

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

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E. Lessard commenced the meeting at 10:00 am and presented the Agenda, identifying the presenter and giving an overview of the topics to be discussed.

**Agenda**

- Ed Lessard – Objectives & Performance, EBIS & ERL, Costs – 20 m
- Dave Passarello – Audits, Arc Flash Labeling, NRTL – 20 m
- Ray Karol – Injuries, Tier 1, OSH/EMS Initiatives – 20 m
- Mel Van Essendelft – Environmental Performance - 15 m
- Joel Scott – Waste Reduction; Metal Recycling, UMC Plan – 15 m
- Senior Manager Evaluation and Record of Decision – 20 m

Ed explained how the Management Reviews, since inception in 2000, have been an effective tool in helping C-AD meet registration requirements and also to improve C-AD systems and outcomes. The purpose of this meeting is to not only look at ESSH issues but also to look at the Management Systems that we are using to manage ESSH Issues.

**1. Performance on Past Objectives and Targets for FY07 (E. Lessard):**

Ed presented eight Environmental Measures. Out of the eight measures, C-AD performed well on awareness of BNL ESSH Policy and Compliance at Satellite Accumulation Areas. There was an increase in the number of legacy waste items for disposal and we achieved ISO 14001 re-registration. C-AD did not meet its commitment to keep records in a centralized location. Although CAD has not made any additional progress with capping soil around HEBT water stops, C-AD has performed well identifying the areas needing capping, and in keeping activated soil areas contained and to a minimum. Capping issues at AGS will be addressed in FY08.

Ed presented seven OSH objectives and targets. Out of the seven measures, CAD performed well on increased participation in manager work observations, improved worker participation on Tier 1's, and improved electrical engineer's knowledge of NEC. The same type of approach was taken with Mechanical Engineers who became more knowledgeable in ASME Pressure Safety Standards. C-AD has improved its' arc-flash labeling and C-AD/SMD were very close in achieving an injury-free work year. C-AD must improve housekeeping and remove unnecessary materials from storage areas. It would be beneficial in the long run to reduce storage areas. C-AD had one occurrence and a number of critiques. Near misses were investigated (critiques), which helped to keep the number of reportable occurrences down.

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

Performance indicators are showing a declining trend but the data have a large standard deviation due to small numbers of events. Thus the decline may be due to luck. One explanation for the decline can be explained by the increase in ESSH practices. For FY08, we will continue to trend on practices (formal programs) implemented, which also focus on minimizing organizational deficiencies.

**Q:** Why don't we look at the things that have happened in past years and look at the root causes? [P. Pile]

**A:** Root causes are examined however the bottom-line is that when you have 1 or 2 events every 3 years that are significant, then it is very difficult to track and find a common root cause. We are in the noise. It's difficult to track over time when you are in the noise. [E. Lessard]

**Q:** It's not difficult to track what went wrong. [P. Pile]

**C:** It's not tracking, it's trending! [D. Lowenstein]

**C:** When events are rare, studies show that trending the number of ESSH practices is a performance indicator; 25 to 40 ESSH practices seems to be correlated with companies with no injuries. [E. Lessard]

**C:** I disagree. [P. Pile]

**C:** So noted [E. Lessard]

**C:** We never looked at why the same thing happens over and over again and the reason why we have an event. We don't show it. [Pile]

**C:** We don't have enough events so that there is a trend. On the rare occasions that the laboratory has enough events that are the same, they do a root cause analysis. [Lessard]

**C:** Within the department we don't [Lowenstein]

**2. Outcome of Manager Work Observations (E. Lessard):**

Ed Lessard discussed how Manager Work Observations are one of the forward looking indicators that seem to help in the department. 23 have been conducted so far in FY07. Managers are committed to doing 3 or 4 observations per year. Common findings found during observations are the improper use of PPE, poor housekeeping, and poor lighting. On a positive note, managers are getting feedback directly from workers while they work.

