and,
3. The implementation of appropriate corrective actions based upon the analysis.

The primary objective is to ensure that the all work is carried out in a safe, effective and environmentally sensitive manner. At the heart of this is a strong program of self-evaluation, the Tier I Program and a comprehensive Experimental Safety Review Process.

The Tier I Program, under the direction of the Physics Department's Manager of ESH&T Programs, achieves the BNL's departmental laboratory and office safety inspection requirements. It serves to ensure that individual Physics Department laboratories and offices comply with:

1. Physics Department rules and regulations;
2. The authorized use of an individual lab or office;
3. Safe operating envelopes as approved by the relevant Experimental Safety Review or Safety Assessment Documentation;
4. Building Facility Use Agreements;
5. Applicable external regulations.

These inspections also serve as an information gathering mechanism for performing the assessments required for the Department's EMS. The program involves Level 1, 2, and 3 managers, the DOE Facility Representative, the Environmental Compliance Representative, Group Safety Coordinators, other members of the department, and often, members of other departments and relevant subject matter experts.

The Department's ES&H Committee acts as the Experimental Safety Review Committee. As such, it evaluates the experimental activities for safety, environmental aspects, proper use of the facility, and reviews the training requirements of the individuals involved. The Physics Department plans and monitors its activities in accordance with the Subject Area, *Work Planning and Control for Experiments and Operations* using the framework of the 5 core functions of ISM. The Committee includes the elements of OHSAS 18001 by including risk analysis of the work being done.

The ES&H Committee also acts as the Accident/Incident Investigation Committee, an internal formal investigation committee that has developed measures to handle incidents that are notable violations of accepted Department procedures. In almost all cases these are not reportable

incidents. However, establishing the root cause and lessons learned is valuable for strengthening the overall ESSH program.

The Department has established and maintains an ISO 14001 compliant Environmental Management System (EMS). The Department performs an annual evaluation of its overall environmental performance, which includes an Environmental Management Assessment, a Regulatory Compliance Assessment, and an Environmental Management Review.

The Department has developed an OHSAS 18001 compliant Occupational Health and Safety System. The Department performs an annual evaluation of its overall OSH performance, which includes an OHSAS Management Assessment, a Compliance Assessment, and an OHSAS Management Review.

The Department's Corrective Actions are tracked in BNL's family Action Tracking System. This includes corrective actions for Tier I Inspection violations, those that result from internal and external audits, and those actions resulting from ES&H Committee, Group Safety Coordinator, or Department meetings.

Self-Assessment Program –
Measures of Performance Linked to the 2006 Critical Outcomes

Critical Outcome – Basic Science and Technology

The Physics Department recognizes that a commitment to excellence in science and technology requires an equal commitment to the environment, worker and infrastructure safety, and health. The Department's management exploits every opportunity to remind its people of their responsibilities to themselves, each other, and the Department. It does this through the Department–specific briefing, Work Planning and Control for Experiments and Operations, Training, Department communications i.e. Department meetings, and electronic messages, and the use of R2A2s.

Critical Outcome – Environment Management

The Physics Department has disposed of nearly all legacy items. Those that remain have been reported to laboratory management and are being properly managed. The remainder of the Department's commitment to the environment consists of using the Environmental Management System to identify hazards, ESRs to control them and our Tier I and other inspections for monitoring them.

Critical Outcome – Laboratory Management and Operations

The Department uses all the applicable management systems introduced by BSA in handling ESSH matters in the Department. Specifically, these include the Environmental Management System (EMS), Integrated Safety Management, (ISM), the Brookhaven Training Management System (BTMS), and the Standards Based Management System (SBMS) for the subject areas that govern our operations.

Performance Measures for Brookhaven National Laboratory as established between the Department of Energy (DOE) and Brookhaven Science Associates (BSA)

There are eight performance measures that have been established. The Physics Department helps the Laboratory achieve its institutional goals by contributing at the departmental level to those measures that are applicable to the Department. Some performance goals are truly institutional and are not evaluated at the Department level.

Performance Measure 1.0 – Provide for Efficient and Effective Mission Accomplishment

The Physics Department continues to do its part in achieving 'World Class Science'. Our discoveries and publications, recognition of our excellent scientists through awards and support, continues to bring recognition to BNL.

