



DOE Corporate Operating Experience Program

DOE O 210.2 of June 12, 2006

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Workshop Contents



- **DOE O 210.2 Overview**
 - **Overview of Corporate Safety Performance Monitoring Process**
 - **Overview of Operating Experience (OPEX) Review Process**
- **Lead Office Role and Functions**
- **Headquarters Program Office Role and Functions**
- **Field Element Roles and Functions**
- **Role of the Operating Experience Coordinator**



Workshop Contents



- **Specific Expectations for Contractor Implementation
– The Contractors Requirements Document**
- **Expectations on Performance Monitoring/Measurement**
- **Operating Experience Software and Web Resources**



Order Objectives



- **To institute a Department of Energy (DOE) wide program for the management of operating experience to prevent adverse operating incidents and to expand the sharing of good work practices among DOE sites**
- **To provide the systematic review, identification, collection, screening, evaluation, and dissemination of operating experience from U.S. and foreign government agencies and industry, professional societies, trade associations, national academies, universities, and DOE and its contractors**
- **To reinforce the core functions and guiding principles of DOE's Integrated Safety Management System (ISMS) to enhance mission safety and reliability**



Order Objectives



- **To provide mutual integration with the lessons learned requirements in other DOE Directives**
 - (1) lessons learned requirements defined in DOE O 151.1C, Comprehensive Emergency Management, dated 11-02-05,**
 - (2) DOE O 225.1A, Accident Investigations, dated 11-26-97,**
 - (3) DOE O 226.1, Implementation of Department of Energy Oversight Policy, dated 9 15 05, and**
 - (4) DOE O 414.1C, Quality Assurance, dated 6-17-05**



Order Objectives



- **Summary: Combine the disparate OPEX elements into one program that includes requirements for event reporting, safety related statistics and lessons learned.**



Definitions



■ *Operating Experience:*

- Information that relates to the methods in which work is planned and conducted and an organization's missions are performed.
- Provides the basis for knowledge and understanding that fosters development of lessons learned and improvement of operational performance

■ *Lessons Learned from Operating Experience:*

- A good work practice or innovative approach that is captured and shared to promote repeat applications of effective work practices
- An adverse work practice or experience that is captured and shared to avoid a recurrence of a negative event



Other Reasons Why DOE Evaluates Operating Experience



- **Safety** of our workers
- Improve Operations
- Criticism from Defense Nuclear Facilities Safety Board (DNFSB)
- Price Anderson Amendments Act (PAAA) Implications
- Feedback and Improvement – Core Function of Integrated Safety Management System (ISMS)
- Saving \$\$\$\$
- Required by a Number of DOE Directives – New DOE O 210.2, *DOE Corporate Operating Experience Program*



Drivers for Change to an OPEX Oriented Paradigm



- Executive Criticism
 - Lack of Corporate and Federal Involvement
 - Lack of Management Awareness/Support
 - Single Event Focus vs. Operational Event Trending
- INPO SEE-IN Program Benchmarking
- DNFSB Recommendation 2004-1
 - Recommended that DOE also look at events external to DOE
 - Commitment 18: Develop Comprehensive DOE Operating Experience Program
- DOE Lessons Learned from Columbia – Davis-Besse Action Plan