**C:** On a positive note, everyone is beginning to understand the planning, and Stop Work, they understand the details of the job they are doing. [D. Lowenstein]

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

**3. Status of Authorization for EBIS and ERL (E. Lessard):**

Ed gave a status on EBIS and ERL. It is expected that within 2 years, EBIS DOE authorizations for safe operation will be obtained. ERL is also pretty much on track and we expect it to be properly authorized for operation by 2010.

**4. Financial Investments in ESSHQ (E. Lessard):**

The FY07 ESSHQ Cost summary is approximately 3 million dollars. (Refer to presentation for details.)

**Q:** Are these fully burdening costs? [P. Pile]

**A:** Yes. [E. Lessard]

**Q:** What about the burden on non-waste costs? [D. Lowenstein]

**A:** They are included. [E. Lessard]

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**1. Results of Audits and Security Performance (D. Passarello):**

Based on DOE recommendations, improvements have been implemented to increase security. Valuable metals have been consolidated into 5 secure locations. Security measures have been improved and there is increased communication with Safeguards & Security. The Valuable Metals Database is being improved upon, and the goal is to track anything that is a possible target of theft. The Key Controls Program has also been improved upon.

**1. Arc Flash Labeling (D. Passarello):**

Arc Flash calculations are still being performed. This effort is 99% complete. The High Hazard Category breakers/disconnects are labeled for specific PPE requirements. 99% of the Low Hazard Category breakers/disconnects are labeled and roughly 3% have the actual category and required PPE. The appropriate labeling is being affixed to the breakers/disconnects as the calculations are completed.

**2. NRTL Progress (D. Passarello):**

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

There are approximately 15,000 pieces of electrical equipment that require inspection in C-AD and approximately 4500 pieces are BNL Built. In the Electrical Equipment Inventory (EEI) Database, 5,944 pieces of equipment have already been inspected and 3595 are BNL Built.

**3. FY07 Self Assessment Program (D. Passarello):**

The Self-Assessment Program is a rollup of all EMS, OSH, QA, and Facility performance objectives that have due dates and targets. They are tracked in the Laboratory Assessment Tracking System (ATS). There are 159 FY07 Internal Assessments which are done at the Department Level. The Laboratory requires that we perform assessments against the Management Systems. The assessments are determined by the way we respond on a questionnaire. In FY07, there were 14 external assessments. 4 were conducted by BNL (Independent Oversight); 2 by NSF; 2 by DOE, and 6 by BHSO. 944 assessment actions are tracked in the Family ATS of which 61% are closed. 60 assessment actions are tracked at the Institutional Level and 60% are closed.

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**1. Injuries (R. Karol):**

The trend for meeting the DOE goal for DART and TRC is headed in the right direction. C-AD went 642 days without a DART and had 3 Recordable cases in FY07. There were 5 First-Aid Cases. Since 2002, the number of First-Aid cases has declined but there is a slight upward trend since last year. The number of First-Aid cases excludes athletic injuries.

**C:** We had one sports injury that cost about \$600.00. [D. Lowenstein]

**2. Stakeholder concerns:**

Stakeholders concerns remain the same as last year. There are no problems with activists.

**3. Major OSH/EMS Improvements**

The Major OSH/EMS Improvements primarily consist of all improvements relating to Electrical Upgrades. Training Initiatives were another improvement. Additional training is scheduled for FY08. PCB capacitor reduction, major cleanup of old buildings and trailers, and water systems to reduce tritium concentrations were also implemented.

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

Two S2 Proposals (Safety Solutions) were submitted for FY07. One submitted for a sidewalk from B911 to physics building which was not funded. C-AD purchased 2 additional AED's, one for B911 and form B930-Linac.

