



Building 902
P.O. Box 5000
Upton, NY 11973-5000
Phone 631 344-8236
Fax 631 344-2190
krasner@bnl.gov

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Memo

Date: December 18, 2007
To: Distribution
From: K. Krasner
Subject: Minutes – SMD Self-Assessment 12/13/07

Meeting Agenda: [See Attached](#)

Attendees:

All are SMD personnel unless otherwise noted
K. Krasner, P. Wanderer, S. Vigdor (DO), R. Roberts, M. Van Essendelft (EWMS), J. Selva (EWMS), T. Dilgen, E. Lessard (C-AD), P. Ribaud, J. D'Ambra, J. Citorino, H. Hocker, G. Ganetis, D. McChesney

Meeting Purpose:

The Superconducting Magnet Division's (SMD) Annual Self-Assessment Review was held on December 13, 2007. The format of the meeting was a series of presentations given by Division members and invited speakers. Presentations were structured as a review and critique of programs essential to the operations associated with the SMD. The feedback of strengths and opportunities for improvement is an integral part of the continuous improvement cycle.

Topics Discussed: The topics discussed were modified from the published agenda due to the absence of the invited speaker to discuss Human Performance Initiatives.

- Division Overview
- ESH/OSHAS Management Review
- C-AD/SMD Management Review RoD
- Work Observation Program
- EMS Management Review
- Training Program
- Work Planning and Control
- Computer/Building Security
- Close-out

Presentations and Discussion: Below are the highlights of the presentations. Complete Power Point presentations can be found at the links indicated

Division Overview – Peter Wanderer [Presentation](#)

- **Division ESSHQ Goals**
 - Promote a safety culture in the workplace and thereby reduce injuries
 - Comply with all environmental regulations and laws

- Comply with regulations governing health, security, and quality
- **Systems Used to Reach Goals include:**
 - Integrated Assessment Program (IAP)
 - Integrated Safety Management (ISM)
 - Occupational Health and Safety Administration (OSHA) Standards
 - Occupational Safety and Health Management System (OSHMS) using OHSAS 18001
 - Environmental Management System (EMS) using ISO 14001
 - Standards-Based Management System (SBMS)
 - Integrated Safeguards and Security Management (ISSM)
 - Work Planning and Control
 - Training and Qualification
- **Self-Assessment of Management Commitment Activity**
 - Measure: EMS Management Review
 - Goal: Conduct Review in Accordance with Environmental Assessments Subject Area
 - Result: successful (this meeting)
 - Measure: OSHMS Management Review
 - Goal: Conduct review in accordance with OSHAS 18001 Interim Procedure Integrated Management Review
 - Result: successful (this meeting)
 - Measure: Senior Management ESH&Q Walk-Through Participation
 - Goal: 12 per year
 - Result: 6 in FY '07
 - Measure: ES&H Topics Discussed at Divisional Meetings
 - Goal: 100% compliance
 - Successful: all meetings
- **Self-Assessment of Design and Production Activity**
 - Measure: Design Reviews done prior to prototyping, production, or testing
 - Goal: Review all designs for safety and environmental impact
 - Result: successful (all projects complied)
 - Measure: Production in accordance with approved documentation
 - Goal: Approve all drawings, travelers, and OPMs
 - Result: successful (all projects complied)
 - Measure: Facility Use Agreements
 - Goal: Up-to-date
 - Result: Up-to-date
- **Self-Assessment of Waste Management and Administration Activity**
 - Measure: 90-day Management Area
 - Goal: Inspections conducted as required
 - Result: Successful
 - Measure: 90-Day Area/Satellite Accumulation Area Procedure
 - Goal: Procedures posted and implemented
 - Result: Successful
- **Self-Assessment of SMD's Technical Mission**
 - The technical/scientific continuing missions:
 - Ongoing and new projects call for small numbers of magnets
 - R&D for ILC and LARP expected to continue for several years
 - RHIC support partly for present machine, partly RHIC II
 - New: NSLS II magnet measurement, alignment

- Specialized capabilities of SMD will continue to be of value to DOE
 - Direct wind is unique
 - Most experience with HTS coils and magnets
 - Cryo test facility is capable, but needs upgrading
 - RHIC systems expertise, historical background -- important resources
 - Engineering strength continues high, lacks design support
- **Management Commitment to the SMD Program**
 - FY08 funding in President's budget strong (e.g., ILC, LARP), but, as of this date, still uncertain
 - S. Vigdor looking to continue use of Magnet Division's expertise in future programs at BNL, elsewhere