Secretarial Leadership



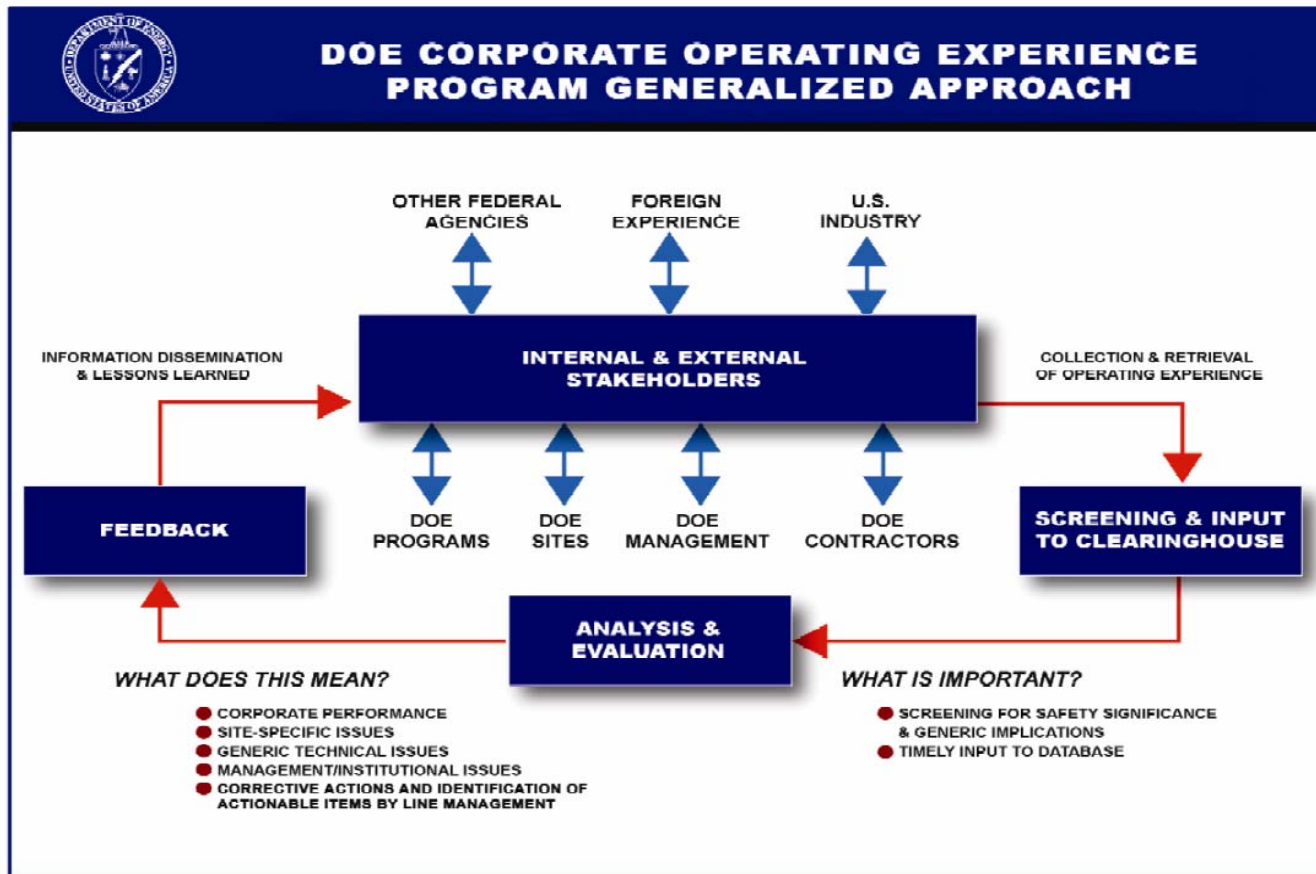
- **Secretary Bodman's seven key leadership behaviors to build the safety culture (Re: Remarks to ISM Champion Workshop**

URL: http://www.doeism.org/workshop/Sep-06_Presentations/Remarks.asp)

- 1. Accept your safety responsibilities, make your safety expectations clear, and hold people accountable in a just manner.**
- 2. Get employees involved in safety improvement.**
- 3. Get in to your facilities and look around. I did this immediately when I became Secretary of this Department; and I expect you to do this as well.**
- 4. Encourage reporting.**
- 5. Encourage questioning attitudes and differing professional opinions.**
- 6. Search for and eliminate error-likely situations.**
- 7. Learn from internal and external operating experiences.**



