



Memo

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to: Distribution

from: C. Porretto

subject: Minutes – SMD Self-Assessment – December 17, 2003

Meeting Agenda ([See Attachment](#))

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

T. Kirk (High Energy & Nuclear Physics Directorate), M. Harrison, M. Anerella, R. Ceruti, J. D'Ambra, T. Dilgen, J. Durnan (HP), G. Ganetis, G. Goode (EWMS), H. Hocker, G. Jochen, D. McChesney, R. Picinich, C. Porretto, D. Ports (ESH&Q), P. Ribaldo, J. Selva (EWMS), J. Tarpinian (ESH&Q), M. VanEssendelft (EWMS), P. Wanderer

Meeting Purpose

The Superconducting Magnet Division's Annual Self-Assessment Review was held on December 17, 2003. 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. In addition, several Division members gave presentations on the results of staff safety discussions (this year's theme). The invited speaker gave a presentation on cyber security, a topical area of interest. This feedback of good points and areas for improvement is an integral part of the continuous improvement cycle.

Topics Discussed

- Division Overview
- FY03 ES&H Review
- EMS Management Review
- Safety Survey Results
- FY03 Training Review
- Safety Feedback Sessions (3)
- Cyber Security
- Conclusion

Presentations and Discussions

(Comments by Presenters are bulleted. Participants' comments are italicized.)

- **Division Overview** – Mike Harrison

- [Overview Presentation](#)

- Self-Assessment Process: "Are we doing things the right way"? This year's theme is safety.
 - Previous meetings have been successful and have resulted in meaningful action items.
 - No significant changes in Division activities from CY02.
 - Production line with process control via formal procedures sets the Division apart from others.
 - The Division held an all-hands safety awareness meeting in October.
 - Training being maintained at 96 -97%.

- **FY03 ES&H Review** – Jim Durnan

- [ES&H Presentation](#)

- OSHA inspection findings are being reported instead of Tier I inspection findings because OSHA is more pertinent at this time.
 - 57% of OSHA findings were electrical and 14% were for machine guards.

- It's surprising that there were so few findings related to fire extinguishers. The findings reported for this category were for extinguishers being blocked or for missing signs, not for un-inspected fire extinguishers. Findings for fire extinguisher inspections not being completed are owned by Joe Levesque.*

- There were observations of RPTs being used inappropriately. The OSHA inspector stated that they are to be used only for computers, not for appliances such as coffee pots and microwave ovens, and soldering irons.

- Is the conference room setup okay as is? Yes.*

- The findings on the RPTs conflicts with UL. The strips are rated and should therefore be okay. This issue has to be evaluated by the Laboratory.*

- Are blocked panels the most significant electrical finding? No.*

- So there are some real money issues? Yes. Examples include too many cables in cable trays and the existence of non-cable rated cables in the trays. Also, OSHA requires that there be no two prong plugs on electrical devices, which should be okay if they're double insulated. This issue must also be addressed.*

The “easy fix” items are easy to fix, but it is also easy to revert to the violation, i.e., garbage cans can be moved back in front of an electrical panel. We must educate the staff on these items.

- Exit Signs: The need for exit signs in the small tech shops seems to be extreme.
- Machine Guards: If a machine is in storage, it does not require a guard.
- Fire Extinguishers: Require signs if existence is not obvious.
- Confined Space, ODH: OSHA inspector considered trench to be a confined space, but after discussion, it was agreed that it was not a confined space, but rather, an ODH area. There was an issue with the OSHA inspector about posting confined spaces.

If there is no negative impact, we should put up the posting.

- Confined Space, ODH: The lack of oxygen sensors in the trench is a serious finding. It was thought that the sensors were already in place.

The sensors were on order before the OSHA inspection was announced.

- Proposal for Fixes: fix imminent danger ones right immediately, the remainder will be evaluated and prioritized as part of Tier I process.

Mike Harrison and Jim Durnan decided on this approach because there will be no money now. It is uncertain whether this is consistent with Steve Hoey’s memo of yesterday. The issue must be revisited.

