**Final Minutes of the Tier I Working Group Meeting FY 10 Q1 held March 5, 2010**
**Safety and Health Services Division**
**Brookhaven National Laboratory**

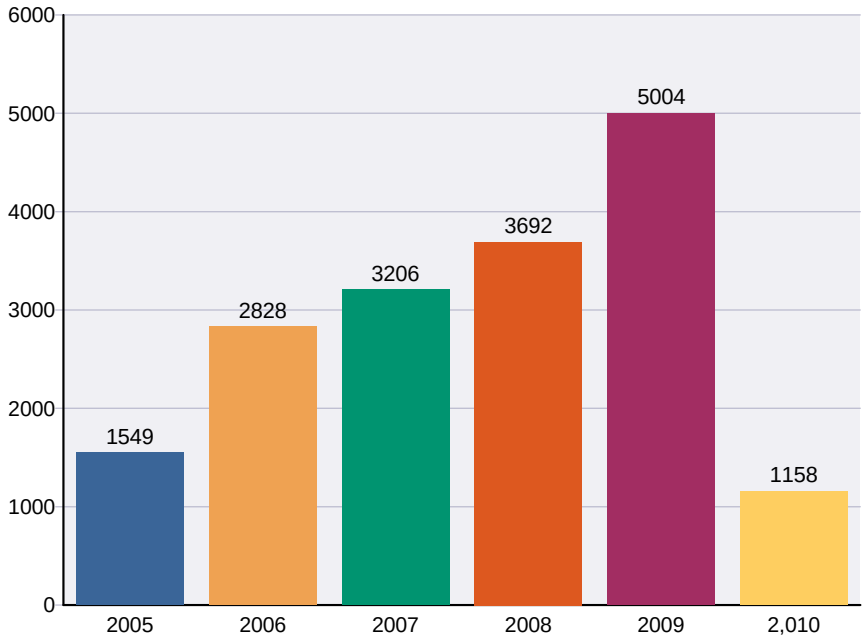
## Attendees

L. Bowerman, D. Cabelli, P. Carr, K. Conkling, C. Conrad, D. Cubillo, M. Delph, P. Eterno, D. Galligan, R. Gill, S. Kane, K. Klaus, J. Levesque, P. Martino, A. Moodenbaugh, E. Nowak, M. Paquette, D. Passarello, A. Piper, M. Rankine, R. Sabatini, P. Sullivan, M. Van Essendelft

## Agenda

1 Rollup of 1st Quarter FY 2010 Tier I Inspection Findings
2 Brookhaven Site Office (BHSO) Issue Database Trending Report (P. Sullivan)
3 Facility Operations Center Update Funded OSHA Work (M. Paquette)
4 Buildings Where Complete Panel Directory Updates Will Be Done (M. Paquette)
5 New Tier 1 Database – Category/Sub-Category
6 Finalize Fire Safety Checklist
7 Exit Sign Criteria (J. Levesque)
8 Preliminary Cryogen Guide (M. Gaffney)
9 Location of Floor Mats
10 Unsecured Buildings (M. Delph)
11 Requirements for Non-Functional Eyewash Stations

