

# ISO 14001 EMS Surveillance Audit Briefing



# P2C4

Presented to ES&H Coordinators  
John Selva, EMS Program Manager  
5/24/05

# Purpose

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Provide schedule for upcoming  
EMS Surveillance Audit and  
overview of what ES&H  
Coordinators need to know

# Background

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- BNL has an Environmental Management System that is registered to the ISO 14001 standard
- BNL is audited twice a year
  - Internal Audit in February (in house team)
  - External Audit in June
    - June 20 –23 Mark these dates.
- Note: BNL is also working to achieve registration to the OHSAS 18001 Standard

# ISO 14001 EMS Surveillance Audit

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- Audit scheduled for June 20-23 (Mon-Thurs)
- Registrar: NSF-Intn'l Strategic Registration, Ltd
  - Two Auditors onsite for four days.
    - Ken Clayman, Briana Sprague
  - This is a combined audit with OHSAS 18001
- Surveillance Audit Scope: ISO 14001
  - Checking to see if we're maintaining the EMS
  - "...review of select sitewide programs, sampling of facilities/operations..."
  - "verification of corrective actions taken from previous audits."

# Schedule – Monday, June 20

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- Ken Clayman
  - Review Institutional EMS Program with George Goode, John Selva and others
- Briana Sprague
  - Review OHSAS program in
    - Institutional Program
    - CAD
    - Plant Engineering
    - Central Fabrication

# Schedule – Tuesday, June 21

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- Ken Clayman
  - Plant Engineering
  - Central Fabrication
    - EMS & OHSAS
- Briana Sprague
  - CAD
    - EMS & OHSAS

# Schedule – Wednesday, June 22

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- Ken Clayman
  - Continue Central Fabrication
  - BES Directorate
    - EMS Only
- Briana Sprague
  - ESH&Q & EM
    - EMS Only
  - EENS
    - EMS Only

# Schedule – Thursday, June 23

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- Ken Clayman
  - Continue BES Directorate
    - EMS Only
  - Emergency Planning and Response
    - EMS Labwide Program
- Briana Sprague
  - Complete EENS
    - EMS Only



# Proposed Changes to the ISO14001 Standard

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- Expand scope and applicability of EMS requirements beyond employees to “all persons working for or on [the organization’s] behalf” and Workers must be identified as competent if their activities have the potential to cause a significant environmental impact
- Instead of “identifying aspects of its activities, products or services” the organization now must identify aspects of its “activities, products and services”
- Instead of considering activities, products and services “it can control and over which it can be expected to have an influence” it will change to “it can control and those which it can influence”
- New requirement: “Determine how legal and other requirements apply to an organization’s environmental aspects”
  - Increased Emphasis on Compliance
- Objectives and Targets must be “Measurable”

# EMS Overview: Recent Organizational Changes & Improvements

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## *Objective: Roll up EMS Program to Directorate Level*






- BES Directorate
  - Rolled up to Directorate Level
    - Reduced two EMS programs (Chemistry & Materials Sci) into one
    - Also includes CFN
- ESH&Q Directorate
  - Merged all “Admin” organizations (Directors Office, CEGPA, Finance) into single program
- Issues and Objectives:
  - Continue to push roll-up to Directorate Level?
  - Transition Environmental Restoration EMS into EWMS EMS
  - OHSAS 18001 Integration: Establish similar organizational structure to leverage audits and management reviews

# EMS Overview:

## Key Personnel

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### EMS Management Reps

- Labwide: G. Goode 4549
- C-AD: E. Lessard 4250
- SMD: J. Durnan 5993 
- Physics: R. Gill 3987
- IO: R. DiNardo 4204
- Life Sciences: A. Emrick 5756
- NSLS: R. Casey 4654 
- BES: J. Taylor 7005 
- EENS: J. Boccio, P. Carr 7690/7192
- F&O: W. Chaloupka 7136
- ESHQ: D. Bauer 5664 
- EM: K. Klaus 6399 