Physics Department scientists are internationally recognized leaders in their fields. They participate in developing new science initiatives at BNL and also participate in scientific

endeavors at other facilities world-wide and in establishing direction with their global counterparts for the next generation of initiatives and research tools.

Performance Measure 2.0 – Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities

The Physics Department provides the expertise for design, fabrication, and construction of the major detectors for RHIC. These plans are reviewed at the laboratory level and with the DOE to ensure their effectiveness and efficiency. The funding received to accomplish these reflects the confidence of the DOE developed through the past projects we have been successful with.

The Physics Department operates the Accelerator Test Facility (ATF), a proposal-driven Program-Committee-reviewed Users'-Facility dedicated for long-term R&D in Physics of Beams. ATF users, from universities, national labs and industries, are carrying out R&D on Advanced Accelerator Physics and are studying the interactions of high power electromagnetic radiation and high brightness electron beams, including laser acceleration of electrons and Free-Electron Lasers. Other topics include the development of electron beams with extremely high brightness, photo-injectors, electron beam and radiation diagnostics and computer controls.

Operations at the ATF are reviewed annually by the Department and the DOE. DOE and Laboratory approvals for the upgrades, operations, and new capabilities demonstrate continued commitment to this facility for its remarkable achievements.

Performance Measure 3.0 – Provide Effective and Efficient Science and Technology Program Management

The Physics Department accomplishes this in partnership with the Laboratory management. The Laboratory Director, Deputy Director for Science and Technology, Deputy Director for Operations, the Associate Director for High Energy and Nuclear Physics, the Associate Director for Policy and Strategic Planning work with the Physics Department Chair and Associate Chairs to achieve this measure.

The Department works with Laboratory Management to develop new programs aligned with the DOE Mission and the scientific strengths of the Laboratory and participates in major projects at other laboratories world-wide. These programs are always well received by our scientific partners and reviewers, globally, demonstrating the excellence of our personnel. The ability to get funding for some of these underscores their relevance to both the scientific community and the DOE.

Projects that have been previously approved and funded in prior years receive continued funding attesting to their effectiveness and efficiency. These projects undergo rigorous annual reviews internally and externally.

Performance Measure 4.0 – Provide Sound and Competent Leadership and Stewardship of the Laboratory

The Physics Department's Chair and Associate Chairs assist the laboratory in achieving this measure by ensuring that Group Leaders and scientists are globally recognized as leaders in their fields. Additionally, the support personnel are chosen and retained for their demonstration of their quality of performance in supporting their leaders and commitment to excellence in stewardship of the Departments programs and assets.

Performance Measure 5.0 – sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environment Protection

The Physics Department will continue to provide a work environment that protects workers and the environment. The Department will strive to keep its DART rate below the Laboratory average and below the DOE Office of Science expectation of 0.35 cases per 200,000 hours worked. We will also work to keep our OSHA total recordable case rate below the laboratory average and below the Office of Science interim goal of 0.87 cases per 200,000 hours worked.

The Physics Department integrates ES&H into its policies and procedures providing a management system that enhances the safety and well-being of our personnel and the environment. We meet all the requirements established by the Laboratory and in addition have instituted proactive measures to control or eliminate risks. By measuring our own performance and soliciting feedback through our Group Safety Coordinators and Department members we can continuously improve that performance.

The Department is participating in the Laboratory's Human Performance initiative and has already implemented some elements into our programs. The Physics Department will ensure worker, scientist and technician participation in hazards assessment, evaluation and mitigation at the "task level." Job Risk Assessments will be reviewed and updated as deemed appropriate.

The Physics Department has developed an accident/incident management program where all incidents and accidents other than first aid cases are investigated. First aid cases are reviewed by the Physics Department's Manager of ESH&T Programs to see if an investigation is warranted. The Group Leader owning the accident or incident has the responsibility to perform the initial investigation. The ES&H Committee reviews and provides further investigation, if necessary, develops corrective actions and lessons learned which are subsequently shared with Group Safety Coordinators and the entire Department at an 'all-hands' meeting.