New Paradigm OPEX Generalized Flow





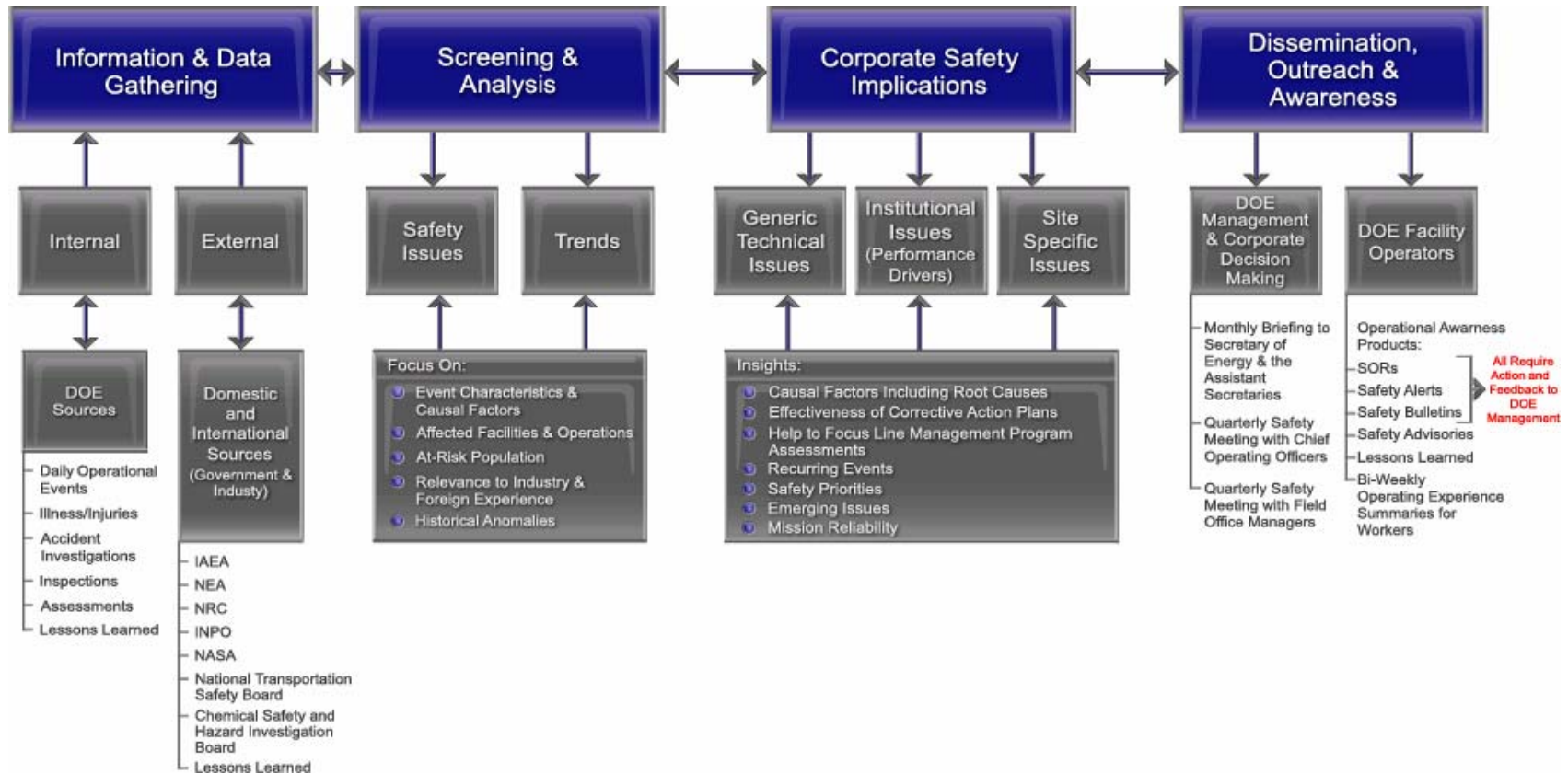
DOE O 210.2 Requirements



- Prescribes a Formal Process that:
 - Evaluates **DOE Internal and External Operating Experiences (OPEX)** to **assess trends and safety and Program issues** and **Promotes sharing of Good Work Practices** that may affect safety and success of DOE missions
 - **OPEX Clearing House Function**: collection, storage, retrieval
 - **OPEX Screened for Significance** – by all stakeholders
 - **Timely Communication** of Screening Results and Insights
 - DOE Corporate Communication – thru **Actionable** or **Informational** Products
 - Effectiveness Evaluated – Periodic Safety Meetings and Metrics