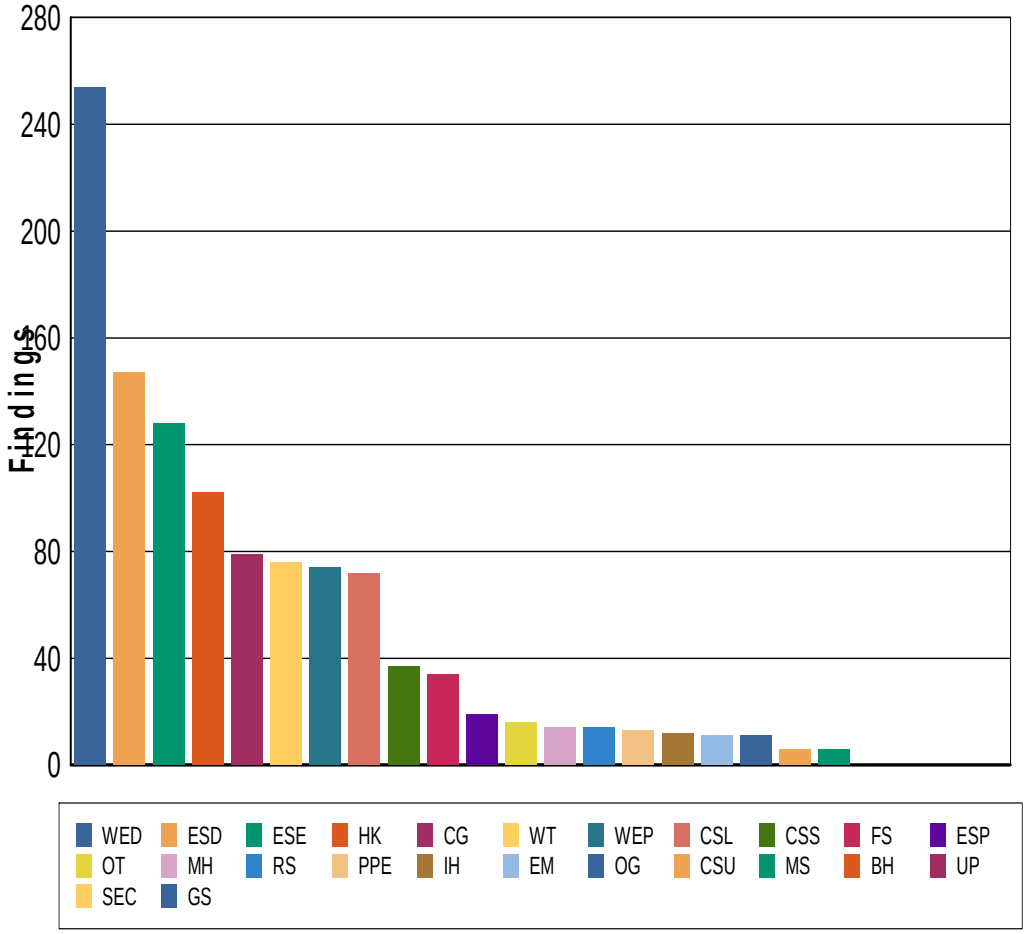
## Data Rollup of Tier I Findings by Fiscal Year




The following points were made by S. Kane:

1 We are off pace from the number of findings for this same period last year, and at this rate there will only be 4600 findings for the year.
2 Some facilities or buildings get only one inspection each year which is not until the last quarter, but they usually do not have many findings.