**4. Tier 1 Tracking and Trending (R. Karol):**

Similar to OSHA Inspections. Inspectors are trained in the 10 or 30 hour OSHA Course. Three workers volunteered and took the course. In addition, a technician is available with an infrared camera for potential electrical problems. There were 36 Tier 1's this year and over 110 Buildings were looked at. The closeout rate is 85-90% complete. Tier 1 Reports are distributed to all C-AD staff to help prevent the same issues within their groups. 110 Facility Use Agreements were updated. 21 buildings were demolished. Two buildings were vacated. An addition for EBIS was completed in building 930 paid for by New York State. Significant cleanup has been done in buildings 912 and 922.

**5. 10CFR851 Compliance Issues, Documentation, Training, Human Performance Initiative (R. Karol):**

Gap Analysis performed. There were a significant amount of 10CFR851 Compliance Issues labwide.

**6. Ionizing Radiation Dose Equivalent:**

- FY07 Collective Dose is about 800 person-mrem
- Maximum Individual Dose is 57mrem
- ALARA Goal 2.9 person-mrem

Collective dose has significantly been reduced in the last 10 years.

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**1. Environmental Performance (M. Van Essendelft):**

- 1 CAD Assessment – 0 findings, 1 observation
- 1 BNL Assessment – 0 findings, 2 observations, and 1 noteworthy practice
- 1 NSF Assessment – 0 findings or opportunities for improvement
- Multi-topic Audit currently in progress through Environmental Services
- Environmental Monitoring – Very few exceedences.
- Spill Performance – Our goal is 0. There was 1 spill from a hydraulic lift gate.  
**Q:** Isn't there a maintenance program for the vehicles? [Audience]

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

**A:** Periodically the trucks go to Plant Engineering for maintenance but there is no maintenance cycle. [M. VanEssendelft]

- There are 4 areas/goals that we must address to comply with “Executive Order 13423: Pollution Prevention Mandates for 2008-2010”
  - Energy and water management
  - Acquisition and green product designations (driven by PPM)
  - Sustainable design/high performance buildings
  - Electronics stewardship (Recycling Program)
  
- White House Closing the Circle Award for Environmental Stewardship
  - 90% reduction in PCBs’ – contributed largely by C-AD
  - 35 ton reduction in Ozone Depleting Substances – contributed by C-AD
  - C-AD contributed to electronics recycling as part of Federal Electronics Challenge

**Q:** Was this all done in this year? [P. Pile]

**A:** Yes, since FY’06. [M. VanEssendelft]

**C:** Actually this was done in 3 years. [G. Goode]

- Soil samples continue to show that HEBT area needs to be capped. More investigation is needed.
- g-2 Tritium Plume – maintain controls around the cap and monitor movement of plume.
- No upticks since July 2004

**Q:** When do you expect that we can stop monitoring? [D. Lowenstein]

**C:** Plume is expected to degrade below drinking water standard - 5 years of monitoring still expected. [D. Paquette]

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**Waste Reductions (J. Scott):**

- All Routine Waste for Hazardous/Industrial Lab Pak was below allocation
- P2 Total Savings =\$42,000
- NP/HEP Supported Legacy Waste Efforts – Removed with HEP funding
- LINAC capacitors removed – 1000 more capacitors need to be removed
- Removed half of PCB capacitors from Siemens
- Unneeded materials & Chemicals – Items have to be removed by 2011

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

**Q:** Will there be a new list for 2012? [P. Pile]

**C:** This is a one time thing. [J. Scott]

- Future Legacy Waste Efforts – Need money to remove PCB capacitors

**C:** Tandems will go with PCB Capacitors. We will not spend money on anything we intend to get rid of. [D. Lowenstein]

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**Proposed 2008 Objectives That are Based on Internal and External Vetting**

Ed Proposed 2008 Objectives in keeping with what industry is doing to keep reducing the number of high level objectives.