### Key Support

- J. Selva- Program Manager 8611
- R. Lee - Compliance Manager 3148
- Environmental Compliance Representatives (ECRs)
  - D. Bauer - BES, NSLS, ESHQ/DO 5664
  - S. Ferrone - Med, Bio, EENS 5531
  - M. VanEssendelft- C-AD, SMD 2905
  - P. Pohlott - F&O 5660
  - K. Klaus – IO, Physics, EM, PPM 6399

# ESSH Policy

- Environmental, Safety, Security, and Health Policy
  - Replaces the Environmental Stewardship policy
  - Don't forget to redirect web links  
<http://www.bnl.gov/bnlweb/PDF/ESSHP.pdf>
- Includes the five key commitments of the Environmental Stewardship Policy
  - Pollution Prevention, Compliance, Clean-up, Community Involvement, and Continual Improvement (P2C4)
- Ask Your EMS Rep or ECR for a briefing

Brookhaven Science Associates  
U.S. Department of Energy

## Environmental, Safety, Security, and Health Policy

Brookhaven National Laboratory

*This policy is consistent with BNL's research interests, ethics, and shared values. We commit to continual improvement in environmental, safety, security, and health (ESSH) performance. We will set goals, measure progress, and communicate results. Compliance with this policy is the responsibility of every employee, contractor, and guest. Specifically, we commit to the following:*

- **Employees, Contractors and Guests:** We will provide a safe and healthy workplace, striving to prevent injuries and illnesses, promoting healthy lifestyles, and encouraging respect for the environment. We will ensure our employees, contractors, and guests have the awareness, skills, and knowledge to carry out this policy.
- **Compliance:** We will meet all applicable ESSH laws and BNL Standards Based Management System, Integrated Safety Management, and Integrated Safeguards and Security Management requirements.
- **Integration:** We will integrate ESSH principles into our research and operations activities. We will integrate hazard prevention/reduction, pollution prevention/waste minimization, resource conservation, security, and compliance into all of our planning and decision-making. We will adopt cost-effective practices that eliminate, minimize, or mitigate environmental impacts and control safety, security, and health risks and vulnerabilities.
- **Security:** We will work in compliance with DOE's ISSM Program and systematically integrate safeguards and security into management and work practices at all levels, so that the laboratory missions are accomplished in a safe and secure manner.
- **Sustainable Development:** We will strive to conserve resources and minimize or eliminate adverse ESH effects and risks that may be associated with our research and operations. We will manage our programs in a manner that protects the ecosystem and employee/public health.
- **Stakeholders:** We will work with our stakeholders to help them address their ESSH needs. We will maintain a positive, proactive, and constructive relationship with our neighbors in the community, regulators, DOE, and our other stakeholders. We will openly communicate with stakeholders on our progress and performance.
- **Community and Government:** We will participate in community and government ESSH initiatives. We will define, prioritize, and aggressively prevent, correct, and/or clean up existing environmental, security, and occupational safety and health problems.

*In addition to my annual review of BNL's progress on ESSH goals and adherence to this policy, I invite all interested parties to provide me with input on our performance relative to this policy, and the policy itself.*

Signed   
Praveen Chaudhari, Director

April 19, 2004

# EMS Overview:

## BNL Significant Environmental Aspects

### Laboratory Aspects

- Waste Generation
  - regulated industrial
  - hazardous
  - radioactive
  - mixed
  - medical waste
- Atmospheric Emissions
  - Radioactive or non-radioactive
- Liquid Discharges
  - Chemical or radioactive
- Storage/Use Chemicals or Radioactive Materials
- Natural Resource Usage
  - Water and power usage

### ■ Issues and Objectives:

- Consider environmental aspects of "Products"
  - Pharmaceutical, magnets, electronics, licensed technology

### Facility Specific Aspects

- Historical/Cultural Resources
- Endangered species/ Sensitive habitats
  - Habitat destruction, wetland disturbance, land clearing (5 or more acres)
- Environmental Noise
- Historical Contamination
- Soil Activation
- TRU waste
- Other, e.g., asbestos research