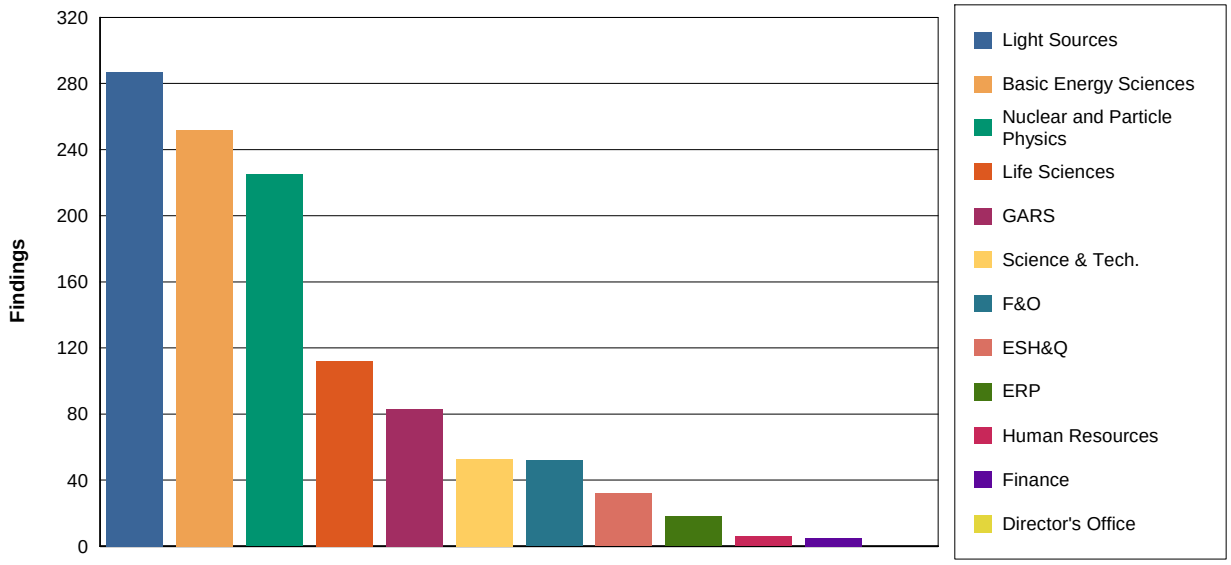
**Data Rollup of FY 2010 Q1 Tier I Findings by Category**




The following points were made by S. Kane:

1 Looking at the data, the people are looking at themselves and how they are performing.
2 Organizations are not trying to blame Facilities and Operations (F&O), especially when Working Environment: Department (WED) is first, Electrical Safety: Department (ESD) is second, and Electrical Safety: Equipment (ESE) is a close third.
3 It is surprising that with all the housekeeping issues that occurred at the end of calendar year 2009 there are not more findings, especially as far as housekeeping issues go.
4 Housekeeping is usually in the top 5 categories, and it was thought that there would be more findings; perhaps that will be reflected in the second quarter.
5 The question was raised about issues that were found during the Stand-downs. These issues should be combined with the Tier I findings so that all issues are in a single system.
   5.1 If there was a big crackdown on housekeeping and it is not reflected in the Tier I findings, people may say that the folks are not doing the inspections correctly.

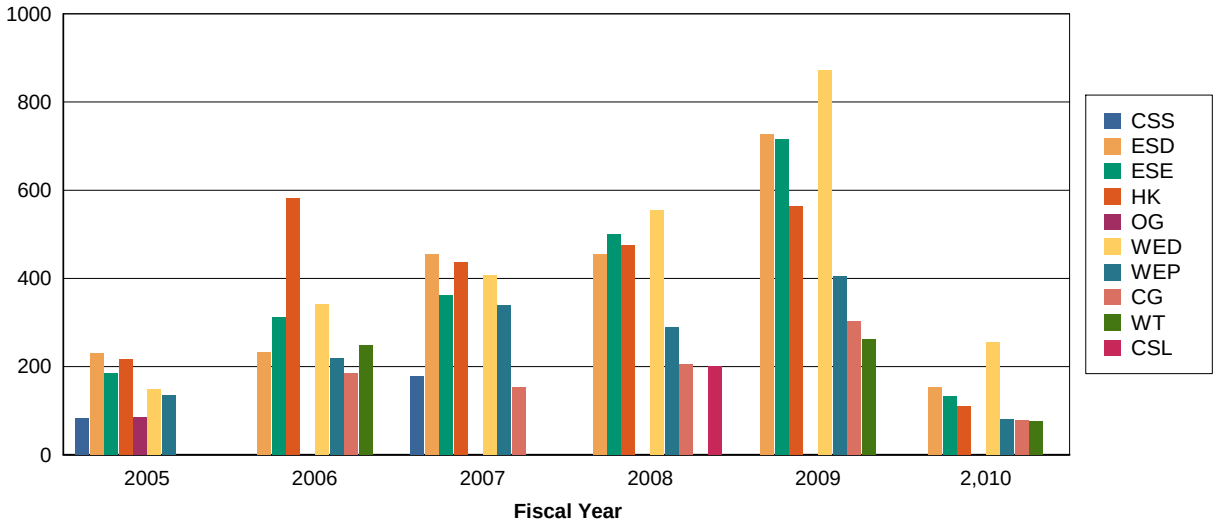
**Data Rollup of FY 2010 Q1 Tier I Findings by Directorate**




