



**BROOKHAVEN NATIONAL LABORATORY
81 CORNELL AVE., UPTON, NEW YORK, UNITED STATES,
11973-5000**

69528

Audit Type
SURVEILLANCE

16-JUN-2008

Auditor
BRIANA SPRAGUE

Registration
OHSAS 18001:1999

Recommendation



Corrective Actions

Standard	OHSAS 18001:1999
Auditor	BRIANA SPRAGUE
CAR Type	Minor
Standard Clause	4.4.6 Operational Control
Location of finding.	Waste Management
Discussed with:	Mike Clancy
Statement of Requirement:	Procedure No. WM-SOP-425 Revision 12 page 10 requires that hazardous waste is transported through the radiation detection truck monitor prior to storage in Building 855.
Statement of nonconformity:	The BNL WM-SOP-425 item 6.1 [6] was not followed.
Objective evidence:	Auditor observed that the waste drum of PCB material picked up on 6/18/08 was not transported through the radiation detection monitor prior to storage in Building 855 as required by the SOP.



Opportunities for Improvements	
Location of OFI	CEGPA
Discussed With	Rick Backofen
Description	Consider capturing quality improvement and community involvement goals with positive ESH impacts when setting future objectives and targets. For example, expansion of successful programs like the Open Space Stewardship initiative, paper use reduction efforts, etc.
Location of OFI	Chemistry Stock Room/CMS
Discussed With	John Taylor
Description	Consider using a bar code reader to simplify check out of chemicals in the stock room.



Process	
Processes	Observations
<p>2008 EMS Aspects, Objectives and Targets</p>	<p>Identify process inputs and describe their interactions with the process: Annual Laboratory Plan (ALP) (Achieving Excellence in ESS&H), Performance Evaluation Management Plan (PEMP - contract) Management Review inputs such as (compliance information)</p> <p>Process objective(s): To set and achieve EMS Objectives and Targets at the Directorate Level. To provide Directorates with guidance in setting objectives and targets. Update aspects identification process. Objectives and targets suggestions are provided. EWMSD investigated early in the year to make sure that division and directorate goals are in line with the PEMP and other site level goals.</p> <p>Describe whether the process is effective or not: The process is effective. FY08 guidance was issued fr divisions to consider in setting objectives and targets. Divisions were able to also set their own objectives. John Selva performed a cross-check of directorates to assess the quality of the directorate-level objectives in January. 63% reduction so far on Hg containing equipment. Performance track goal very aggressive 80%. Engineering Nanomaterials are handled and disposed with strict precautions. Significant aspects have been updated to include nano. Evidence in field in BES supports the implementation of controls.</p> <p>List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc... HP80.7 EMS54ER.07, FY08 Site Level Environmental Safety and Health Objectives. Summary table of EMS goals for each directorate (Jan 08). BSA Management system review to the BSA operations Board. Gap Analysis for EO 13423 Significant Environmental Aspect - Addition of Engineered Nano Materials in FY08. Interviewed: John Selva, Gorge Goode, Bob Lee, John Taylor</p>
<p>Basic Energy Sciences Directorate</p>	<p>Identify process inputs and describe their interactions with the process: FY08 Objectives & Targets (Site Wide), Results of Management Review, Communications, ESR process, ESSH Policy.</p> <p>Process objective(s): To effectively implement the OHSASMS and EMS within the Basic Energy Sciences Division.</p> <p>Describe whether the process is effective or not: Process is effective. Objectives and Targets are mostly on track for 2008. Management Review included all the required inputs and outputs. Meeting was well attended by Group Leaders and EHS and Managers. MR presentation and metrics for FY07- 11/14/07. Safety Observation target is behind, but ALD has responded with messages and ALD has performed the observations as good example for rest of management team. ESR is under review for integrating the consideration of JRA within the ESR process. Nice objective to perform a certain number of outreach communication efforts regarding Nanosafety. Electrical safety inspection is big objective for this year. Full-time person working on electrical safety inspections for equipment not UL listed. Also pressure and vacuum equipment goal for inspecting equipment. Baseline monitoring - working with IH to complete all the identified monitoring. IH Deployed rep has completed a huge chemical inventory reduction project this past year. Nanomaterials are significant aspects - verified that nanomaterials are labeled and waste collection is handled according to procedure (looked at areas in B 555 and CFN. HEPA filter</p>