Regarding the 3% reduction in Gas Emissions:

**Q:** How do they measure that low a number. [P. Pile]

**A:** There are a lot of factors that go into it. 3% is the goal. [E. Lessard]

**Q:** How are we going to meet this goal? [P. Pile]

**A:** Reduce unnecessary loads and decrease electricity. We have done it before. [E. Lessard]

**C:** Greenhouse emission should increase this year because we hope to run longer. [P. Pile]

**C:** Energy efficiency should be the goal not greenhouse gas emissions. [P. Pile]

**C:** We will improve on the objectives relating to energy efficiency. [E. Lessard]

Regarding injury rate:

**C:** Most incidents are trips and falls and some are not really work related. The guidelines should be changed. [D. Lowenstein]

**C:** The TRC goal should be 0 and remain 0 not 0.5 [P. Pile]

**C:** It is easier to achieve the 0 in the lost workday incidence than it is the recordable rate. [P. Williams]

**C:** We will change our TRC goal to 0. [E. Lessard]

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

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**RESPONSES TO MANAGEMENT QUESTIONS**

**Management Question #1:**

- Are the OSH/EMS/S/SA programs effective in achieving policy commitments?
  - Compliance?
  - Pollution prevention?
  - Injury/illness reduction?
  - Community outreach?
  - Clean-up?
  - Continual improvement?
  - Security?
- Issues
  - Need to continue toward full 10CFR851 compliance (OSHA, electrical...)
  - Need to continue groundwater protection and cap Linac beam stops
  - Need to continue to improve materials security programs
  - Reduce, where appropriate, lead solder, freon, mercury, power use
  - Reduce excess space throughout complex
  - Need to continue human performance, NEC and ASME training

**Response**

**C:** The Department should be commended. When ISM conducted their audit they found CAD to be in reasonable shape and moved on to other organizations. [D. Lowenstein]

**C:** We need a technical solution regarding the Cap over LINAC Beam Stop. [D. Lowenstein]

**C:** Regarding copper theft, we need to reduce the amount of copper. We should eliminate what is not used. [D. Lowenstein]

**C:** A technical solution is needed and an acceptable substance is needed to replace the leaded solder. [D. Lowenstein]

**C:** You should submit the Tandem PCB issue as a P2 Proposal, or at least keep it on the list. [G. Goode]

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

**C:** There are limitations to the Tandem PCB issue because of the future operations plans and cost/benefit; however it will be kept on the list. [E. Lessard]

**C:** As we excess space around the complex and are consolidating people, then we should pursue getting an extension Bldg. 911. [Lowenstein]

**Management Question #2:**

- Are programs effective in achieving the objectives and measures?
- Issues
  - Evidence points to successful achievement of most targets, however
    - Continue to identify and fix OSHA and NEC violations
    - Continue industrial hygiene baseline monitoring (noise, etc.)
    - Complete the arc flash calculation and labeling program
    - Continue to improve housekeeping programs
    - Continue to improve metals inventory
    - Continue to remove aging cable in AGS
    - Continue to archive data on activated soils
    - Complete the removal PCB capacitors at Linac, B912 and B928 and TVDG
    - Continue to request BNL to repair Building 912 and 930 roofs
    - Continue OHSAS 18001 and ISO 14001 registrations
    - Continue to upgrade emergency generators; remove underground tank

**Response**

**C:** We have requested six months relief for NRTL project. [E. Lessard/D. Lowenstein]

**C:** We are still using HEP money to remove aging cable from AGS. [E. Lessard]

**C:** Thomas Roser suggested that an AD Hoc Committee be formed to look at ways to reduce greenhouse gas emissions [e.g. more video conferences as opposed to air travel, etc),  
No further suggestions or recommendations.

**Management Question #3:**

- Are the OSH/EMS/S/SA programs adequate in terms of:
  - Identifying significant environmental aspects and impacts?
  - Identifying significant occupational safety and health hazards?