# Directorate Environmental Aspects, Impacts and Operational Controls

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- Know your Organization's "Environmental Aspects"
  - Identified and evaluated via the Work Planning Process
    - Experimental Reviews (1.3.5)
    - Non-Routine Work Planning (1.3.6)
    - Process Assessments of industrial processes
  - Summarized on Aspects Spreadsheet
    - Waste Generation: Hazardous, Radioactive, Mixed, Medical, Industrial
    - Radioactive & Non-radioactive Air Emissions and Liquid Effluents
    - Energy use, water consumption, noise
    - See subject area <https://sbms.bnl.gov/standard/0m/0m00t011.htm>
- Operational Controls applied to significant aspects
  - Documented on Operational Control Forms
    - Managed in accordance with Lab requirements (SBMS Subject Areas, permits, etc.
    - Other internal controls, e.g., Preventive maintenance, Dept. procedures, etc

# EMS Audit Prep: Objectives & Targets, and Action Plans

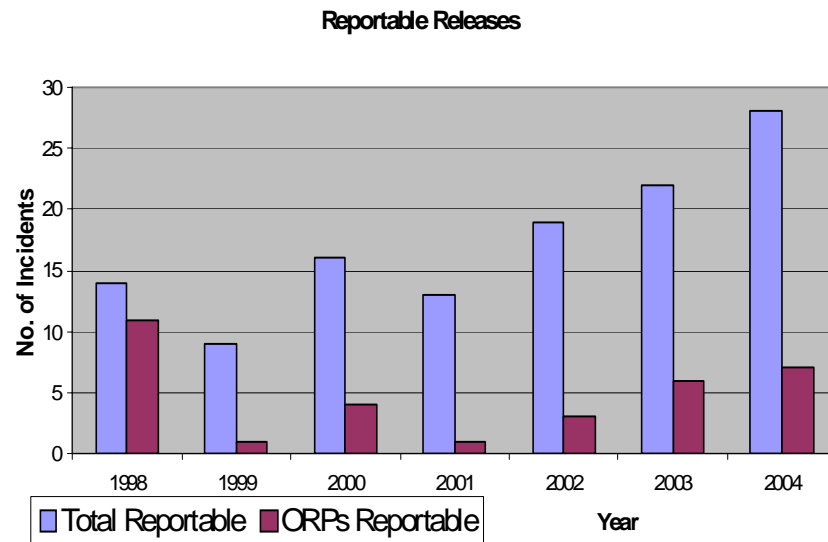
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- Know your Organization's "Objectives and Targets"
  - Flow down from Laboratory Critical Outcomes, Objectives, Performance Measures (CO/O/PM) and ESD Environmental Priorities
  - Based on BNL Policy Commitments (P2C4)
    - Submit Pollution Prevention proposals to the P2 Council
    - Compliance with Environmental requirements
    - Close out Facility Review Disposition Project issues
    - Other organizational specific: community outreach, cleanup, etc
- ...and your action plans to achieve your objectives
  - also linked to Laboratory CO/O/PM
  - assigns responsibility, resources, and milestones
  - documented as "Environmental Management Program Plan" or in Self Assessment Plan

# Lab Level Environmental Performance

## Spills

- Total of 66 Spills to date in 2004 (similar to 2003) (Actual total was 76)
  - Estimate \$95K for response and clean-up
  - 41 spills were vehicle/equipment related
    - 22 auto fluids
    - 19 hydraulic
- 28 Spills Reportable to Regulatory Agencies
  - All spills to soil are reportable
  - Glycol releases > 1 pound
  - Seven were also ORPs reportable
- 38 other releases not reportable
  - < 10 gals, not to soil

