



Memo

date: February 7, 2007

to: Distribution

from: C. Porretto

subject: Minutes – SMD Self-Assessment – January 30, 2007

Meeting Agenda ([See Attachment](#))

Attendees ([See Attachment](#)) – Attendees are SMD unless otherwise noted

M. Anerella, M. Bebon (DO), P. Bond (DO), C. Cintorino, J. D'Ambra, T. Dilgen, H. Hocker, K. Krasner (HP), E. Lessard (AD), D. McChesney, A. Piper (HP), C. Porretto, P. Ribaldo, J. Schmalzle, J. Selva (ES), M. VanEssendelft (ES), P. Wanderer

Meeting Purpose

The Superconducting Magnet Division's Annual Self-Assessment Review was held on January 30, 2007. The format of the meeting was a series of presentations given by Division members and an invited speaker. Presentations by Division members were structured as a review and critique of an individual element of the program as it is implemented within the Superconducting Magnet Division. The invited speaker gave a presentation on ISM and Human Performance, topical areas of interest. The feedback of strengths and opportunities for improvement is an integral part of the continuous improvement cycle.

Topics Discussed

- Division Overview
- Objectives and Targets
- ES&H/OSHMS Management Review
- ISM and Human Performance
- Manager Work Observation Program
- EMS Management Review
- Training Review
- PICS Traveler Review
- Work Planning and Control Review
- Computer Security
- Conclusion

- As part of 10CFR851 compliance, we have to identify and gather documents for existing pressure systems. SMD is affected in particular. We must ensure that new systems meet the requirements of the ASME code and the piping code; and for older systems, when we repair or modify, we must follow the appropriate code of record.
- Compliance with 10CFR851 is important; if we get fined for violations, the management fee could be affected, or the RHIC could be shut down.

Where do we stand on variances? Because it's doubtful we can comply. There will be no variances, except for the MRI. What about the sprinklers in Physics? It will be impossible to comply. We are requesting more funding from the Office of Science. In C-AD, we are weighing two options – ask for \$20 million (\$4 million per year for five years), or ask the Lab to give back a portion of the space charge. Will we have instantaneous compliance? No. Beginning February 9th, we will still be non-compliant, and they could fine us. Whether they do or not is up to the DOE. The only time we can ask for a variance, is if there is no other way to comply with the rules. The only variance we are seeking is for the MRI, because the magnetic fields are higher than allowed.

- **ES&H/OSHMS Management Review – Artie Piper**

- [ES&H/OSHMS Presentation](#)

- There were 23 Tier I inspections performed in FY06. SMD Management participated in over 70% of these. Findings are being entered into the Family ATS.
- The Tier I categories with the highest number of findings are “working environment” and “electrical safety”. Working environment includes lighting, signs and postings, walking/working surfaces, etc. Electrical safety includes exposed conductors, proper grounding, arc flash labeling, panel clearances, misuse of extension cords, etc.
- The FRA for the 902/905 complex has been updated. The only significant change was the addition of the LARP oven. There was an ODH concern with the argon, but it was alleviated by venting outside.

Was the venting reviewed by Jeff Williams? No. Tom Dilgen will contact him to review.

- The NRTL program was started by Jim Durnan, but we will need SHSD support for this.
- Electrical PPE was upgraded by Paul Ribaud as a result of the arc flash incident at C-AD.
- SMD only had one DART case in FY06 – an employee developed phlebitis as a result of having blood drawn at the OMC. We had no OSHA recordable cases, and no first aid cases. We are doing pretty well as a Division.
- There was one Management Safety Observation walk-thru performed in FY06. There were six observations noted, five of which have been completed. The sixth is the issue of ongoing roof leaks.

The south high bay roof has not leaked since being repaired in the fall of 2006.

- 10CFR851 will go into effective on February 7, 2007. Violations can be fined up to \$70K per day per violation.
- A gap analysis for 10CFR851 was performed – some gaps were institutional, others were departmental. Examples of departmental gaps include design reviews for electrical designs, and LOTO assessments not being performed.
- OSHA findings: 95% of the findings have been closed out. The other 5% are in planning in Plant Engineering.
- Ken Krasner from SHSD will assume the role of SMD EMS/OSH Representative and ESH Coordinator effective 2/1/07.