The Physics Department effectively manages its waste effectively and efficiently and participates in identifying 'Pollution Prevention' projects and 'Safety Solutions' projects. The Department has had success in attempts to find funding within these Laboratory programs but will also fund others on its own.

The Department maintains its ISO 14001 and OHSAS 18001 registration.

Performance Measure 6.0 – Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of Laboratory Missions

The Physics Department performs its part in helping the Laboratory achieve this measure through its participation in acquiring and developing the Laboratory business systems that meet its needs and by providing feedback to the business division for the programs in place.

The Department has set up an efficient means of reviewing acquisitions and maintaining its property that meets all laboratory requirements and incorporates additional reviews for safety and management.

Personnel in the Physics Department are our most valuable resource. Much time is devoted to recruiting and hiring excellent people, and to mentoring and assisting them in their development, both professionally and personally. The Physics Department strives to enhance its diverse population in its hiring practices to ensure global participation in creating new ideas and tools that serve the needs of researchers world-wide.

The Physics Department invites external review from subject matter experts from Laboratory and DOE resources at BNL and participates openly in reviews from external agencies. The Department values these audits as validation of our excellent programs using any corrective actions or recommendations to provide the safest and healthiest working environment in the Laboratory and DOE complex.

Performance Measure 7.0 – Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs

The Physics Department uses its resources in a most efficient and effective manner to maintain its infrastructure. We are involved in working with Laboratory Management to keep our operations in a safe and reliable condition. Our Tier I program includes inspection of infrastructure, developing any corrective actions, and relaying our needs to management.

Performance Measure 8.0 – Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems

The Physics Department participates in preparations for emergencies in concert with the Emergency Services Division. We keep them informed of our hazards and emergency needs for our people and equipment. Hazard placards are well maintained and people are trained as local emergency coordinators to assist as necessary. Experimental Safety Reviews require the principal investigator to list any emergency preparations or responses required for their work.

Nuclear materials are well managed as is DOE property and equipment. The Department also complies with all cyber security requirements. While the Department is not directly involved with classified or sensitive information, we strive to keep all our information and materials as secure as is reasonable. The Department has appointed its Manager of ESH&T Programs as the ISSM point of contact to ensure effectiveness of this program.

Self-Assessment Program – Areas Assessed

This year a comprehensive review will be undertaken in the following 13 areas: Communications, Training, Leadership, Tier I Inspection Program, Work Planning, Security, Accident and Incident Management, Accelerator Test Facility (ATF) issues, Memoranda of Understanding (MOUs), Group Safety Coordinator (GSC) Program, Environmental Performance, OSHAS performance, and the Summer Student Monitoring Program. Additionally, we will work with the Condensed Matter Physics and Materials Science Department of the BES Directorate to assess our performance in handling many of their ES&H functions as outlined in an MOU established last year.

The results of internal/external audits, with the planned assessments will be documented in a self-evaluation published by the 1st quarter of FY 2007.

The recommendations from the FY 2005 Self-Evaluation are listed below and will be implemented and addressed in the FY 2006 Self-Evaluation.

1. Perform a signature audit of ESRs in the field.

2. The Physics Department will conduct a separate self-evaluation of the ATF covering infrastructure, day-to-day activities, experiments, and needs.

3. Develop a streamlined ESR process for the ATF experiments.

Communications

There is a strong Line Management Commitment to safety through the discussion and review of ESSH topics at each Department Administration Meeting (weekly), Department Group Leader Meetings (2-4 per year), Group Safety Coordinator Meetings (3-4 per year), Department Group Meetings (varied depending on group – quarterly suggested), and at Department 'All Hands' Meetings (3 or more as needed). These meetings will be enhanced with an increased safety focus, with a goal of reaching every employee. The meetings will include safety issues as a principal component of discussion, preferably first. Any issues that cannot be resolved or are deemed significant should be passed up to the Department Chair for follow up and corrective action.

The Department's ES&H Committee meets regularly (about 8 - 12 times per year) to assess the performance of the Department, review radiological and environmental compliance, review and update ESSH documentation, and establish, track, and ensure the implementation of any corrective actions it deems necessary. The ES&H Committee reviews and approves the experiments performed in Physics Department space and inspects the laboratories where that work is done.