The following points were made by S. Kane:

1 Light Sources is leading, with Basic Energy Sciences (BES) a close second.
   1.1 The people in BES are keeping their eyes open for what is out there to be found.
2 It was thought that there would be more findings in Nuclear and Particle Physics (NPP) considering that they own almost one-third of the facilities, and in light of what S. Kane saw in his recent visit to Building 911.

**Data Rollup of Tier I Findings by Top 7 Categories by Fiscal Year**




**2010**

| | | | | | |
|---|---|---|---|---|---|
| WED | Working Environment: Department | 255 | ESD | Electrical Safety: Distribution | 154 |
| ESE | Electrical Safety: Equipment | 132 | HK | Housekeeping | 110 |
| WEP | Working Environment: Plant | 80 | CG | Compressed Gas/Cryogenics | 79 |
| WT | Waste | 76 | | | |

The following points were made by S. Kane:

1 Outside and Grounds is not among the top 7 categories on the list. This is another indication of introspection.
2 Working Environment: Department is the single leading finding, with housekeeping relatively close.
3 Compressed Gas is showing up, but it was thought there would be more Compressed Gas findings considering there were DOE surveillances and what S. Kane observed in Buildings 490 and 463.
   3.1 People are just not getting the message on Compressed Gas.
   3.2 S. Kane is seeing no static inventory postings; compressed gas bottles are held in place with wire; and combustible waste is placed right next to flammable gases.
4 The people in Buildings 535 and 480 are doing an outstanding job: the static inventories are posted; everything is secured; and the emptied bottles and full bottles are located in their respective locations.

**Brookhaven Site Office (BHSO) Issue Database Trending Report (P. Sullivan, BHSO)**

The following points were made by the presenter:

1 Order 226.1A on Oversight Policy requires DOE to show evidence of BHSO's oversight policy and how they are implementing oversight.
2 The Issues Database is used to track, trend and report on various issues identified by the BHSO staff during Tier I's, surveillances, and walkthroughs.
   2.1 The database does not include formal surveillances which are kept in a separate area of DOE's database.
   2.2 The information from these surveillances is provided in report format.
3 The database was rolled out in 2006, and in FY 08 the database was changed from a corrective action database to an issues database, and a trending analysis started in FY 08 - FY 09.
   3.1 The number of entries has shown a steady increase with the average growth rate of 168 entries per month.
4 The findings levels are as follows:
   4.1 Level 0 is an anomaly, and while it was the default if the user did not select a finding level, this has been corrected so that now Level 1, 2, or 3 has to be selected.
   4.2 Level 1 is the most severe or most noteworthy and are programmatic-type issues.
   4.3 Level 2, the majority of database entries, are common deficiencies found in Tier I's. Examples are compressed gas cylinder unsecured or the gas cylinder does not have a cap or a status tag;.
   4.4 Level 3 are recommendations which are not based on a Subject Area or a DOE Order.
5 The Apparent Cause selection reflects data only from Level 2 or greater findings and are divided into Rule Based Error, Work Practices, Knowledge Based Error, Periodic/Corrective Maintenance, Skill Based Error, and Supervisory Method, and Other.
   5.1 The database has been corrected so that "None" cannot be entered and an apparent cause has to be selected.
6 The database has been grouped by the number of entries within sub-categories, for example, 1-2 entries per sub-category (47 sub-categories) (5%), 3-9 entries per sub-category (44 subcategories) (17%), and 10-60 entries per sub-category (26 sub-categories) (53%)., and electrical which makes up the single largest type of issue (25%).
   6.1 Of these electrical issues, 36% are blocked panels and 15% are daisy chained electrical cords issues.
   6.2 The sub-category with the highest recurring problem was compressed gas with issues such as improper storage and identification (status tags, postings).
7 To help make trending easier, predominant deficiencies will be made their own sub-category.
   7.1 The reason for this is because DOE has gone from strict targets and metrics in Performance Evaluation Management Plan (PEMP) to seeing in which areas the deficiencies are occurring.
   7.2 Instead of generalizing in PEMP, BHSO will be more specific.
   7.3 This is tied to contract performance measures goal 5 (Integrated Safety Health and Environmental Protection) and goal 8 (Integrated Safeguards and Security Management and Emergency management Systems).
8 Improvements made to the database are:
   8.1 Adding new sub-categories, i.e., blocked panels, daisy chaining, which will help BHSO trend.