DOE Operating Experience Program





DOE Operating Experience Program

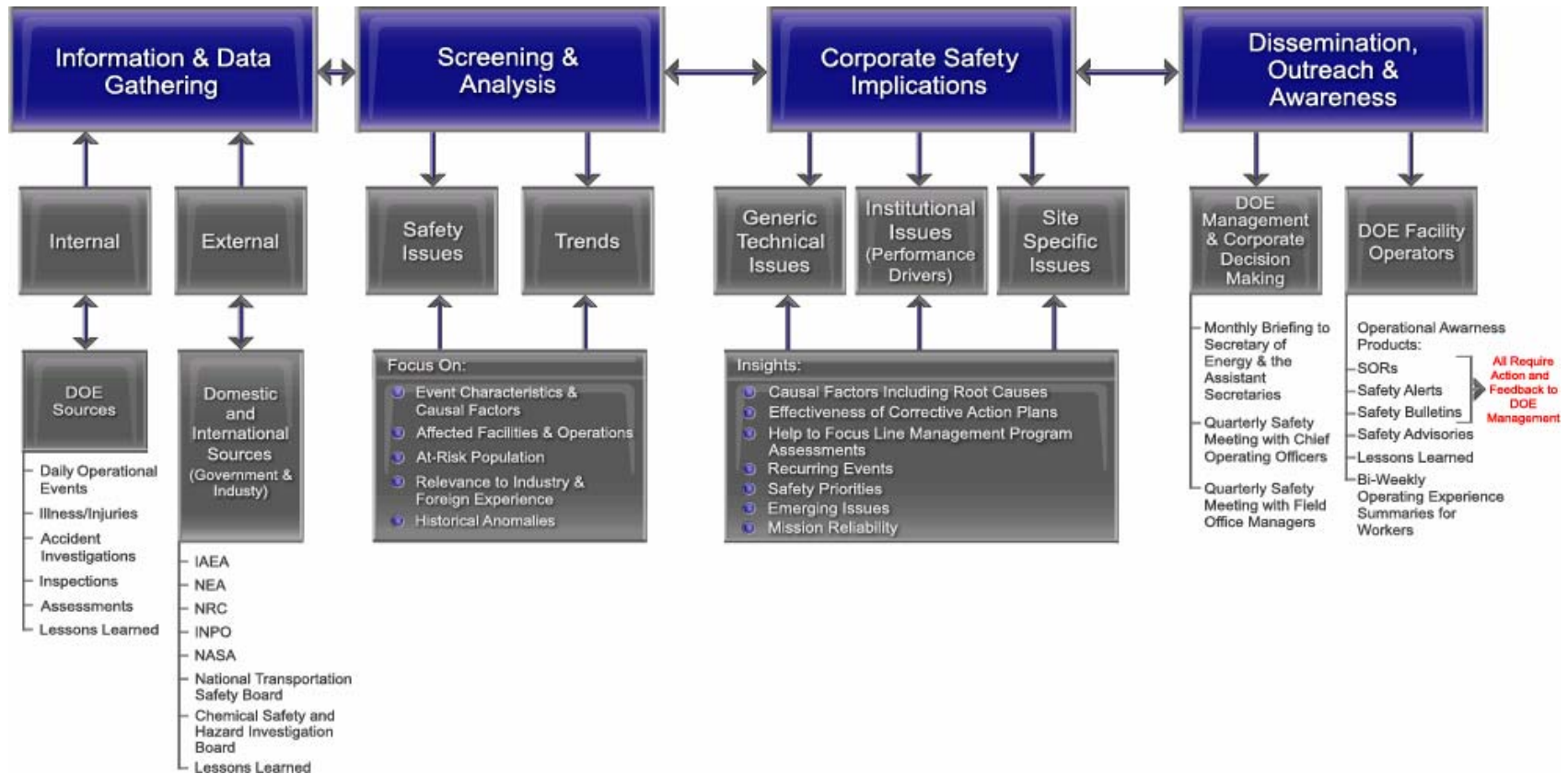


Organizational Roles & Responsibilities are defined for:

- DOE Corporate Operating Experience Program Lead Office
- Headquarters Program Secretarial Officers/NNSA Deputy Administrators
- DOE Field Elements including GOGOs
- DOE Contractors and Subcontractors



Information & Data Gathering





DOE Operating Experience Program



Primary Sources of OPEX Information

- **DOE Internal Sources – Databases and Reports**
- **External Sources – Other Government Agencies, Industry, and Foreign Sources**

URL: <http://www.eh.doe.gov/ll/links.html>

- Interagency Sharing Agreements formal or informal



DOE Operating Experience Program Internal OPEX Sources



- **Occurrence Reporting and Processing System (ORPS)** – Daily Event Reporting
- **Type A and B Accident Investigations**
- **Computerized Accident Injury/Illness Reporting System (CAIRS)** – OSHA Reportable statistics
- **Radiation Exposure Monitoring System (REMS)** – Rad Dose Information
- **Corrective Action Tracking System (CATS)**
- **Non-Compliance Tracking System (NTS)** – PAAA info
- **DOE Lessons Learned Database**