Each group selects a Group Safety Coordinator (GSC) so that a cross-section of work functions (technicians, administration representatives, engineers, and scientists) is represented to provide a channel for employee feedback. A subset of the ES&H Committee plans to meet quarterly with

the Group Safety Coordinators to pass down information, explain programs and receive feedback about the ESSH state of the Department and the viability of the programs. Specifically we plan to have the GSCs provide input on laboratory and Department ESSH issues and policies, and identify opportunities for improvement in the workplace. They also will periodically review ESSH and self-assessment data and serve as a vehicle for expression of staff ESSH concerns/issues

Training

The Physics Department plans to continue to maintain or improve the current level of training completion for employees at or above the 97% level. The training completion rate goal for guests and contractors will be 85%. This will be tracked by Department Training Coordinator and reported at Department management meetings.

Leadership

Individual performance goals will reflect directorate and department ESSH goals, and staff will be evaluated against these goals. Examples: compliance with ESSH and training requirements, PI participation in Tier 1s, identification and correction of hazards, response to audit and investigation findings, frequency of injuries and accidents. The Safety and Training Office will provide statistics to all Group Leaders and The Department Chair for this purpose.

The Department maintains a strong representation on nearly all the ESSH Subject Area Development Groups, Laboratory Level Working Groups (Laboratory ES&H Committee, Laser Safety Committee, Training Steering Committee, Radiation Protection Committee, etc.), and is active in the development of Laboratory policy.

Tier I Inspection Program

The Tier 1 Inspection program is a mature program. Nonetheless, the Department remains alert for opportunities to improve the program. To that end, we will try to implement the following:

1. Trending the results;
2. Ensure PI participation in inspections of their labs;
3. Incorporation of ESR and SOP random reviews into the Tier 1 process.

Recognition

The Physics Department recognizes outstanding safety performance by displaying two boards that display the number of days worked without a lost time accident. The Department plans to celebrate with all Department members the achievement of surpassing previous records and other milestones that may be achieved.

Individual recognition for safety will be celebrated by the awarding of Spotlight Awards for safety performance. The ES&H Committee will provide nominations to the Department Chair.

In addition, outstanding individual, group, and/or department safety performance will be recognized at 'All Hands' meetings.

Work Planning

The Department will continue to reinforce the need for compliance with ESR and Work Planning Subject Areas. The current level of compliance will be assessed and improvement actions identified. The ESR signature audit that occurred in 2003 will be repeated with the objective of improved compliance.

Security

The Physics Department will assure compliance with SECON security requirements. In particular, assure all laboratory and office doors shall be locked outside of working hours. Noncompliance reports will be given to the Department Chair and Group Leaders of the responsible individuals. This information will be made available for inclusion in performance evaluations.

The Department Chair and Group Leaders will assure that all appropriate material is adequately safeguarded, i.e., radioactive materials, drugs, and materials and equipment of high commercial value.

Accident and Incident Management

The Physics Department will take an active role in Accident and Incident Management by reviewing all incidents and accidents that occur in the Department, regardless of their reporting status, in an effort to pro-actively reduce situations where accidents or incidents may occur. The Department Chair determines the level of investigation of all accidents and incidents and charges either the ES&H Committee or another group to investigate and submit a written report. As part of the investigation, the ES&H Committee routinely charges the Group Leader of the group where the accident/incident occurred to perform an initial investigation and produce a written report to the Committee. This ensures that line management takes an active part in accident investigations. Additionally, the Department of Energy's Brookhaven Area Office will be informed through their Physics Facility Representative who is an ex-officio member of the ES&H Committee

Information from the investigations will be disseminated to all Department personnel along with any Lessons Learned. Incidents and accidents will be discussed with Group Safety Coordinators for their input and feedback.

The Safety and Training Office will electronically distribute to all Physics Personnel information gathered and published monthly by the Assistant Laboratory Director for ESH&Q, to keep them apprised of safety and other incidents in the Laboratory.

Accelerator Test Facility (ATF) Issues

The SA evaluation team will look at the ATF as a separate entity since it is our only facility. This will involve the ES&H Committee Chair, ES&H Coordinators, and ATF personnel. The goal is to get feedback relevant only to the ATF so its concerns are included in the larger department roll-up.