8.2 There will be a “Requirement not met” field which will help BHSO. When BHSO goes back and looks at the different objectives in the PEMP, they will be able to make a better determination as to why the requirement was not met.
8.3 Write a more detailed short description which will explain why the finding was a deficiency.
8.4 Use a negative expression to describe the nature of the problem, i.e., instead of just stating compressed gas deficiency, state compressed gas cap missing.
8.5 Care will be taken to enter the correct facility and correct finding level.

9 An attempt will be made to provide reports on a quarterly basis.

10 Beginning in FY 10, a causal analysis or corrective action plan will be needed for Level 1 issues

**Facility Operations Center Update Funded OSHA Work (M. Paquette)**

The following points were made by the presenter:

1 Last year $100K was requested and BNL received $75K. There is a chance that there will be additional funding at the end of the year.

2 This $75K was allocated to continue corrections of OSHA-related concerns and is being spread out across the different facilities, different concerns, and different shops so as not to overburden any one shop.

3 The OSHA FY 10 funding will address the following deficiencies for which work orders have been issued:
3.1 Bldg. 1005S, machine guarding
3.2 Bldg. 1004B, ladder replacement for the protection of workers who have to go on top of a device.
3.3 Bldg. 912, anti start devices which will be installed by C-AD electricians.
3.4 Bldg. 422, handrails for fall protection. A person was injured when falling from a dust collector.
3.5 Bldg. 801, handrails. There was an issue concerning the area around a pit and there was a concern from the electricians about the area around a new generator.
3.6 Bldg. 555, housekeeping, an acid hood. This is a worker health concern in Bldg. 555 and in the Director’s Office which will be abated soon.
3.7 Bldg. 815, exit route lighting. There was a concern that people were walking outside in the dark so sensors were put on the platform.

4 Bldg. 555 also has an eye wash issue and separate funding is being used to correct this issue.

5 Building managers are aware of this OSHA funding and should continue to send to M. Paquette any OSHA-related items, including OSHA non-compliances identified in Fire Hazard Analyses (FHA).
5.1 In the FHA, there is a statistically based ranking process which considers vulnerability and frequency related to fire.

6 The more issues that are sent in to M. Paquette, the more funding he can request.

7 M. Paquette is working with S. Kane on fall protection for roofs.

**Panel Directory Update (M. Paquette)**

The following points were made by the presenter:

1 $75K in funding was allocated to continue the panel labeling program throughout the site.

2 The project consists of the electricians tracing out circuits, updating the panel directories, and putting this information in an electronic database.
2.1 This way if someone adds or changes a circuit in the directory, the directory can be printed out.

3 In conjunction with the site-wide Arc Flash Project, panels are being labeled.

4 The nomenclature from the one-line drawings is being used.

5 Work orders are currently in Maximo for Bldg. 438 (Science Education Building), Bldg. 459 (BIS), and Bldg. 488.

6 Panel labeling is not being done in wooden structure buildings, but in buildings which will remain on site for a while.