installation goal has been met. Discussed how the JRA and the ESR are linked and reviewed by E, OSH and Ops. Discussed proposal process and review of whether the proposed work fits into an existing ESR. CFN: Tours zones, visited satellite area (no waste in there during audit), service galleys to keep equipment out of lab spaces and reduce clutter, laboratory space is customizable to work required, emergency placards identify zone/control area which is linked to the CMS inventory and the Local Emergency Plans. IL30/1L26 O2/Argon mix is written on door as addition to the inventory - checked CMS - this chemical is listed in the inventory for this room. 90 Day area for CFN. No inventory here. Looked at JRA for this area. Laboratory glass recycling - triple rinse prior to recycle. procedure. Discussed recent drill 6/13/08 not reviewed yet. Interview Scientist- Policy/Plan or Work, ESR, Cont. Improvement. Chemical Hazards/Laser Safety. Few Wastes in research. Interview Tech - Chem - regarding electrical inspection program, EMS basics, Policy, Hazards,

List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc...

Nanomaterials EHS Policy, communicated to staff 5/15/08 for labeling, housekeeping, spills.

Status O&T for EHS reviewed status dated 6/6/08. Msg sent by ALD about lagging Target of Safety Observations. Others are on track for FY08. Reviewed Tier 1 from 3/18/08. Arnie Piper tracks actions - Some items have to be done in two weeks, others are checked at the next Tier 1. RF Survey 9/25/07 for 1L10 Bldg. 735. OHSAS and EMS Management System Description, 5/7/08. Clean Up Day: Scheduled for September - goal is to dispose excess chemicals, nuclear materials, etc. EMS internal audit response to ATS finding 4153.3 (minor n/c). OSH Internal audit findings for FY08 - 12 OFI's and 1 minor n/c related to document revision status - not applicable due to 4/28/08 revision to the subject area bringing the process back into conformance. Nice handout for awareness: Sent June 11 by ALD. 2008 O&T for BES. Reference to Site Lvl Guidance. Good mix of E and OSH. Memo for behind tart gets 6/9/08 to Director BES. Baseline Monitoring record for RF 9/25/07 Bldg 735, Rm. 1L10. Nice, includes picture of device for reference. Hood/HEPA tests 5/16/08 and 1/11/08. ESR expires 10/28/08. Chemical hazards are posted. Checked inventory of bulk gases in galley.

Containment for nano materials is in use. Table of SAA's for the Building. Visited Room 1L17 Chemical Vapor Disposition. Discussed incineration for nanoparticles, water wash goes to hold tank for testing before discharge. ASTM standard in the works for this - BNL participating. Gas Cabinets to monitor and protect from leaks of pyrophoric gases. Sensors and detected. Strobe and alarms for workers and rescue team to know if any issues in the room. Also audited inventor for stock item kept in the galley - cylinders of various common gases. COSA - CFN Operations and Safety Awareness Checklist for experimenters and users - this training checklist must be completed before users are allow access to lab spaces. Safety Observation 4/1/08 of B480 - email results to scientist - response back with plan to correct 4/1/08 from scientist. R2A2 John Taylor - Special Assistant and EHS Management Rep for BES, Also Arnie Moodenbaugh, EHS Coordinator for CMPMS. Training records for EHS Coordinator Minutes Management Review BES 11/30/07. Tier 1 results for CMPMS 3/11/08 and Tier 1 4/7/08 for Zone 3 of CFN Building. Discussed Hg reduction, chemical inventory reduction projects from last FY. Chemical Transfer Sheet, IH77 Form Rev. 052705. Interviewed: John Taylor (Special Assistant to ALD), Steve Hoey (Nano Safety Expert), Mel Van Essendelft (Escort), Wai-Lin Litze (Deployed IH), Arnie Moodenbaugh (CMPMS EHS Coord), Diane Cabelli (C-EHS Coord), Grace Webster (User Administrator), David Grills (scientist), Jim Anselmini (Tech/Supervisor Chem Division), Greg Hall (Group Leader),