FY08 Improvement Actions Derived From C-AD/SMD Management Review – Ed. Lessard (C-AD) [Presentation](#)

- **Purpose of C-AD/SMD Management Review on 9/27/2007**
 - Review environmental, occupational safety and health, and security performance, both qualitatively and quantitatively, for the purpose of identifying key improvement opportunities in management systems
 - Review of organizational performance versus objectives and measures
 - Output: Record of Decision (ROD)
- **ROD Improvement Opportunities For BNL Management Systems in FY08**
 - Request Lab not implement new policies by memorandum
 - Request Lab improve interlock, PPE, pressure and electrical safety Subject Areas
 - Request Lab add senior department-manager oversight committee to SBMS
- **ROD ESSHQ Objectives And Measures For C-AD/SMD in FY08**
 - Greenhouse Gas Emissions
 - 3% Reduction
 - Unneeded Materials and Chemicals
 - 3% Reduction
 - Regulatory
 - 0 Notices of Violation
 - Safety
 - 0 Injuries
- **Specific FY08 OSH Objectives Derived from Management Review**
 - Zero DART Incidence Rate
 - Zero TRC Incidence Rate
 - Zero notices of 10CFR851 violations
 - Increase manager work observations by 30%
 - Train >80% of staff in new version of Work Planning
 - Meet the FY 08 ALARA Goal of 1.5 person-rem
 - Improve valuable material security
 - Zero PPE noncompliance
- **Specific FY 08 OSH Improvement Actions Derived From Management Review**
 - Complete human performance training for >80% of staff
 - Conduct at least one code training course (e.g., ASME/NEC/OSHA)

- Review FY08 critiques specifically for organizational deficiencies and PPE noncompliance
- Conduct a field review of posted operator aids in C-A Control Rooms
- Conduct a review of records locations and ensure records are secure and retrievable
- Improve materials security program by installing security cameras at B912 and B926
- Reduce excess space by removing RF trailer near B925
- Conduct 10 industrial hygiene surveys
- Complete the arc flash calculation and labeling program
- Request, as in previous years, BNL repair Building 912 and 930 roofs
- Upgrade B912A emergency generators and remove B912A underground fuel tank
- Close out 10% of the Fire Hazards Analyses recommendations
- Monitor OSHA violations closeout status quarterly
- Conduct ERE of B835 warehouse and transfer RF materials in B918 to B926
- Remove 10% of remaining old power distribution cables, Royal boxes, etc. in B912
- **Specific E Objectives Derived from Management Review**
 - Comply with regulations
 - Reduce Greenhouse Gas emissions
 - Implement P2 projects
 - Protect groundwater
 - Reduce legacy waste from site
- **Specific E Improvement Actions Derived from Management Review**
 - Do not exceed NESHAPS and SPEDES permits
 - Zero notices of NEPA violations
 - Zero spills
 - Zero unauthorized releases
 - Reduce unnecessary electrical loads during shutdown periods
 - Achieve 3% reduction in unneeded materials and chemicals
 - Submit at least one P2 project proposal
 - Complete the removal of PCB capacitors at Linac
 - Investigate cost of removal of PCBs at TVDG
 - Reduce, where appropriate, Pb solder, Freon and mercury
 - Train purchasers on Environmentally Preferable Purchasing
 - Archive data on activated soils
 - Cap Linac beam stops and investigate need for a cap at J-10

Superconducting Magnet Division Safety and Health Program Review – Ken Krasner [Presentation](#)

- **Tier 1 Program**
 - Consists of core committee members from SMD, ECR, ESH coordinator, building manager and BHSO
 - Additional support is requested from IH, FP, HP, and other SME's as appropriate for the inspection.
 - SMD Tier 1 findings are entered in the Family ATS system for tracking/trending purposes.
 - Tier I inspections are scheduled at least monthly and cover all offices, assembly areas, shops, and out-buildings

- **OHSAS 18001**
 - Two Magnet Division workers are members of the C-AD WOSH committee.
 - SMD ESH Coordinator attends C-AD Bi-weekly ESHQ meetings
 - JRAs and FRAs have been reviewed and revised as necessary
 - Future initiative
 - Upgrade to 18001-2007
- **OSH/EMS Improvement/Initiatives**
 - NRTL Program implementation started- three persons trained and qualified to perform evaluations
 - 2008 initiative
 - Two technicians loaned to CFN to assist in equipment set-up
 - Extent-of-Condition of electrical pigtails
 - 23 identified and reported to SHSD
- **Occupational Injuries**
 - DART - NONE
 - OSHA Recordable Cases - NONE
 - First Aid Cases- NONE
- **10 CFR 851**
 - Became effective February 9, 2007. Areas which affect SMD operations - Pressure safety