7 When Operational Readiness Evaluations (OREs) are conducted, the ORE Committee will check for GFCI labels. These labels state “Test Before Use”.

8 There are work orders in Maximo to place GFCI labels in every building on site.
   8.1 If your building has GFCI labels, please notify M. Paquette so that he can remove the building from his list.
   8.2 Buildings 120, 460, and LS1 and LS2 have GFCI labels.

**New Tier 1 Database - Status**

The following points were made by S. Kane:

1 The Business Systems Division (BSD) wanted to say the database was ready, but based on the Requirements Document which stated what the system had to do before the database was ready, the database is not ready.
2 Maximo needs a lot more programming in order to provide the functions required, but these functions would be provided in the next update to Maximo.
3 It will take about two months to upgrade Maximo, and then BSD will be able to finish the programming in order to meet the requirements of the new database.
4 At the next Tier I Working Group meeting in the June-July timeframe, S. Kane will ask those people who do not have too many findings to test the new system.
5 Perhaps by the end of this fiscal year the new system will be ready for use.

**New Tier 1 Database – Category/Sub-Category**

The following points were made by S. Kane:

1 At the last meeting, someone requested that the category/sub-category list be provided.
2 The database will have drop-down menus for the categories and sub-categories.
3 S. Kane will look at the BNL Housekeeping Standard (http://intranet.bnl.gov/safety/housekeeping.asp) for any items to be added to Housekeeping sub-category listing.
4 For the few people who use autoclaves, there is a standard posting for some departments.
5 S. Kane will email the final list of categories and sub-categories to Rich Portesy.
   5.1 The Tier I WG has until March 31, 2010 to submit any higher frequency items to be added to the list of categories/sub-categories and any comments or changes.

The following points were made by Working Group members:

1 It was suggested that higher frequency items be added.
2 It was suggested that the categories/sub-categories be numbered.
3 Someone thought that a check box is easier to use than a drop-down list.
4 It is suggested that in addition to an “Other” category, each sub-category listing have “Other” and a text field that can be used for entering a description.

**Finalize Fire Safety Checklist (S. Kane)**

The following points were made by the presenter and Working Group Members:

1 Provide any comments on the fire safety checklist to S. Kane and C. Conrad by 3/12/10
   1.1 The checklist will then be posted on the Tier I Program Area.
2 The format of the checklists will be standardized.
3 Some people felt the citation in the Reference column for the regulation was irrelevant, but the citation for SBMS is useful.
4 J. Levesque included the NYS regulation because he was asked if this was a Part 851 violation or trendabale, so the issue is if it’s a regulatory Part 8651 requirement or an internal requirement.
5 M. Paquette needs the reference when he puts in work orders for OSHA violations.

**Exit Sign Criteria (J. Levesque)**

The following points were made by the presenter:

1 At the last meeting, some people asked about exit sign criteria.
2 J. Levesque is one of two Laboratory Protection Engineers who works in the Fire Protection and Security Divisions.
3 The three main causes of fires are men, women, and children, and on Tier I's we are trying to control people and influence their behavior.
4 Code requirements are very specific. People should be guided out to the nearest exit in a clear and concise manner
5 A room with less than 50 people occupancy and a single door does not need an exit sign.
6 A room with multiple exit doors may need exit signs.
    6.1 It is not the room size, but rather the occupancy classification (i.e., business, high hazard, education) of a room and the square footage and dead space taken up by equipment, that determines the need for an exit sign.
    6.2 An analysis has to be done to determine if an exit sign is needed.
    6.3 If your building has a FHA, then people have walked through the building and done the analysis and captured the need for signs.
7 Once a person steps out of a room, the person should be guided to the nearest exit (street or parking lot), and when a person steps out of a room into a hallway, a sign should direct them to an exit or in 50 feet there should be another exit sign.
    7.1 An exception is there are UL signs that are rated for 100 feet or 150 feet.
    7.2 The exit is where you step outside the building and the door does not need an exit sign.
8 There are requirements for the lettering of an exit sign, i.e., stroke, size, contrast, and for the size of the chevron indicating direction.
9 Contact J. Levesque if you need an exit sign. (Note that a work order has to be issued for hanging the exit sign.)
10 "Not an Exit" sign should be placed on any door which a person can confuse with an exit. For example, if you are in a conference room and can confuse a storage closet for an exit door, put "Not an Exit" sign on the door.
11 Doors along corridors do not need "Not an Exit" signs.
12 Not all doors are exit doors.
13 Exit doors should not be blocked, should be easy to open, should be free and clear, and people should know how to get to them.
14 If you want to seal off a door, first check with Fire Protection.
15 The code requires that exit signs be illuminated, and they can be illuminated by building lights.
16 When are exit signs supposed to be illuminated when the lights go out:
    16.1 If your building has emergency lights with a battery pack, or if your building has an emergency generator.
    16.2 If the exit sign has an internal battery pack with a test button.
    16.3 A new generation of exit signs are photoluminescence signs which glow in the dark.
        16.3.1 UL has a criteria when they can be used. It requires a minimum amount of light from fluorescent lights, so you just can't have it next to a window.
        16.3.2 These exit signs have to be labeled UL-compliant.
    16.4 Non-UL signs have been grandfathered in, and if you see photoluminescence signs without a UL label, but there are emergency generators for the building or the signs have battery packs, don't worry about it.
    16.5 If the building doesn't have battery pack emergency lights or an emergency generator, and you see a paper exit sign, contact J. Levesque to evaluate the paper exit sign.
17 "Emergency exit only" signs discourage people from using the door.

**Preliminary Cryogenics Guide (S. Kane)**

The following points were made by the presenter:

1 At the last Working Group meeting, it was requested that a Cryogenics Guide be developed.
2 M. Gaffney, SME of the Cryogenics Safety Subject Area, developed this guide as an operator aid.

2.1 The items on this guide come from the Cryogenics Safety Subject Area.
2.2 The list includes what PPE, what clothing you have to use, and the requirements for PPE regarding pressurized transfer as well as unpressurized transfer, such as pouring liquids

3 This Guide is posted on the Tier I website and will be changed according to any comments received.
4 If you're in doubt, call M. Gaffney.
5 Provide comments on the Guide to S. Kane, M. Gaffney, and C. Conrad by COB March 12, 2010.

**Location of Floor Mats (S. Kane)**

The following points were made by the presenter:

1 S. Kane made a presentation about floor mats to the ESH coordinators in December 2009.
2 In January 2010 in one of the new buildings, someone slipped and fell after being outside.
3 Section 9 of the Walking and Working Surfaces Subject Area discusses the requirements for floor mats.
4 Floor mats should be of low profile and contrasting color so that a person knows the mat is coming.
5 Mats should be periodically inspected as they have a finite life.
6 If mats are beginning to curl or they slide on the floor, purchase a new mat.
7 Watch out for placing mats over uneven or damaged surfaces, as only a ¼" differential in walking surfaces can cause a person to fall.
8 Mats should not overlap.
9 Mats should be fastened down and you can talk to your custodian's supervisor requesting that the mats be fixed in some manner until spring comes.
10 For outside rubber mats, make sure that they do not overlap the stairs or get too close to the edge of the landing.
11 For Tier I's conducted in the next two months, please look at the condition of the floor mats, or lack thereof.
12 In September S. Kane will remind the folks to begin looking at mats.