	Kyon-Wan Nani (Scientist - ESR CO-MA-4), Radoslav Adzic (Group Ldr), Jack Preses (Laser Safety Officer), Gennady Logvenov (Scientist), Matthew Sfeir (post doc), Quang Li (Group Ldr),
Community Education and Public Affairs Directorate	<p>Identify process inputs and describe their interactions with the process: Communication with external parties. JRA and Environmental aspect identification, work planning and business goals for community relations.</p> <p>Process objective(s): To perform work activities in accordance with the EHS management system. To effectively communicate with external interested parties.</p> <p>Describe whether the process is effective or not: Process is effective.</p> <p>3-yr review cycle for JRA/FRA unless changes to buildings or work. O&T for FY08 included increase of AED, fire extinguisher training, p-card training for green purchasing. Also discussed the computer gifting program for schools, FY07 \$41,000 of assets went to the community - this year so far \$22,000 - looking for more to distribute this year. JRA for CEGPA includes tripping, ergo, lifting, walking - discussed moving of binders and handouts for various functions - requires planning ahead for an equipment movement request. This is a good example of avoiding potential accident potential. Discussed drills and LEC and LEED building attributes for new admin building. Discussed injury and prevention efforts. Tier 1 - electrical issues, Building is working well. Confirmed knowledge of LEED-type requirements such as thermostat controls, and energy efficiency.</p> <p>List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc... JRA's for print shop, copy services, education office, revised 6/8/08. CEGPA FY08 O&T approved by ALD. Includes fire extinguisher training, AED training, EPP credit card training. Web Portal for CEGPA EHS. Human Performance Wiki site, Document List rev 4/1/08, LEP for Building 197B, Support Organizations Management Systems Description for OSH rev 2006, Internal audit for FY 2008 (N. Berholc and F. Horn performed audit for CEGPA), 3/24/08, Guidance Cards for IH/Safety Regulatory topics (noise, haz com, chem monitoring, working with chemicals, Tier 1 summary for all CEGPA YTD FY 2008. R. Backofen R2A2, discussed the Tier 1 and monitoring programs for CEGPA. Open Space Program. Science teacher and community children are exposed to science curriculum developed for their own local wilderness areas. Good cross functional program for science, env., and community relations - kids are doing real environmental studies and presenting them to their local communities. Rick Backofen, Ken White, Scott Bronson, Kathy Gurski, Dawn Ferrell, Training Coordinator, Joanne Giambalvo (many hats - bldg mgr, training, LEC coordinator), Joe Torre (construction contact)</p>
EHSQ Directorate-RPS, EWMSD, SHSD	<p>Identify process inputs and describe their interactions with the process: Regulatory requirements, data validation requirements.</p> <p>Process objective(s): To conduct operations in support of the ESSH Policy Statement and provisions of the OSH/E MS.</p> <p>Describe whether the process is effective or not: Process is effective.</p> <p>Awareness of summer students - students were aware of the spills, protect drains, and emergency X2222. Also security message clear. Not sure if they heard the policy in training. Followed tech to do Friday sampling of water influent and effluent - verified that he followed the procedure. Looked at signage for LEC for Bldg 580. JRA for activities - interview matched hazards of ticks, bacterial</p>