*Where does SMD stand regarding inventory of pressure systems? Do you comply?
K.C. Wu is working with Steve Kane; the effort is underway and they are working to put it on the web. Peter Wanderer has been working with Steve Kane.
February 15 is the absolute due date that the area office has to have it.*

- The Record of Decision will be covered by Mel in his presentation.

- **ISM and Human Performance – Mike Bebon**

- [ISM and Human Performance Presentation](#)

- A review of two key programs are coming up – ISM and Emergency Management. The schedule includes a scoping visit in May 2007, followed by a planning visit and on-site data collection in August 2007.
- Expected emphasis areas for the ISM portion of the review include institutional feedback and improvement. Previous review teams indicated that feedback works at the dept/div level, but not at institutional level.
- Another emphasized area is work planning and control. We have a new catch phrase -“all work is planned” – even if someone is doing it by themselves. We are doing away with the term “skill-of-the-craft”, as it seems to indicate that no planning is done.
- Electrical Safety and Subcontractor safety will also be an area of emphasis because of the many electrical incidents across the DOE complex, including two fatalities involving subcontractors, one at the Hanford site and one at the Savannah River site.
- A revised process for ISM flow-down to subcontractors has been rolled-out; feedback to date has been good. Work Control Managers ensure that the process is working.
- The basic idea behind the Human Performance Initiative (HPI) is that error-likely situations lead to incidents and injuries. Most of our injuries are related to decisions that people make, not conditions.
- A white paper outlining options for Lab-wide HPI activities has been provided to senior management, but it is on hold because of budget issues and the continuing resolution.

- SMD can help by focusing on work planning, and the concept that all work is planned. Many incidents lab-wide could have been avoided if this was done. We also need to be mindful of changes, i.e, if things are not as workers expect once they get in the field. This is a problem at all levels and we still haven't figured out how to solve it.

- **Manager Work Observation Program** – Peter Wanderer

- [Manager Work Observation Presentation](#)

- The motivation for the program is the fact that BNL safety statistics are far above the DOE target. We must look for a new approach. We don't think people are careless, but other high-tech organizations do better.

- BNL safety statistics **had** been far above DOE targets, by a factor of 3. Now they are **just** above.*

- BNL's DART rate (1.22) versus industry is not very good. If you look at some of the big companies, like Intel, Johnson & Johnson, and Exxon/Mobil, they are doing better.

- 1.22 is from 3 to 4 years ago; now we are about 0.5. The problem is that DOE is pushing down so fast, more Labs are failing.*

- 96% of injuries are caused by unsafe acts, only 4% are caused by unsafe conditions; therefore, we must focus on what people *DO*.

- So far one tour has been conducted with Peter Bond; more are planned for 2007.

- A total of 6 have been done – 3 at C-AD, and 1 each at SMD, Instrumentation, and Physics. We try to do it once per month and rotate. It doesn't have to be an official tour, can just be a walk around.*

- SMD has already made safety a part of every significant meeting. This was set up by Tom Kirk several years ago when he was ALD.

- Must define danger zone for all tasks. "Danger Zone" term is new at BNL. Examples include area under crane load, or performing a pressure test at 4:45 so there are no people present.

- There is concern about the term "danger", since it overdoes the hazard. In radiation and magnetic field areas there are postings. If you go inside posting, it's not necessarily dangerous.*