**Unsecured Buildings (M. Delph, Integrated Safeguards Security Management)**

The following points were made by the presenter:

1 Of the 350 buildings on site, in 2010 so far there have been 39 buildings found unsecured either after hours or on weekends.
1.1 This number eliminates repeat occurrences of a building.
1.2 In FY 08 and 09 there were 109 and 100 buildings respectively found unsecured.
2 A new database is being used to keep track of unsecured buildings.
3 Looking at the number so far for FY10, it looks as if BNL will be on pace with the 2009 numbers.
4 M. Delph wants suggestions from this Working Group on what we need to do to help reduce the number of unsecured buildings.
4.1 Someone mentioned that this is Human Performance Improvement issue and requires people's awareness.
5 In Bldg. 480, there is a contractor area where different people are responsible and it was found unsecured.
6 M. Delph will provide to S. Kane a summary listing the buildings that were found unsecured, the number of occurrences for each building, and the location of the doors found unsecured.
7 During Tier I's the inspection team should check the function of the external doors, that is, check that the doors close and that the locks work.
7.1 If the door is found unsecured, is it that someone is leaving the door open or is the lock broken and the door cannot be locked?

The following points were made by the Working Group members:

1 It might be useful if the people knew which buildings were found unsecured.
2 In Bldg. 555, there is a door where a key is needed to lock the door from the inside and only the building manager has the key. Therefore, if that building is found unsecured it means either the building manager did not lock the door or someone propped it open.

3 Some of the building managers do not get incident reports which are sent out to building managers based on B. Royce's list.
4 On Tier I's people find doors that do not lock, and it is expensive to install automated doors.

**Requirements for Non-Functional Eyewash Stations (S. Kane)**

The following points were made by the presenter:

1 At the last meeting, some folks were asking about a new requirement for non-functional eye washes.
2 There is no new requirement for non- functional eye stations.
3 The procedure which has been in place for about 4 years is described as an exhibit in the Chemical Safety Subject Area, "Permanent Procedure for Interim Administrative Controls in Case of Eyewash or Safety Showers Pathway Deficiencies."
4 The procedure describes what you should have for a deficient ANZI Z358.1 eyewash/shower and what you are supposed to do.
   4.1 Access to a safety shower and eyewash must be barrier-free.
   4.2 If it is not barrier-free, then you should use the procedure when the following options are not feasible:
      4.2.1 if you cannot stop using your chemicals or you cannot install temporary eyewash and safety showers compliant with the ANZI standard, then you have to follow this non-permanent procedure.
   4.3 The applicability for using this interim procedure is you are handling corrosives and they are not splash- or vapor-proof and the eyewash or safety shower is not located within the contiguous room (there are no walls or obstacles), there is an obstruction in the pathway to the eyewash/shower equipment, and the shower and eyewash is not accessible within 10 seconds (and 50 feet).
   4.4 The procedure is to keep the door open, post a sign on the door, train your workers on what the procedure is for a deficient eyewash, and include the procedure in any Experimental Safety Review or Work Planning.
5 Eyewash safety showers are only required for corrosives. Chemicals drive safety showers, not flammables.
6 SHSD Reps or B. Selvey may be contacted for advice on the frequency of checking eyewashes.

**Short Topic:**

1 The Machine Shop Subject Area has been rescinded. There was no OSHA or DOE requirement to keep the inspection logs; it was only a BNL requirement.
   1.1 In order for people to be considered qualified to operate a machine, each department should determine under the Work Planning and Control Subject Area if the particular individuals have demonstrated their skill on the particular machine.

**Actions for S. Kane**

1 Distribute to the Tier I Working Group the summary from M. Delph listing the unsecured buildings, including the location of the doors left open.
2 Put the checklists (or guides) in a uniform format.
3 Review the Housekeeping Standard (http://intranet.bnl.gov/safety/housekeeping.asp) for any items that should be added as sub-categories under Housekeeping.
4 Send the updated list of categories and sub-categories to Rich Portesy. For each sub-category, add "Other" and a text field for a description.

**Actions for Working Group Members**

1 Review Common Fire Safety Checklist and provide comments by 3/12/10.
2 Review Cryogenics Checklist and provide comments by 3/12/10.
3 Review the Tier I Deficiency Categories and Sub-categories to be used in the new Tier I database and provide comments by 3/31/10.