	<p>infection, driving, trips and falls, acids. Plan of day and work permit for job were performed. CMS - considering a CMS rep for divisions in the future. Discussed the stock room procedure and the bar code system. OFI to consider using bar code reader in the chemistry stock room. Physical inventory of chemicals performed last year. Discussed chemical surplus - with additional detail now going into the database. There had been a roadblock since concentrations and specifics about chemicals was not apparent in the database. Discussed the Peroxide Program and the addition of NFPA information to the database. A lot of activity with CMS in the past year. Watched waste techs pick up a PCB drum at the F&O 90 day area - WCF#94625 - date on drum 5/31/08. Pick up was according to procedure except that they did not drive the drum through the rad detector prior to staging - see finds for details of minor nonconformity. Discussed baseline monitoring program - consultant engaged to help catch up with the baseline IH. Reviewed tracking and scheduling system for work. Also records management - Looked at consultant's training records - include required training for contractors.</p> <p>List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc...</p> <p>Bob Selvey Alan Jones, Holly Olsen (waste techs) Gary Olsen (F&O) John Peters, 3 Summer Students, Bob Petricek, CMS Supervisor, Kay Conkling, RAD, Bob Metz, Env. Sampling Tech</p> <p>ESSH Webpage portal for EMS And OHSAS information. Good linkage to policy and planning documentation. Env. Aspects lists for RPS and EWMSD rev 8/9/07. BNL Site Level JRA/FRA Guidance to hazard and controls rev 12/5/07 - added Nanomaterials. Hazardous Waste pickup at 90 Day areas, rev. 5/3/07. HP65805, rev. 3/26/08 Integrated Safety Management description, 2007 internal evaluation of calibration - 5/14/07, Monthly report of open action items 6/08. FY08 Business Plan includes E&OSH objectives. John Selva R2A2 last revised 10/14/05 FY08 Directorate and Division EMS O&T - cross check for scope and quality of specific target set and how they support the overall site goals. Safety Speech from Mike Clancy - 5 years no lost time! calibration records of rad protection instrumentation for Lagattolla. 7/10/08 Org Solvent Monitoring Sample in Bldg 555 by contracted IH personnel. Verified that entry in Compliance Suite matches laboratory report and field notes. IH 51660 Instrumentation Calibration Program 6/6/07, rev 9. Includes reference to relevant JRA-03. Attachment 9.2 is a table for instrument cal frequency. Calibration Lab-wide assessment May 2007. Scope added to IH Cal procedure to determine the "as found" condition. TMH 7025 number 0332 cal sticker 10/31/08. Alnor Velometer - example check out procedure - discussed the database and checkout procedure. meters are checked in and out by bar code. IH 60200 Rev 2 9/21/06 - Records and Documentation. Describes historical data management and current specific data responsibilities and practices. Database of First Aid, Recordable and DART cases for FY08. Facility, Area and Job Risk Assessments 2/28/08 Subject Area Sewage influent /Effluent Sampling Work Permit EWMSD-2008-09 JRA was attached. YSI 19 meter - cal sticker 7/2/08, EMSOP-400 91 Rev 9/11/07 for sewage plant sampling. Air monitoring station s-5 - cal sticker 2/27/09.</p>
<p>Emergency Services and Local Emergency Planning</p>	<p>Identify process inputs and describe their interactions with the process: Emergency Plans and Procedures. concerns of interested parties, actual emergency situations, planned drills, unplanned drills from stakeholders such as EPA.</p> <p>Process objective(s):</p>



	<p>To prepare for and respond to E and OSH accidents and incidents. To effectively test and review and revise procedures as a result of drills and actual emergencies. To investigate and analyze incidents to determine corrective and preventive measures. To verify effectiveness of action taken.</p> <p>Describe whether the process is effective or not: The process is effective.</p> <p>New this year for accident investigation - investigators must be trained - this is a training course. Reviewed LEP for RPSD Building 348. Discussed how plan was updated, signage required for building, evacuation strategy. Emergency Plan - updated and approved in April 2008. Worst-case for the five areas and also generic response plans for other incidents. Approval by DOE site manager. 3 drills reviewed and confirmed that actions were taken and verified on the next drill - ex. EENS next of kin drill.</p> <p>List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc... Events and Issues Management SA Flow Chart 09/2006 Investigation of Incidents, Accidents and Injuries, 5/6/08 Rich Olson, Emergency Services 2007 NLSL Eva Drill DR-08-01 (12/28/07) Actions went into the FATS. Critique from EPA Spill Drill March 10, 2008. Actions identified as OFI's were documented with owners and implementation plans. NEW DOE order for Emergency Response. Hazard Survey for various classification categories (NFPA toxicity, vapor pressure, biohaz). 5 facilities needed further analysis and preplanning or worst case scenario. Building 348 LEP/Hazards Survey, rev. 2/27/08 Reviewed drill DR-08-21 and report for DR-08-20 - carry over from last year for building 185. Good evidence for following up on issues from a previous year - EENS June 3, 2008 next of kin drill. George Goode, Jason Remien, Rich Olsen</p>
<p>Internal and External Communication</p>	<p>Identify process inputs and describe their interactions with the process: Stakeholder concerns, internal and external audits, changes to operations, changes of technical work documents</p> <p>Process objective(s): To effectively communicate policy, requirements and other information about the OSHMS and EMS.</p> <p>Describe whether the process is effective or not: The process is effective.</p> <p>External: Open Space Stewardship - outreach program which brings teachers, scientists and community leaders together. Student Orientation Agenda for 6/9/08. Included EHS topics, introduction to mentoring program.</p> <p>List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc... Earth week celebration: stewardship award, local community involvement with schools, hybrid vehicle display, grand solar plan speaker, volunteer at state park Office Swap for office supplies. The Bulletin, weekly paper article today about EHS audit. Monday Memo. The Bulletin last week - stewardship awards article. BNL Consumer Water Quality Confidence Report, May 30, 2008.</p>
<p>Monitoring and Measurement</p>	<p>Identify process inputs and describe their interactions with the process: Permits, regulatory and other requirements, significant aspects</p> <p>Process objective(s): to monitor and measure key characteristics of the OSHMS and EMS. To maintain accuracy and precision of equipment through effective calibration services.</p>