- 10 CFR851 only uses "danger" for high hazards.*

- **EMS Management Review** – Mel VanEssendelft

- Management Review Presentation

- The scope of the review includes the senior management questions and comments. This is an opportunity to identify additional things that we can improve upon.
- Our environmental aspects don't include radioactive waste, unless a RHIC magnet is returned for repair; and there is not much hazardous waste unless we don't recycle solder.
- Internal Audit: there was one nonconformance from the C-AD audit – the effectiveness of corrective actions has not been evaluated. This is being emphasized at the Lab level, including in Mike Bebon's talk. Also, we are working to minimize the number of locations of the policy plaques.
- Internal Audit: There were several findings from the Lab-level audit. One was that some employees who were interviewed did not demonstrate awareness of content of the ESSH Policy. The old policy was onerous; the new one is better/easier for staff to remember. Also, there were outdated postings in Dean Ince's area that had Mike Gaffney's name on them; this has been rectified.
- External Audit: The auditors noted a positive practice associated with the ROD process from past management reviews. There was also a finding that two required inputs for the management review were not covered, including external communications. Mel has an action item to come up with a template for SBMS.
- Compliance Audits: an opportunity for improvement was identified to evaluate long-term storage of chemicals to avoid a legacy waste situation.
- There were no external stakeholder concerns received.
- Legacy Improvement: The draining of the short coil press in building 924, which was put in as a P2 opportunity several years ago, was completed.
- Spills: there was one reportable spill, which occurred during the draining of the press in 924. It resulted in three barrels of industrial waste (soil and oil), weighing a total of 1500 lbs. The cost for disposal was \$7500. But it was still a good thing to do.

The spill indicated that the unit was marginal, and since there was much more oil in the system, it could have been far worse had we not drained it.

- Pollution Prevention: the propane cylinder de-valver and the aerosol can puncturer have generated significant savings in disposal costs for both SMD and C-AD. Also, SMD recycled 86 electronic items.
- Environmental Costs: waste disposal costs were \$16,550. There were no costs for fines or violations.

➤ Record of Decision

Are the EMS/OHS/SA Programs effective in achieving policy commitments (P2C4 and injury/illness reduction)?

Yes.

We should consider reviewing the inventory in the Building 924 refrigerator and disposing of out of date and unneeded materials.

Are programs effective in achieving the objectives and measures?

Yes.

Are the OSH/EMS/SA programs adequate in terms of identifying significant environmental aspects and impacts and occupational safety and health hazards, resource allocations, information systems, and organizational issues?

Yes.

Does SMD have a baseline monitoring agreement with IH, or a plan for one? It is needed by August, for ISM.

It's in the 851 gap analysis; we are requesting IH support.

SMD techs need training to do the magnetic field surveys; for the time being, we will use SHSD.

What is the larger framework?

We have to have a plan in place, by hazard category. We need to figure out where we are. The IH folks might not get on the job in time. The RCD techs can do monitoring.

Are the objectives and measures for OSH and E related programs suitable in terms of environmental impacts, occupational hazards, current conditions, stakeholder concerns, current and future regulatory requirements, business interests, technology capability, and internal organizational or process changes?

Yes.

We need to inventory chemical lockers and dispose of unneeded chemicals before the ISM audit. We also need to review the compressor room basement – even though it's a Plant Engineering operation, it's always oily.

Are there recommended revisions to OSH or Environmental policy and commitments, objectives and performance measures, elements of OSH, or elements of EMS?

No.

• **Training Review** – Christopher Porretto

[Training Presentation](#)

➤ All goals were achieved.

- Monthly training completion percentages have been at least 97%, with 8 of the 12 months at 99%.
- The required annual update of JTAs and employee-to-JTA links was performed, with only minor changes.
- The breakdown of hours spent in training indicates a continued decrease in non-ESH training.
- Average time spent in training per person for the Division (10 hours) is down slightly from last year (11 hours).
- Upcoming initiatives include implementing Lab improvements to the Work Control Coordinator/Work Control Manager training program.

Not all of the proposed training is appropriate; we are trying to get some courses eliminated. We would also like to see less web-based training.

C-AD is providing training to electrical engineers in the National Electric Code and mechanical engineers in the pressure vessel code and piping code. SMD is encouraged to participate. SMD plans to. We have already supplied a list to C-AD (John Maraviglia) of SMD staff that will attend the NEC training.

- **PICS Traveler Review – Jesse Schmalzle**

- [PICS Traveler Review Presentation](#)

- - Travelers are easy to create and revise using PICS.
 - Because the software was designed in-house, David is very accommodating and can make improvements quickly.

The ISM review team should be impressed with the ease with which changes can be made. This is a great system, especially now that we doing mostly R&D and one offs, and have a decreased staff, particularly QA.