Work Observation Program – Peter Wanderer [Presentation](#)

- **Overview**
 - Purpose: Upgrade safety, not to “catch people” in unsafe acts
 - No quotas, no names recorded, no punishment
 - Areas visited are not notified in advance
 - Employees are supposed to be unaware of being observed – true when initially walk into the area, not later
 - “evaporative acts” – e.g., put on safety glasses when observers arrive
- **Observation Categories**
 - Positions of people relative to “danger zone” (e.g., under crane hook)
 - Ergonomics
 - Clothing and PPE (personal protective equipment)
 - Tools and equipment
 - Procedures
 - Orderliness
- **FY07 Observations**
 - **Six observations – should have been 11**
- **Goals for FY08**
 - 12 observations (two already done)
 - Cover all technical work areas
 - Include more observers from outside the Magnet Division

Environmental Management System – Mel VanEssendelft [Presentation](#)

- **Environmental Performance: Objectives & Targets**
 - Increase the awareness of the BNL ESSH policy
 - Improve internal controlled documents by centralizing location
 - Improve compliance at Satellite Accumulation Areas

- Increase the number of activated soil areas capped
- Increase the number of legacy waste items for disposal
- Achieve ISO 14001 re-registration
- **'07 EMS Assessments**
 - C-AD EMS Readiness Assessment
 - BNL EMS Assessment
 - NSF EMS Assessment
- **C-AD/SMD Spill Performance**
 - C-AD had one reported spill for CY 2007
 - SMD had zero reported spills for CY 2007
- **Environmental Costs**
 - Waste Disposal Costs: ~ \$5920
 - Fines & Violations Costs: None
- **EMS Performance: Pollution Prevention**
 - Aerosol Can Puncturer & Propane Cylinder De-Valver actively being used to minimize waste costs
 - SMD recycled 104 electronics items (computers, monitors, printers, rack electronics)
 - Metals recycling through Crestwood
- **Changing Circumstances**
 - Changes to Legal & Other requirements are updated in the EMS through the ECR
 - As different groups occupy SMD space and personnel resources MOU's should be developed to appropriately delegate safety/environmental reviews as well as Tier I responsibility
- **Changing Circumstances: 'Greening the Government' Executive Order 13423, Major Challenge for Fed Facilities**
 - Energy Efficiency
 - Greenhouse Gases
 - Renewable Power
 - Building Performance
 - Water Conservation
 - Vehicles
 - Petroleum Conservation
 - Alternative Fuel
 - Pollution Prevention
 - Procurement
 - Electronics Management
- **White House Closing the Circle Award for Environmental Stewardship**
 - What BNL accomplished:
 - 40% reduction in the site-wide inventory of mercury
 - 90% reduction in the onsite inventory of PCBs
 - 35 ton reduction in Class I Ozone Depleting Substances
 - 34% reduction in atmospheric emission of radionuclides from BLIP
 - Recovery of 42 acres for restoration as viable forest
 - 101,400 pounds of electronics recycled
- **Environmental Issues to Consider for SMD Objectives & Targets**
 - Continue participation in federal Electronics challenge and reduce un-needed/obsolete electronics
 - Continue to clean-up and recycle in various floor areas

- Review material storage in 924 refrigerator & freezer and dispose out of date/un-needed items. Shut down both the refrigerator and freezer
- Review areas, again, for unneeded materials – raw materials and tooling that can be recycled
- Evaluate long-term storage of chemicals to avoid a legacy waste situation. Inventory chemical lockers and dispose of unneeded chemicals
- Review maintenance & clean-up of compressor room basement
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Training Review, FY 07 – Ray Roberts (QMO) [Presentation](#)

- **Overview and Goals**
 - Maintain 95% training completion percentage
 - Continue to Perform annual update of Job Training Assessments (JTAs) and employee-to-JTA links
 - Continue to Support ISO 14001 & OHSAS 18001 registration
- **Job Training Assessments – FY '07 Updates**
 - No removal of any training courses for Electrical Tech JTA
 - Removed high pot/working hot from Mechanical Tech JTA
 - No addition of training courses to Electrical and Mechanical Tech JTA
- **Summary and Conclusion**
 - All Training goals achieved
 - Focus for FY08
 - Maintain 95 % training complete
 - Perform annual review of JTAs & employee-to-JTA links
 - Continue to support OHSAS 18001 and ISO 14001
 - Continue to assist the Division in its mission to fulfill its mission in Quality