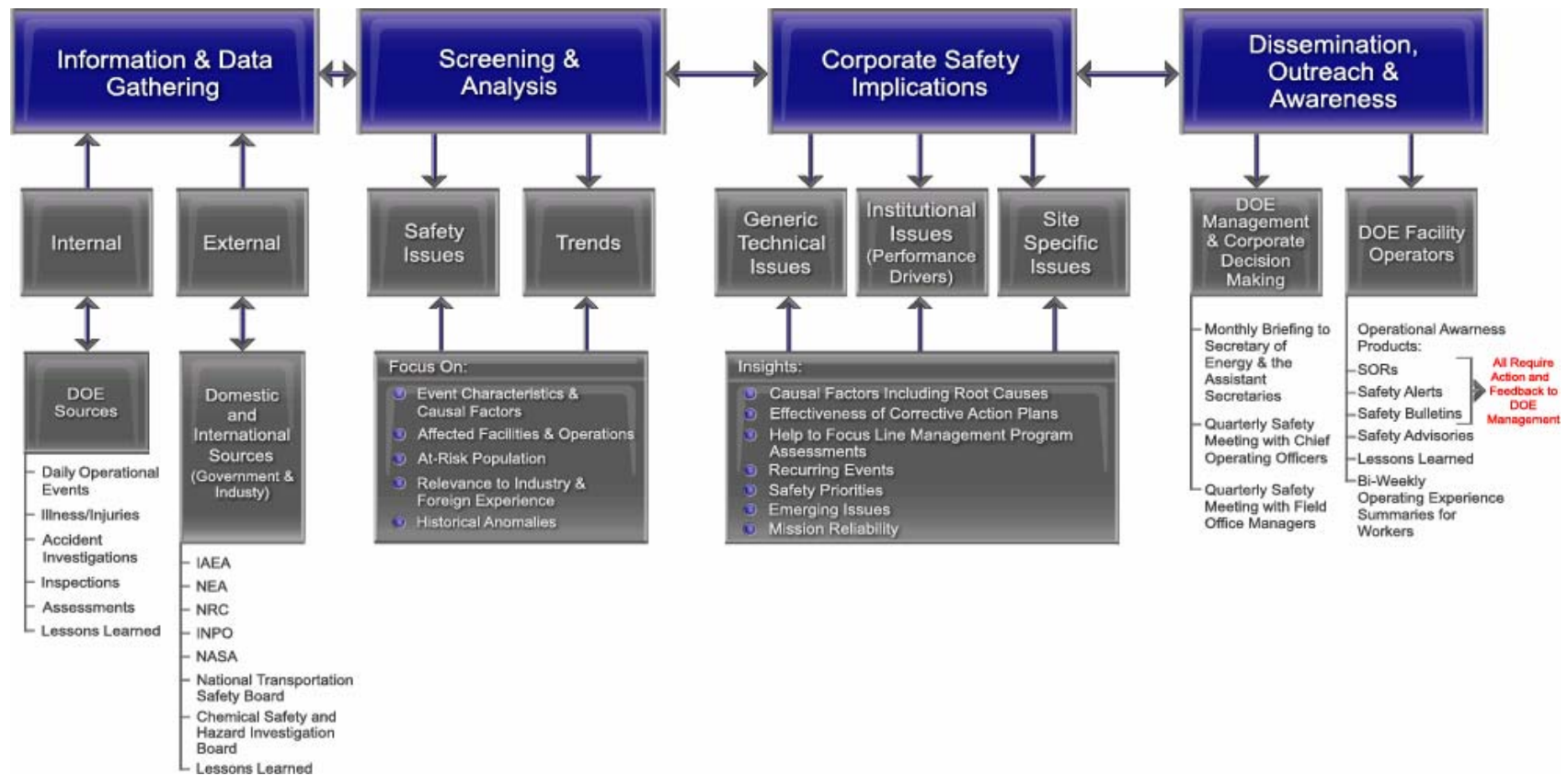
DOE Operating Experience Program Principle External OPEX Sources



- **Institute of Nuclear Power Operations (INPO)**
 - **Nuclear Regulatory Commission (NRC)**
 - **U.S. Chemical Safety and Hazards Investigation Board (CSB)**
 - **Occupational Safety and Health Administration (OSHA)**
 - **Government Industry Data Exchange Program (GIDEP)**
 - **National Aeronautics and Space Administration (NASA)**
 - **Department of Defense**
- Etc.**