But imminent danger items will be fixed right away? Yes!

- Tier I Process: Family ATS is being considered for Tier I findings, so findings can be communicated lab-wide.

Will the Division be swamped with findings? No, only those that are applicable lab-wide.

- Occupational Injuries: There were none reported for 2003.

That’s tremendous; the Division deserves a big at-a-boy.

We previously had slips in the snow. The issue of snow removal was communicated to Plant Engineering, and they responded and did a good job of snow clearing.

- **EMS Management Review – Mel VanEssendelft**

- [Management Review Presentation](#)

- SMD Aspects: radioactive waste will become a bigger issue as we repair magnets.
- Objectives and Targets: the completed pollution prevention opportunity was the installation of the containment system for the Dunn and Busch compressor.
- Objectives and Targets: Target for Work Planning is that a minimum of 90% of operations use proper work planning and controls.

*Does this mean that 10% use improper controls? No, it's just a minimum goal.
How is it verified? During the work planning process, during normal review.
Through observation then? Yes.*

We also still do an annual audit.

- Objectives and Targets: 90-Day Waste Area Inspections.

What observations have there been in the inspections? We don't generate much. We try to ensure that the paperwork gets completed, and the material gets out as soon as possible.

- EMS Internal Audit: there was a lab-level issue that pertains to us – we need to identify and manage critical suppliers with environmental aspects.

This will be accomplished via the quality classification.

Can you give an example of a critical supplier? Yes, the supplier of the epoxy substrate.

- Environmental Compliance: Storage and Transfer of Materials - The containment floor area in building 924 needs repair.

What's contained in the area? A coil press with heat transfer fluid.

- Environmental Compliance: Liquid Effluents – the 902 cooling tower continues to be sampled for the presence of heat transfer fluid; the last sample was 7ppm.

7ppm is very low. Yes, but the problem is not the toxicity, it's the foaming.

We are now using a more environmentally friendly lubricant.

- Improvement Proposal: three options for unused cosmotron cooling system.

What is the cost of option 1, drain and dispose of entire system? Don't have a good answer, but have talked to Plant Engineering; it is believed that we could get a contractor to drain it for approximately \$5K.

It may be possible to filter the one with cesium, this will prevent the generation of mixed waste, which is more expensive.

- Compliance Assessment: planned for 2004, to include liquid effluents, RCRA, and Facility Review Disposition Project.

Does SMD have any compliance issues? No, no major issues or anything obvious.

➤ Record of Decision

Is the EMS Program effective in achieving environmental policy commitments (P2C4)?

Yes.

Is the EMS Program effective in achieving environmental objectives and performance measures?

Yes.

Is the EMS Program adequate to identify and manage significant environmental aspects, and to identify resource allocations?

Yes.

Are objectives and performance measures suitable to actual environmental impacts, stakeholder concerns, current and future regulatory requirements, and SMD interests?

Yes. *We must continue to take into account the risks, for example with the cosmotron system and the 924 air cooler.*

• **Safety Survey Results – Henry Hocker**

[Safety Survey Presentation](#)

- Scope of Survey: a general survey to gauge opinions on safety related concepts in an anonymous fashion.

This is good, this is what we stress – providing feedback to supervisors and managers.

- Participation Summary: there were eight respondents who did not categorize themselves by job description.

This uncategorized category is curious. It would be interesting to know who they are.

- Results for survey question 1: approximately 50% in uncategorized – do not feel that their workplace environment is safer than the one they encounter outside of work.

This is a reddish flag.

- Results for survey question 2: a high percentage in uncategorized – have encountered the need to bring an unsafe condition to the attention of their supervisor.

This is unexpected. We need to investigate and find out what their problems are.

- Results for survey question 3: vast majority of respondents, except those in uncategorized – have never been asked to perform a task which they felt involved an unnecessary risk.

These are good results.