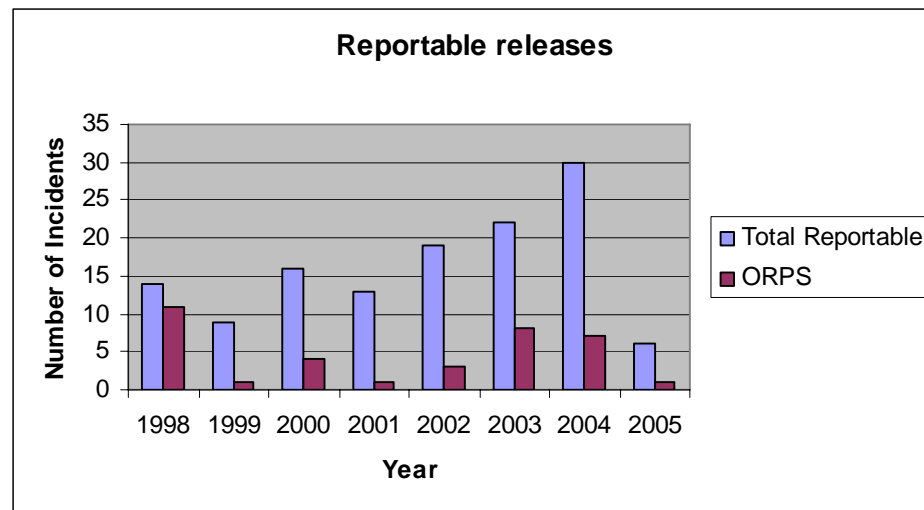


- **Issues:**
  - Must implement glycol reporting exemption approved by DOE – Need BHSO support
  - Must reduce number of spills. This will be reflected in 2005 Objectives and Targets

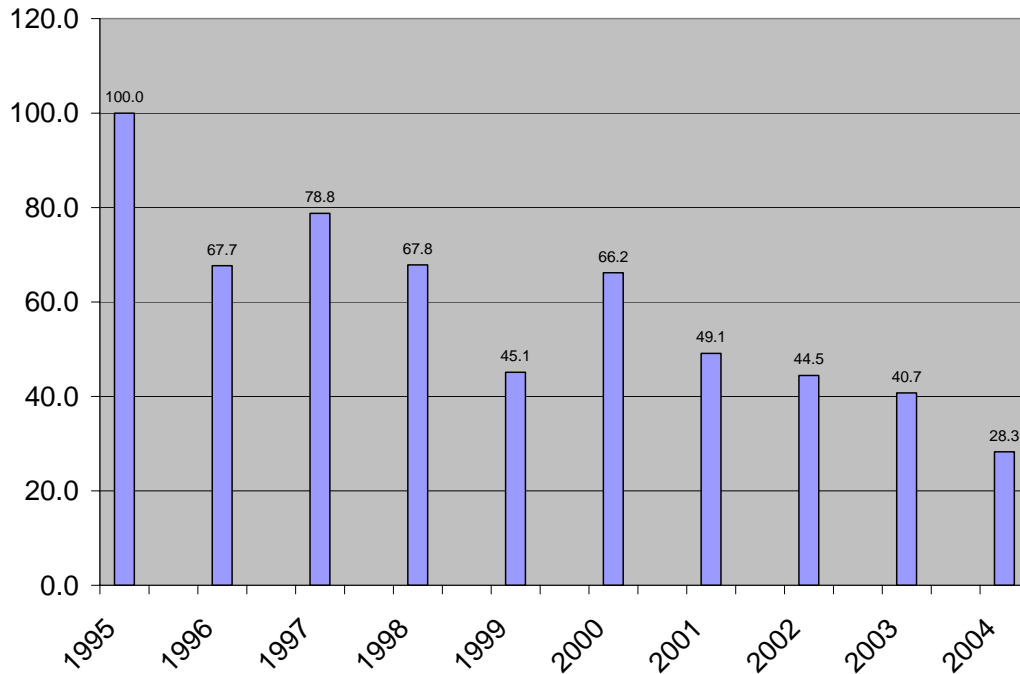


# Lab Level Environmental Performance: Spills – Current Progress Report

- Total of 13 Spills to date in 2005
  - 4 auto fluids
  - 4 hydraulic
  - 5 Other
- 6 Spills Reportable to Regulatory Agencies
  - one was ORPs reportable
- Why the Reduction?
  - Improved Awareness
  - Tank Management Improvement
  - Vegetable Oil use in Hydraulic Eq
  - Change in Report Criteria to ORPS