Screening and Analysis





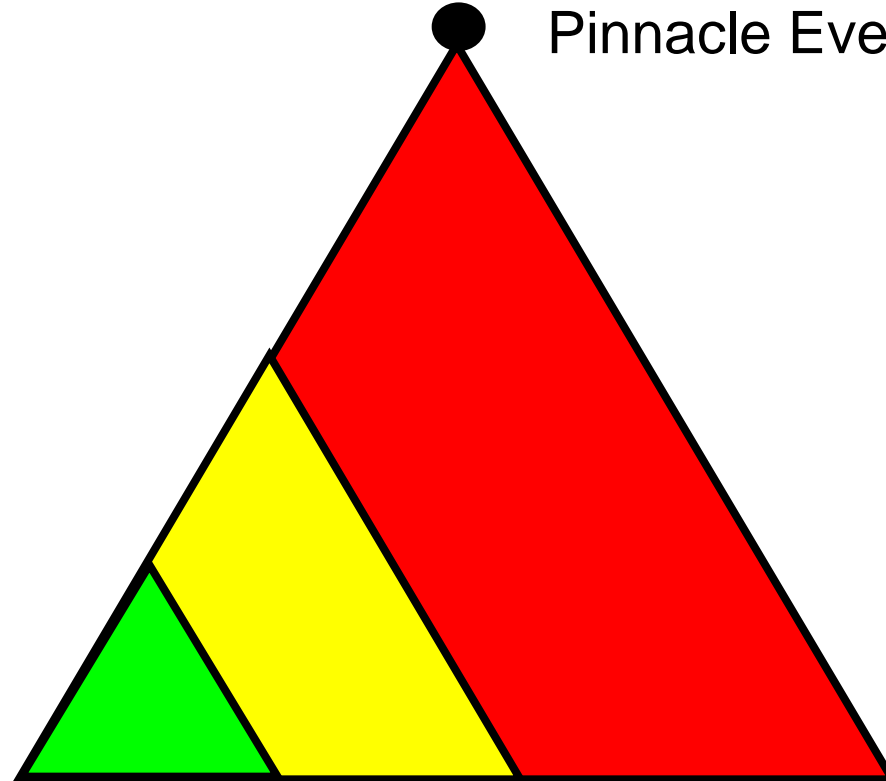
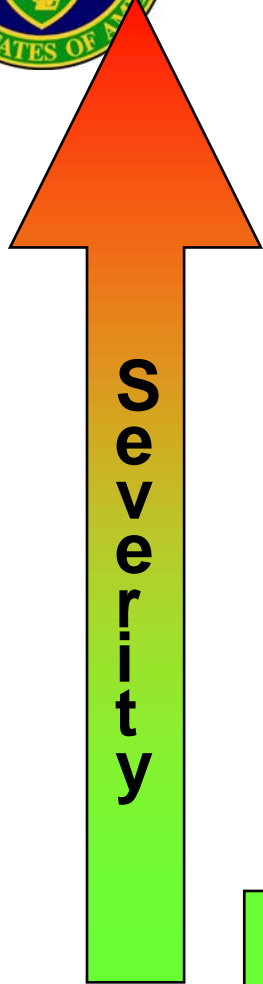
Screening OPEX Information



- Screen for Significance, consider
 - relevancy,
 - susceptibility,
 - vulnerabilitybased on site work and hazards