- Results for survey question 10: some respondents do not believe that a task can have risks and still be safe to perform, or were unsure.

Maybe they have confused risk with hazard. This could be a literacy issue.

The uncategorized are very inconsistent.

- Results for survey question 11: approximately 70% of respondents in technician category – replied that they had experienced a “near miss” at the lab.

It would be interesting to know if this result would have been different if asked last year, or for a specific area.

- Results for survey question 18: all but one respondent answered that “you” are responsible for your safety.

This is a good result.

- Results for selected questions: four areas of interest.

These are areas that will have to be revisited.

- **FY03 Training Review – Christopher Porretto**

- [Training Presentation](#)

- Training completion percentage has exceeded 95%; last four months have been 99%.
 - The required annual update of JTAs and employee-to-JTA links was performed.
 - Goal to establish CBT courses for internally-delivered electrical safety courses was not completed.
 - Breakdown of training hours shows increase in procurement training due to PPM requirements.
 - Average time spent in training per person for the Division was comparable to other, similar departments and divisions (C-AD, Central Shops).
 - An opportunity for improvement exists to create the CBT courses for the electrical safety training courses.

Why were courses not completed? Because the Subject Matter Expert, John Escallier has not been available. He will be available.

The Electrical Safety II course should be completed prior to the others. Agreed.

- **Safety Feedback** – Session #1 – Tom Dilgen

- [Feedback Presentation](#)

- Discussion Question #3: Technicians feel that we should use training, MAP acknowledgements, and work permits to ensure knowledge of hazards and controls.

- Do the technicians consider these to be good means? Yes.*

- Tool box meetings should be implemented periodically.*

- Discussion Question #4: Corrective actions and lessons learned from near misses need to be distributed more widely. Also, some near misses probably go unreported.

- It's scary that near misses might not get reported. How will we ever fix things if we never learn from mistakes? The magnet drop was a good example because it resulted in something useful for the entire Lab.*

- Discussion question #5: Need fresh reminders about safety awareness – perhaps guest speakers. Also, attitudes of everyone including management need to change; supervisors and managers need to support technician suggestions even if it means stopping work.

- Guest speakers can be very valuable.*

- Jim Tarpinian's group is available as a resource.*

- Discussion question #8: various ways to reward success given.

- These are good suggestions.*

- **Safety Feedback** – Session #2 – Paul Ribaldo

- [Feedback Presentation](#)

- Discussion question #3: For ring work, technicians need a work control coordinator; Paul Ribaldo is not the right individual for this.

- Has this been brought to Ray Karol's attention? No, not yet.*

- Discussion question #4: accidental hipot of main ring – Paul Ribaldo provided SMD procedure and previous work permit to C-AD personnel after incident.

- The Magnet Division reported this incident.*

- Who was the person in charge for the hipot testing? The hipot was done under the control of the engineer.*

- Discussion question #6: We need to remove the stigma of wrongdoing.

- A good example is when one the technicians received a shoulder injury. The OMC recommended no time off, they wanted the individual to get back to work as soon as possible. However, the individual's doctor recommended that he not return.*

- **Safety Feedback** – Session #3 – John Cintorino/Joe Muratore

- [Feedback Presentation](#)

- - Discussion question #2: Maintenance is not being done anymore.

- - *Is that example real – the part has not been calibrated in more than 58 years? Yes.*

- - Discussion question #3: Near misses include NSLS magnet drop and clothing damage.

- - *What were the circumstances with the NSLS magnet drop? It was inadequately secured and the persons involved attempted to run the cart over electrical cables on the floor.*

- - *What is clothing damage? Technicians are working in tight quarters and are bumping into things which damage their clothing. If it continues, someone may actually get hurt.*

- **Cyber Security** – Kathy Hauser

- [Cyber Security Presentation](#)

- - Distributed Management Model: selected as best model for laboratory; tradeoff is between openness and restrictiveness. Need involvement of scientists. Success depends on involvement of departmental CSAC reps.

- - Breakdown of operating systems at BNL: the number of MAC users is rising.