- - Comments made in the system by approvers remain unless cleared by approvers themselves. Some released travelers still show comments, even though the comments have already been incorporated. Suggest people should clear comments.
 - Potential Issue: Some approvers approve travelers with comments. However, when all approvals are received, the traveler is automatically released and locked from further change. This could result in a situation where the traveler is released without comments being incorporated.
 - Potential Issue: Travelers are no longer available for printing or viewing once a change has been initiated. One may wish to access the previously released version while changes are being processed.

Will we have read and acknowledge on the travelers?

No. All the procedures, including the ESH requirements, are included in the traveler and signed off by the technician. This is one of the simplifications of the system.

The system appears to capture work planning. But is all work planned? Is all work in PICS? We must have people consider whether work is planned. C-AD is beta testing a web-based system that every worker can go through – it's a set of questions for pre-job planning.

- **Work Planning and Control Review – Henry Hocker**

- [Work Planning and Control Presentation](#)

- The audit was performed in December and January, to the requirements of the work planning and control subject area.

- How long did it take to do? About six weeks. The key is to start the effort so it can be completed in time for the self assessment to be held earlier.*

- There were no major findings, only minor ones.
 - The plant engineering website of work control managers/coordinators is out of date. Recommend sending them updates so that their list agrees with the SMD one.
 - In a few cases, work permits (or copies) were not on file in the logbooks.
 - Recommend that the Magnet Test Group create their own logbook. Currently they are sharing one from the Magnet Production Group.
 - Some of the skill-of-the-worker matrices have not been reissued for a number of years and are out of date. Recommend reviewing them on a more frequent basis.
 - General sense from interviews of primary reviewers and workers is that the system works well, and people understand it.
 - Recommend reviewing the use of travelers vs. work permits and other documents, and consider creating a guideline for when a particular one is preferred.

- We regularly review the selection of documentation. What change is needed? A good example is the testing of the magnet with the work permit and run plan. Other are done with an OPM. There's a question of which to use. There are no hard and fast rules. If the process is sufficiently uncertain that we can't write a procedure, then we do a work permit with engineering control.*

- The example given of the magnet test was unique and a one shot deal; we needed a run plan.*

- Testing is discussed at the Thursday meeting.*

- Is the philosophy written anywhere?*

- It could be. Where is a good place?*

- In the work planning and control OPM.*

- It is recommended that the wording be changed to get across the point that all work is planned.*

- **Computer Security** – David McChesney

- [Computer Security Presentation](#)

- - The Magnet Division has been active in administering machines over the years, so locating machines during the stand down was not an issue. ITD has a new system, so going forward, we'll do well.
 - Physical security for the offices is not an issue since they are locked at night; the PCs on the production floor have been more of an issue. We want to get them disconnected at night, where possible, so there's no hacking.
 - Screen savers have been set by Group Policy, which allows one to affect all PCs within an organization. People are getting used to it, but we had an issue with PCs on the shop floor which have multiple users. Found software that makes screensaver transparent.
 - Unsupported OS's have been moved to a separate subnet. They still need to be replaced or eliminated, but have been sequestered off the main network.
 - SMD is in good shape because of previous work. Only issues are unsecured network jacks and unsupported OS's on sequestered computers.

- **Close Out** – Peter Wanderer

- [Close-out Presentation](#)

- - We must pay particular attention to 10CFR851. Regarding the ASME boiler code and the piping codes, it's important to get the list of items submitted. The deadline is 2/15/07.
 - We will invite additional people on Tier I inspections.
 - We need to focus on the NRTL program because of all the homemade equipment that we have.
 - We need to talk to George Ganetis about the formal review of electrical drawings.
 - DOE ISM review will be conducted in August. We need to emphasize work planning and control, and the concepts of "all work is planned" and "worker-planned work".
 - We need to inventory chemical storage before the ISM audit.
 - We need to ensure that a plan is in place for the IH program, including monitoring for noise and magnetic fields. It is required before the ISM audit in August.
 - Several recommendations were made for the Work Planning and Control system.