Work Planning & Control Superconducting Magnet Division FY 2007 Self-Assessment – Henry Hocker [Presentation](#)

- **Implementing Procedure**
 - Superconducting Magnet Division OPM 2.12 “Work Planning & Control” is the implementing procedure.
 - October 2007; A ‘Major’ revision to the subject area released
 - Recommendation: Revise manual to agree with requirements of updated subject area.
- **Logbooks and ‘Worker Planned Work’ Matrices**
 - 5 of 6 logbooks inspected (Bldg 924 log not reviewed)
 - Cases of books containing permits which were not logged in, and log entries which did not agree with the permits as filed
 - Recommendation: *Increased diligence in maintenance of logbooks and filing of permits for all areas.*
 - Recommendation: *Due to size of the Cryogenic Group, consider combining of logbook with electrical group.*
 - Matrices for 5 of the 6 logbooks were reviewed. Of those, 3 were more than 5 years old and appeared to require a documented review of worker planned work tasks and personnel.
 - Recommendation: *Review and reissue all Worker Planned Work Matrices, including signatures required by the revised subject area*
- **Work Screening**
 - Opportunity for Improvement: *It may be beneficial for all work control coordinators to meet occasionally to discuss tasks for internal work,*

external work, and work done for/by other groups to have a better understanding of approaches taken with regard to permits.

- **Significant Items from Last Year's Audit**
 - Improve filing of permits
 - Review the use of travelers vs. work permits and other documents in the current division work environment of low-volume and single unit production. A more consistent guideline of when a particular document is preferred may make the work planning process smoother
 - Review and update Skill-of-the-Worker matrices on a more frequent basis
- **Summary**
 - No 'Findings'
 - Update OPM
 - Better maintenance of logbooks
 - Consider merging cryogenic group log
 - Reissue worker planned work matrices
 - Consider group meets to discuss work /permits

Computer/Building Security – David McChesney [Presentation](#)

- **Computer Security now includes Building Security**
 - Anti-Virus
 - Authentication
 - Computer configuration and patching
 - Physical security
 - Offices
 - Public rooms
 - Production floor
 - Exterior doors
 - 35 exterior doors & 12 roll ups
 - ~10 more to other areas
 - Locked at night

Closeout – Magnet Division FY07 Self-Assessment – Peter Wanderer [Presentation](#)

- **ROD SMD/C-AD FY07 - Ed Lessard**
 - 3 suggestions to BNL management for improvements – not set new policies by memo, add senior management oversight committee to SBMS
 - Obj & Meas – 3% reduction in greenhouse gas, unneeded chemicals, no violations or injuries ... specific objectives, improvement actions (some for SMD)
- **ESH/OSHMS Mgmt. Review - Ken Krasner**
 - Tier I: housekeeping, working environment (plant), electrical distribution
 - NRTL inspections complete (281)
 - Occupational injuries – 0
 - 10 CFR 851 – pressure vessels
- **Management Observations - Peter Wanderer**
 - 6 observations conducted – need to improve
 - No unsafe acts observed
 - Several opportunities for improvement carried out
 - Having observers outside of magnet division is valuable
- **EMS Management Review - Mel VanEssendelft**
 - Outdoor storage – clean up behind 902/905
 - No spills for CY07
 - Cost: \$6k

- Fines/violations: none
- P2: 104 electronic items
- 905: two dumpsters metal recycled
- Changing circumstances – new groups
- Greening the Government
- Establish goals, based on Mel's list
- **Training Review - Ray Roberts**
 - Training - ~ 98% - ok
 - Reviews JTAs
 - 15 hours training/employee (~ 1%)
 - Continue to support international standards
- **Work Planning & Control Review – Henry Hocker**
 - SOP reduction 60% => 30% (...change in type of work)
 - Change in work planning Oct. 2007
 - 5 of 6 logbooks inspected
 - Some items missing, inconsistent
 - Interacts with new work planning
 - Green sheets vs worker planned work
- **Computer/Bldg. Security - David McChesney**
 - Anti-virus ... old PC's off network
 - Physical security – 35 exterior doors, 12 rollups, ~ 10 more to other areas
 - Locked up at night
 - Plant Engineering working on doors
 - Card access expensive ... keys