	<p>Describe whether the process is effective or not: The process is effective. Calibration Subject Area was audited thoroughly may 7-11, 2007. "As found" calibration added to requirement as a result of this audit. Observed this added to procedures for IH. IH procedures for Calibration reference the JRA's for worker safety precautions. Rad protection instrumentation lab has effective system for accounting for equipment in field and in the lab. Emails are sent to equipment owners when calibration is needed. Discussed work planning process for special work and regular work. Discussed training requirements to enter lab spaces. Reviewed special technical work document for moving a source - included drawings and very specific procedures. Also showed that they practiced with the gripping tools. Looked at process for checking instruments in and out of IH lab. Looked at Compliance Suite software for records. Verified that Compliance Suite matches the data for Liberty Mutual Lab report LM-03-421 survey of Building 55 organics on 7/10/07.</p> <p>List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc... Hg Trend (Outfall 001) for 2000-2008. SPDES limit is 0.0008 ppm, 0.00005 range for actual. still driving it down through O&T. Performance Track Goals 2007-2010 (non-transportation energy reductions, repeat purchasing, discharge of toxic - biosolids management). Rad Protection Instrumentation database - searched for items due for Emergency Services and EWMSD. Followed up the procedure for checking calibration at field monitoring group - each piece of equipment is inspected weekly with a check of the cal stickers. Records maintained. Air Monitoring Station 5-S cal due 2/27/09. RPS Instrument Lab FRA/JRA and TWD. IH 51660 including Att 9.2 BNL Instrument Cal Frequency Table 6/6/07. IH 60200 Rev 2, 9/21/06 Records and Database. IH equipment spot checked asbestos air sampling record from 6/17/08, THM 7025 meter 0332 cal due 10/31/08. RPS instrument lab: METRACK database - checked several pieces of equipment for status in the database. Discussed email notification for users, Records - checked cabinets - discussed archiving procedure - remodel of building underway to give better space for picking up equipment. Trends for compliance metrics like spills, water quality data and waste volumes are tracked and graphed - data reviewed by management quarterly. Monthly reporting within Env. Department. Bob Lee, Compliance Manager, Tim Welty, RPS Instrument Lab Group Leader, Bob Metz, Tech, Rich L., Monitoring Group Supervisor, John Peters, IH Supervisor, Bob Selvey, SHSD Manager.</p>
<p>Roles, Responsibilities and Authorities</p>	<p>Identify process inputs and describe their interactions with the process: R2A2 are amended with new responsibility. Goals are documented in the peoplesoft database.</p> <p>Process objective(s): to effectively document and communicate roles, responsibilities and authorities to employees.</p> <p>Describe whether the process is effective or not: The process is effective. EMS Coordinator EMS goals are specifically part of his functional goals for the year.</p> <p>List the records verified, personnel interviewed, training, job relevance, policy, shift audited, etc... John Selva, October 14, 2005 revision for R2A2. Also reviewed Bob Lee's Goals - performance track and other Rick Backofen R2A2, John Taylor R2A2,</p>