A streamlined procedure for reviewing experiments will be developed so that similar experiments and use of beam lines involving the same set of hazards (or lack of any) do not need separate full reviews by the ESR Committee.

Memoranda of Understanding (MOU)

The Physics Department generates MOUs for inter-departmental work. This is intended to define the responsibilities of each department with respect to Tier I Inspections, Work Planning and Control, ESRs, and infrastructure. The Physics Department will review its current MOUs and will renew or update those that are 3 or more years old. The Safety and Training Office will determine if inter-departmental situations exist that are currently not defined by MOUs and generate them where necessary.

Group Safety Coordinator (GSC) Program

The Group Safety Coordinator Program is a reasonably mature program intended to solicit more employee involvement in safety issues. GSCs use this forum to bring ES&H issues to line management. While the program works very well, attendance is not as good as we would like it to be. We will try to arrange GSC meetings at times that will better accommodate the schedules of the members.

Environmental Performance

The Physics Department will do its part to maintain the laboratory-wide ISO 14001 registration and strive to continually improve the Environmental Management System. Our goals are to be in full compliance with all applicable environmental requirements and to continue efforts to identify pollution prevention opportunities.

The Physics Department will continue to manage its waste well. Over the past few years, the waste generated has been below projections that the Environmental and Waste Services Division provides.

The Department plans to continue to remind its personnel of the problems associated with the dumping of household goods and garbage in the Physics Department dumpsters. In addition to compliance issues there are costs associated with clean-ups and fines are possible.

OSHAS Performance

The Physics Department has achieved OHSAS 18001 registration. The ES&H Coordinators will monitor the system performance that includes tracking and trending injuries, reviewing FRAs and JRAs, and other specific measures as defined in the OHSAS Management Plan. Facility and Job Risk Assessments are reviewed periodically. The review includes: removing FRAs and JRAs that are no longer relevant to the work being performed in the Department; adding new or more detailed assessments as needed; re-evaluation of FRAs and/or JRAs following an incident or injury. A summary of the FRA and JRA changes is presented to management during the annual Management Review. Additionally, PIs will include a risk assessment of the activities as part of the ESR process. Any risks not consistent with established JRAs will initiate a re-assessment of that JRA. This process may also result in development of new JRAs. Progress during the year is reported in weekly management meetings.

Summer Student Monitoring

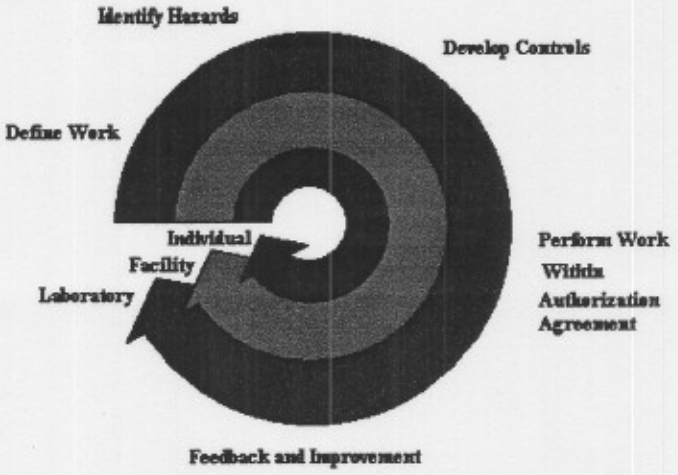
The Physics Department recognizes the additional risk posed by inexperienced people working in areas where hazards are present. In an effort to manage this, the Physics Department's Safety & Training Office will maintain a list of summer students and the ES&H Coordinator will visit summer students during their time in the Department in order to assess their working conditions and their understanding of the hazards they are working with. This will be an informal assessment, however, if deficiencies are found, they will be corrected in concert with the student's host.

Self-Assessment Evaluation Overview

The Physics Department has a policy that mandates certain annual assessments be included in the annual Self-Evaluation, in conjunction with or in addition to the BNL required assessments. These are given below.