# Environmental Performance Index



Established in 1995 as a reference year

- Performance goal: 50% reduction by 1999
- Significant reduction in index for 2004 (projected)
  - 811 Tank Removal
  - Mixed Waste Generation rates lower

Brookhaven Science Associates  
U.S. Department of Energy

## Composite Includes:

- Maximum Off-site Effective Dose Equivalent
- Tritium Releases to Peconic River
- Tritium Releases to Air
- Wastes Generated:
  - Hazardous
  - Mixed
  - Radioactive
- SARA Emissions
- SPDES Permit Excursions
- Substandard Storage Tanks
- Significant Spills
- Restoration Remedies Selected
- Paper Recycled
- Solid Waste to Landfill

# Know your Environmental Responsibilities (R2A2)

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- Comply with Laboratory policies, standards, and procedures, and regulatory requirements.
- Maintain awareness of environmental impact of work, and apply pollution prevention and waste minimization techniques.
- Identify potential hazards, environmental concerns, and unsafe conditions or practices in work or at work site, and implement or suggest controls to minimize risk.
- Respond to emergency situations, alarms, or occurrence in an appropriate manner.
  
- Know how environmental issues are communicated
  - Weekly Meetings, Etc.

# Helpful Training

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- [www.Training.bnl.gov](http://www.Training.bnl.gov)
  - Environmental Management Systems – Audits and Compliance Inspection, How to survive
  - Environmental Management System ISO 14001 Overview
  - Environmental Objectives and Targets
  - Environmental Protection

# EMS Audit Prep: EMS Assessments & Management Review

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- Know about your EMS Audits and Other E-Assessments
  - included in your Self Assessment Plan
    - EMS Audit
    - regulatory compliance assessments
      - via Tier I inspections
      - other focused compliance audits (Drinking Water, Air, Work Planning, PCB, Radioactive Waste)
  - method to track corrective actions to closure (Use Family ATS!!)
  - Ensure follow up and closure
- Participate in your Management Review
  - “Annual Report” of environmental programs and performance
  - Senior manager involvement is a requirement
    - role is to judge the effectiveness, suitability, and adequacy of their EMS
    - Make recommendations for improvement
    - Follow up on suggestions from minutes

# Auditee Tips and Techniques

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- Answer the question posed
  - Take time to think and formulate your response
  - If you don't understand the question ask for clarification
  - If it is a Yes / No question, answer "yes" or "no"
  - If you want someone present, request it
- It's okay to say "I don't know"
  - Don't oversell your expertise
    - If you are not the key contact on the subject, defer to others
  - Don't answer questions if you are not personally knowledgeable

# Auditee Tips and Techniques

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- **Silence--do not feel obliged to fill void with verbiage**
  - Don't volunteer additional / tangential information
- **Be Honest, Friendly, Polite, Respectful, and Professional**
  - Be truthful about problems, but
    - be sure to mention actions are planned or taken to correct problem
- **Portray a Positive Attitude in Support of BNL changes**
  - This is not a forum for airing your complaints
    - use available channels--follow management chain
- **Audits = findings = resources**
  - Focus our resources on our Self Assessment findings & priority issues

# EMS Training Forum

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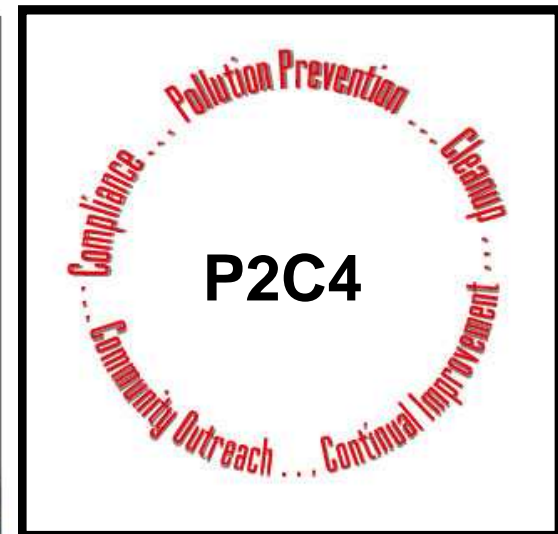
## Frequently Asked Questions That You Can Expect An EMS Auditor To Ask



# Question # 1

## What is the official EMS Policy at BNL?

- **Pollution prevention**, waste minimization and resource conservation
- Environmental **compliance**
- Environmental **clean up**
- **Community outreach**
- **Continual improvement**



## Question # 2

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### How does the BNL EMS Affect you Work?