Analyzing Problems and Trends

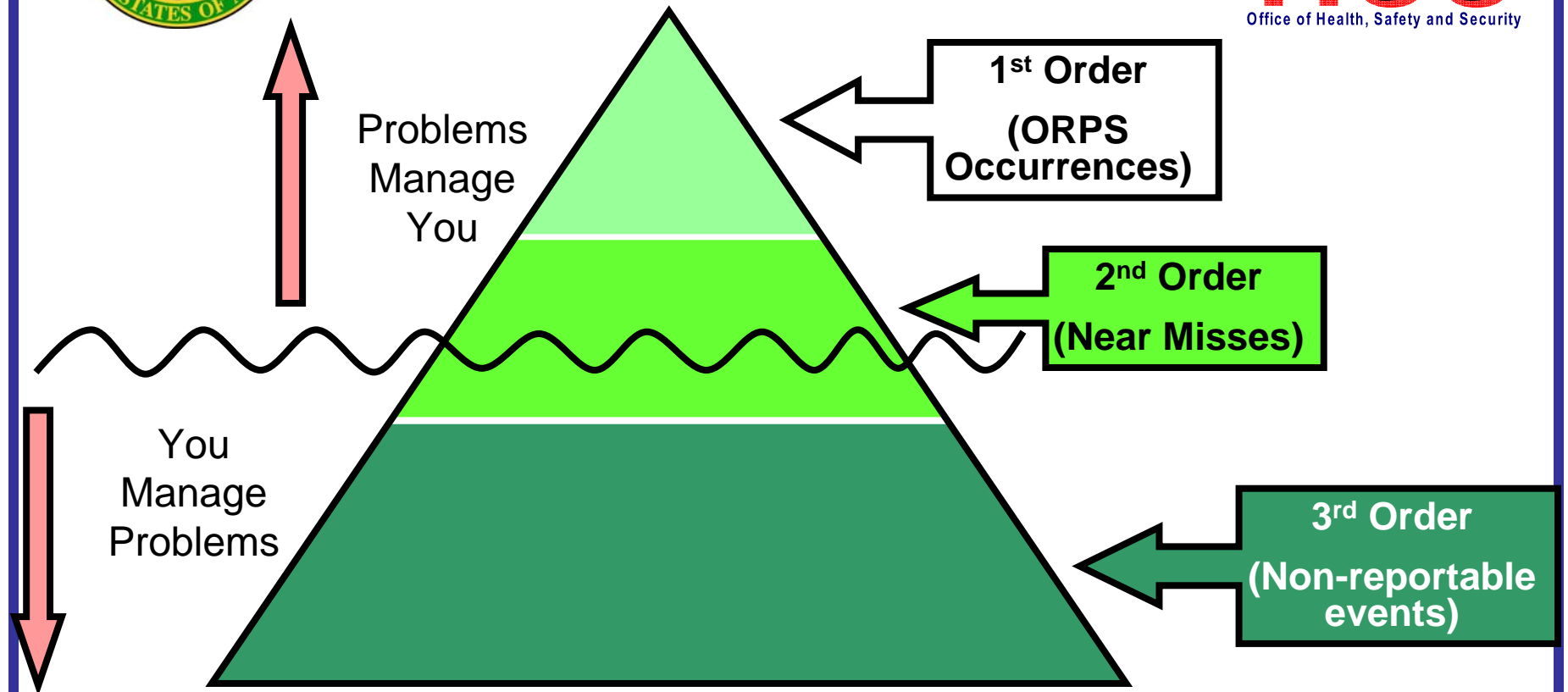


Pinnacle Event





The Prevention Triangle



PREVENT BIG PROBLEMS BY WORKING HARD ON THE SMALL ONES



Trending and Analysis



- Occurrence Reporting and Processing System (ORPS) Information
 - Use HQ Keywords
 - Use of ORPS Reporting Criteria
 - Consider Occurrence Significance
- Trending
 - Don't JUST COUNT Occurrences
 - Don't Penalize Sites for Reporting



Trending and Analysis



- Analysis
 - Again Don't JUST COUNT Occurrences – that is only a starting point
 - Reporting is Critical to Identify Operating Trends
 - Use Tools – Electrical Safety Severity Analysis Tool
http://www.efcog.org/wg/ism_esip/index.htm
 - ORPS Quarterly Review of Events (ORPS Manual DOE M 231.1-2) – Review events from the 12 months (rolling) for recurring trends – including non-reportable events.
 - Repeatable Events
 - Causal Analysis (ORPS Hierarchy of cause type: Root, and Apparent) – Any methodology acceptable
 - Consider Human Performance Improvement Elements – look for error likely situations and systemic problems



Accident Investigations

DOE O 225.1



Type A Criteria

Hospitalization	3 people, 48 hours or more
Single Radiation Exposure	>25 rem
Environmental Release	5 times 40 CFR 302 limits resulting in serious damage
Property Loss or Damage	\$2.5 million or greater

Type B Criteria

Hospitalization	1 person, 5 days or more
Single Radiation Exposure	>10 rem
Environmental Release	2-5 times 40 CFR 302 limits
Property Loss or Damage	\$1 million to \$2.5 million