Integrated Safety Management Assessment

The Physics Department established an ISM Assessment during its self-evaluation process last year. This year we intend to formalize this process in our ES&H Policies requiring an annual assessment. This assessment will include adherence to the 5 core functions in our work planning process (our ESR form is organized into the 5 core functions) and how the Department accomplishes incorporation of the Guiding principles into all we do.



Assessment Links to the Malcolm Baldridge National Quality Awards Criteria will also be provided.

Corrective Action Management Assessment

The Department will institute a Corrective Action Management Assessment that goes beyond the BNL requirements. This system will look at incidents that occurred over the last two years and evaluate the effectiveness of the corrective actions that were developed and closed out as having been completed. Furthermore, we will determine the appropriateness of those corrective actions and report the results in our annual Self-Evaluation.

Environmental Management System Assessments

Compliance Assessment

Tier I inspections serve as an information gathering mechanism for the EMS Compliance Assessment. The Department EMS Representative (DER) and the Environmental Compliance Representative (ECR) shall serve as a member of the inspection team and represent the EAC whenever such information is gathered. The goal is to complete inspections of two laboratory or shop areas during the first quarter of the fiscal year.

The DER shall update the list of satellite accumulation areas and check for compliance by visiting each area. The ECR may act in a supporting role, if necessary. The goal is to complete this activity during the second quarter of the fiscal year.

Non-Compliances shall be reported to the Department Chair and others as appropriate. Finding significant problems may require convening an additional Management Review. If such a review is deemed necessary, it shall be held as soon as possible after the problem has been identified.

Records of the Compliance Assessment shall be maintained with other self-assessment records.

System Assessment

Evaluate Documents. The EMS document evaluation should normally take place in December – January. This coincides with the annual Experiment Safety Review "cycle," when ESR procedures and forms are examined, evaluated and modified if necessary. The DER and the Department ES&H Committee shall include an evaluation of EMS documents as part of this assessment. The ECR has a supporting role. The Department ES&H Committee must approve any changes.

Evaluate Operations. Tier I inspections can function as an opportunity to observe operations and to interview workers. The DER and ECR shall be part of the Tier I team during these evaluations. Information pertaining to observations shall be recorded on the appropriate assessment checklist, such as that provided in the SBMS Subject Area. The goal is to complete two evaluations during the fiscal year.

System Audit. A formal audit of all the elements of the EMS shall be performed at least every three years. This may be accomplished by audits of subsets of the EMS elements each year. A qualified auditor or an audit team shall perform the audit. A qualified auditor who is external to the Physics Department shall lead the audit team.

The results of the System Assessment shall be documented in a formal report to the Department Chair within 60 days of the completion of the assessment. Finding significant problems may require convening an additional Management Review. If such a review is deemed necessary, it shall be held as soon as possible after the problem has been identified.

Records of the System Assessment shall be maintained with other self-assessment records.

Management Review

The results of the Compliance and System Assessments are used by the DER as input to the Management Review. The Management Review may also be held at the Directorate level, at the request of the relevant Associate Laboratory Director. Additional Management Reviews may be scheduled as necessary as a result of findings of the Compliance and System Assessments. Such meetings may be called at the discretion of the Laboratory Management, Directorate Management, Department Management, or Assessment Team(s).

Records of the Management Review, including minutes of the meeting shall be maintained with other self-assessment records. Recommendations and corrective actions that are identified as a

result of this review will be tracked to completion through BNL's Physics FATS (Family Action Tracking System).

OSHAS Management System Assessments

Compliance and System Assessments

These assessments are carried out as required by the OHSAS 18001 system and include both internal and external assessments and audits. The scope and timing of these assessments is determined in coordination with the BNL ESH&Q Division.

Management Review

The results of the Compliance and System Assessments are used by the ES&H Coordinator as input to the Management Review. The Management Review may also be held at the Directorate level, at the request of the relevant Associate Laboratory Director. Additional Management Reviews may be scheduled as necessary as a result of findings of the Compliance and System Assessments. Such meetings may be called at the discretion of the Laboratory Management, Directorate Management, Department Management, or Assessment Team(s).

Records of the Management Review, including minutes of the meeting shall be maintained with other self-assessment records. Recommendations and corrective actions that are identified as a result of this review will be tracked to completion through BNL's Physics FATS.