- The environmental management system is the process/systems that we have implemented to support the BNL EMS Policy. These include SBMS requirements and department procedures.

## Question # 3

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### What are the environmental aspects related to your work ?

- An environmental aspect is anything that can interact with the environment, either positively or negatively

- The list of BNL environmental aspects includes:

Regulated Industrial Waste

Hazardous Waste

Radioactive Waste

Mixed Waste

Regulated Medical Waste

Atmospheric Discharges

Liquid Discharges

Storage & Use Of Chemicals

Storage & Use of Radioactive Material

Sensitive/Endangered Species

Sensitive Habitats

Noise

Historical Contamination (soil, GW)

Soil Activation

Transuranic Waste

Water Consumption

Power Consumption

## Question # 4

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### **How do you avoid potential environmental accidents in your work ?**

- The BNL Work Planning System
- By following internal SOPs

## Question # 5

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### **How do you prevent pollution in your daily work ?**

- The BNL Work Planning System
  - P2 is integrated into experimental reviews and other work planning processes
- Participation in the BNL Recycling Program
- Managing hazardous and radioactive wastes according to BNL requirements.
- Practicing E-ALARA

## Question # 6

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**What response / action would you take in the event of an environmental emergency ?**

- Call ext - 2222 or ext – 911
- Follow the Emergency Procedures

## Question # 7

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**How are you made aware of new environmental requirements that affect your daily work?**

- Through your supervisor or the ECR

## Question # 8

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**Are there environmental objectives and targets associated with your work? What is your role in achieving them?**

- All staff who work in areas that have the potential for significant impact on the environment have been notified and trained



## Question # 9

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### What are your environmental R2A2's?

- **Comply** with Laboratory policies, and requirements
- **Implement** pollution prevention and waste minimization
- **Identify** potential hazards, and unsafe condition
- **Use** the Stop Work Order process
- **Respond** to emergencies and alarms

## Question # 10

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### **What environmental safe-guards (operational controls) do you have in your area?**

- Operational Controls are routine work processes, which safeguard against faulty operations and environmental accidents
  - Examples:
    - Work Planning processes
    - Tier I inspections
    - Pre-job briefings
    - Preventative Maintenance

## Question # 11

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### **Are records available to show the operational controls are being maintained?**

- Know what environmental records you keep
- Some typical records in your area may be: Hazardous Waste Control Forms, Posted Air Permits, Logbooks, Work Planning Records, Inspection Checklists

## Question # 12

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### **Are contractors that perform work in your area made aware of the operational controls?**

- The BNL work planning system captures the training requirements for contractors - if specific environmental training is required, then it will be noted in the work Planning

## Question # 13

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**Are there any environmental measurements taken in your area that require calibrated equipment ? Is the equipment calibrated?**

- The Radiological Control Group is responsible for maintaining survey instruments calibrated
- Be aware of any environmental monitoring equipment specific to your operations that requires periodic calibration

## Question # 14

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### **Is preventative maintenance performed on equipment ? Are back-up systems available to provide continuous control of operations?**

- Examples of equipment that may require periodic maintenance include leak detection equipment on storage tanks, air pollution control devices (HEPA filters), etc.
- An example of continuous control would be the use of uninterruptible power supplies to back up controls for monitoring the flow and pressure in cooling water systems

## Question # 15

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### How would you document an environmental nonconformance?

- Follow SBMS Subject Area- Nonconformance and Corrective and Preventive Action.
- Contact your Supervisor, ESH Coordinator, or EMS representative.