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

---

- Identifying significant security issues?
- Resource allocation?
- Information systems?
- Organizational issues
- Issues
  - Need resources for
    - Fire Hazards Analyses recommendations
    - Roof repairs
    - OSHA violation abatement
    - Warehouse ‘footprint’ reductions and inventory management
    - Royal box (old power distribution), cable and tray removals
    - Soil capping projects

**Response**

**Q:** What other capping projects do we have? [

**A:** At J10 [E. Lessard]

**Q:** Do we have an amount of resources needed for this project? [T. Roser]

**A:** For all plant related costs (OSHA violations, roofs, Life Safety Code violations, Fire Protection recommendations) we would need approximately 15 million. [E. Lessard]

**C:** We (C-AD) should be able to decide on how we want to spend our space charge money [D. Lowenstein]

**C:** Space charge money, when controlled by BNL, is not used for what it is intended. [P. Pile]

**Management Question #4**

- Are the objectives and measures suitable in terms of:
  - Environmental impacts, occupational hazards, security?
  - Concerns of stakeholders?
  - Current and future regulatory requirements?
  - Business interests?
  - Technological capability?
  - Internal organizational or process changes?
  - Should additional measures be established?
- Issues
  - Need objectives and targets for ISM concerns (e.g., PPE)
  - 10CFR835 changes (neutron quality factor; equivalent-dose)

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

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**Response**

- C:** To clarify stakeholders concerns, the Long Island Pine Barrens and the Citizen Campaign for the Environment had a concern in addition to the g-2 plume. The issue is the activated soil – the source of the plume. There is a potential for dispersion of tritium from activated soil. The stakeholders feel safer if radioactivity is contained in concrete rather than in activated soil. In this sense, you should be sensitive to minimizing beam losses which in turn, minimizes soil activation. [G. Goode]
- C:** We will add to the list a continued focus on minimizing soil activation, via improved beam controls, where appropriate. [E. Lessard]

**Management Question #5:**

- Recommended revisions to:
  - OSH policy and commitments?
  - Environmental policy and commitments?
  - Self-assessment policy and commitments?
  - Objectives and performance measures?
  - Elements of OSH, EMS, SA, Security?
- Issues
  - Lab should implement policies via Interim SBMS not via memo
  - Continue the working group approach to changing SBMS
    - Need to add senior department-manager oversight committee
    - Subject Areas needing BNL work: interlocks, PPE, electrical safety

**Response**

- C:** Memos from Management are confusing. Safety policy should be written through the mechanisms established in SBMS. Confusing the workers is not a good idea. [E. Lessard]
- Q:** Why don't they have the actual people that wear the PPE on the committee? [P. Pile]
- C:** I will mention to the committee chair to get people that wear the PPE on the PPE review committee. [E. Lessard]
- Q:** When is the PPE issue supposed to be clarified? [W. Glenn]
- C:** Spring of 2008 [E. Lessard]
- C:** The memo should be rescinded, it is very confusing. [W. Glenn]
- C:** We need to get BNL Department Managers oversight on SBMS Subject Areas. [D. Lowenstein]

**Meeting Minutes**  
**Senior Annual Management Review**  
**09/27/07 (10:00am-12:00pm)**  
**Snyder Seminar Room**

---

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**C:** It's good to have everyone's feedback, however we still have to follow regulatory drivers.  
[P. Williams]

**C:** There used to be a committee that addressed Subject Areas, but is now left to SME's and no one reviews it. [D. Lowenstein]

**Q:** How do we provide feedback to Washington? [W. Glenn]

**A:** There is an Accelerator Safety Workshop every year where we meet with the Office of Science. [E. Lessard]

**C:** For the SBMS Process there is supposed to be Departmental person that designates who reviews the subject areas when they come out. [P. Williams]

**C:** It is not as effective to have one person sit down and review a 50 page document. It is no more than a desk audit. You need to have group sit down and discuss it, and the group should have Department's senior managers.

**Q:** Regarding ATS closures. If there are verbal closures, how do you validate or measure the effectiveness of the closures?

**C:** Ray Karol randomly picks each year 10-20 action items that need to be validated, and he validates them. [D. Passarello]