- - Network Architecture:

- - *What do hackers do when they compromise the system? They take over our machine and use it to take over other machines, using the BNL name.*

- - Cyber Security Planning Process:

- - *How many threats or vulnerability hits do we receive each day? About five per day.*

- - Roles and Responsibilities: users must use anti-virus software to protect the Lab.

- - *Do you recommend a particular brand of anti-virus for use at home? No, but be sure to use one with automatic update.*

- - *Is one at risk if they use a Lab laptop at home? If the laptop has updated anti-virus software, you are okay. Trend Micro updates automatically.*

- - Roles and Responsibilities: users must select secure passwords. A password cracking program is run monthly. When the program was recently run, there were about 900 passwords cracked out of about 3000.

- - *When ITD cracks passwords, who do they tell? The line manager gets told, but not the user, since they tend to provide bad feedback.*

- - *It is recommended that an article gets published in the bulletin about security measures and password requirements.*

- Roles and Responsibilities: banner installed – the banner is used to inform the user that DOE can monitor use.
- Roles and Responsibilities: Personal User agreement – policy is considered generous. Peer-to-peer file-sharing was out of control, but once department and division heads were notified, use dropped dramatically.
- External Vulnerability Scanning (hacking): the Lab gets about two million hits per month.
- Incident Trends: These are reportable to the DOE.

What are some examples? Examples include a user who was getting spam and issued a denial of service attack against the issuer; and two people lost their job over child pornography.

- The DOE will audit BNL's Cyber Security Program Plan in March 2004.

How are we doing? Right now we are marginal because of repeat findings.

- **Close Out - Mike Harrison**

- [Close-out Presentation](#)

- Conclusions
 - There's a general consensus that safety is a higher priority.
 - There were no occupational injuries in FY03.
 - There will be OSHA queries sent up the line from Magnet Division.
 - Environmental Management: "steady as you go".
 - The perceived stigma from accidents, as well as perceptions about schedule pressures, stop work penalties, and pressure to perform unsafe work are a real problem.
 - Perceptions exist that accidents are unavoidable. Risk can be mitigated.
 - Tool box meetings should be reinstated.
 - It's necessary to disseminate solutions, not just problems.
 - Consider a graded response to minor injuries and WEB based reporting.
 - Consider ways to reward success.
 - Communication, communication, communication!!

- **Close Out – Jim Tarpinian**
 - Applauds approach taken by SMD, they are leading in this area; likes integration of ESH into one package; to be successful, we need individual commitment.
 - Lessons Learned: ESH&Q will send out a safety flash a few hours or a day after an incident occurs, so departments know about it. Will also send out monthly notices with descriptions of selected events, including lessons learned.
 - We need to address fear of reporting; zero accidents is counter-intuitive. Would like departments to invite Jim Tarpinian to discuss what zero accidents really means; it doesn't mean safety at any cost, it's more like ALARA. We must learn from every mistake; we need to create a learning environment.
 - Recommend folding near misses into tool box meetings; perhaps reward those who report them.
 - We need to discourage peer discrimination and eliminate the fear of peer harassment – be aware of it, call attention to it, cut it off.
 - Complacency is a challenge, posters are becoming wallpaper. Suggestions include having teams make their own posters, or maybe a slogan contest.
 - It's important to know that there are significant consequences – recommend that staff view Charlie Moore videos.
 - Survey: must deal with the consequences and understand that there's an expectation of feedback by respondents; rejection is better than apathy.
 - Survey: design of survey is a learning experience; one must refine questions year after year.

- **Close Out – Tom Kirk**
 - Most things discussed are positive. The items being addressed are in good shape, and the kinds of things we're addressing are getting smaller.
 - Directed departments to have safety conversation – recommend once per week.
 - Slogan from Jim Tarpinian – no one expects to be injured when they come to work in the morning.
 - Copper theft: theft is becoming an issue – ESH will become ESSH.
 - The Magnet Division is doing a great job!