Safety Assessments

Tier I Program

The Tier I Program, under the direction of the Manager of ESH&T Programs, achieves BNL's Departmental Laboratory and Office safety inspection requirements and serves to ensure individual Physics Laboratories and Offices

a. Comply with Physics Department rules and regulations,
b. Adhere to the posted authorized use of an individual lab or office,
c. Conform to the safe operating envelopes as granted by the Experimental Safety Review,
d. Conform to building infrastructure use.

These inspections also serve as an information gathering mechanism for performing the assessments required for the Department's EMS. The program involves Level 1, 2, and 3 managers, other departments, the DOE Facility Representative, the Environmental Compliance Representative, Group Safety Coordinators, and other members of the department.

Experimental Safety Review Program

The Department plans and monitors most of its activities under the Work Planning and Control for Experiments and Operations Subject Area. The Department's ES&H Committee acts as the Experimental Safety Review Committee, which evaluates the activities for safety, environmental aspects, proper use of the facility, and a review of the training requirements of the individuals involved in the projects. Projects that involve the use of radioactive materials receive an informal ALARA review by the Committee. The review requires a waste minimization plan and the Committee looks for pollution prevention opportunities while reviewing individual experiments and systematically while comparing similar experiments. The review is comprehensive since it involves feedback from those working on the project and also a visual inspection of the laboratory area by Committee members.

Item Specific Audits

The results of the following specific audits are reported in the Minutes of the ES&H Committee:

1. Chemical Audit - Annual, by all Department Chemical Owners and the ES&H Coordinator.
2. Dose Reviews - Semi-annual for individuals, quarterly for ATF area monitors, by the ES&H Committee.
3. Department ESSH Policy Audits - Annual, by the ES&H Committee.
4. Sealed Source Audits - Semi-annual for non-exempt sources, annual for exempt sources, by the ES&H Coordinator.
5. Hazard Placard Audit - Annual, by the ES&H Coordinator.

Excellence in ESSH: Areas identified in the Self-Assessment Plan

Monitoring the thirteen distinct areas will provide the assessment of the operational excellence of the Physics Department's ESSH program. These activities were selected to represent important areas of concern to the Department and to demonstrate the management commitment to the ESSH and Self-Assessment programs.

The areas are:

1. Communications,
2. Training,
3. Leadership,
4. Tier I Inspection Program,
5. Work Planning,
6. Security,
7. Accident and Incident Management,
8. Accelerator Test Facility (ATF) issues,
9. Memoranda of Understanding (MOUs),
10. Group Safety Coordinator (GSC) Program,
11. Environmental performance,
12. OSHAS registration performance, and
13. Summer Student Monitoring

Department.

Acronyms

ALARA	As Low As Reasonably Achievable
ALD	Associate Laboratory Director
ATF	Accelerator Test Facility
ATS	Action Tracking System
BES	Basic Energy Sciences
BTMS	Brookhaven Training Management System
CMPMS	Condensed Matter Physics and Materials Science
DART	Days Away Restricted or Transferred
DER	Department EMS Representative (R. Gill)
DOE	Department of Energy
EAC	Environmental Assessment Committee (R. Gill and K. Klaus)
ECR	Environmental Compliance Representative (K. Klaus)
EMS	Environmental Management System
ESH, ES&H	Environment, Safety, and Health
ESH&Q	Environment, Safety, Health & Quality
ESR	Experimental Safety Review
ESSH	Environment, Safety, Security, and Health
FATS	Family Action Tracking System
FRA	Facility Risk Assessment
GSC	Group Safety Coordinator (See GSC list)
HENP	High Energy and Nuclear Physics
ISM	Integrated Safety Management
ISSM	Integrated Safeguards and Security Management
ISO	Independent Standards Organization
JRA	Job Risk Assessment
MOU	Memorandum of Understanding
OSHA	Occupational Safety and Health Administration
OHSAS	Occupational Health and Safety Assessment System
PI	Principal Investigator
RF	Radio Frequency
SAC	Self Assessment Committee
SAP	Self Assessment Plan
SBMS	Standards Based Management System
SECON	Security Conditions
SOP	Standard Operating Procedures
R2A2	Roles, Responsibilities, Authorities, and Accountabilities
R&D	Research and Development