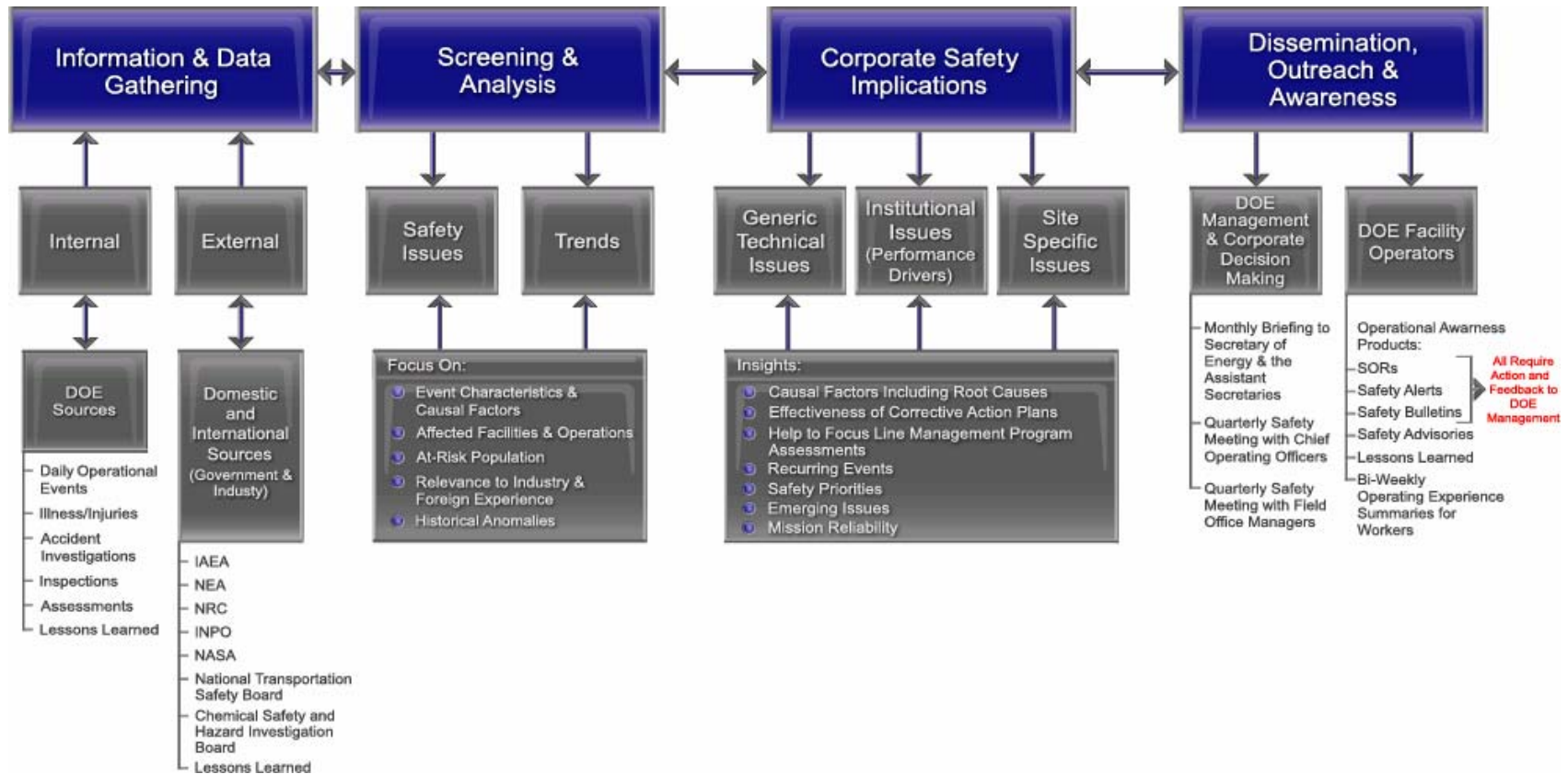
Trending and Analysis



- For Type A and B Accidents and Type B-Like Accidents, consider
 - relevancy,
 - susceptibility,
 - vulnerability
 - Look Beyond the Specific Cause and Findings to see if similar type systemic problems can occur at your site



Corporate Safety Implications





Corporate Safety Implications



Operating Experience Performance Information should be evaluated by:

- DOE Wide,
 - PSO (Program) wide,
 - Field Element Wide,
 - Site Wide,
 - Facility/contractor wide
- Identify systemic problems – cross cutting safety issues, e.g., Electrical Safety, Hoisting and Rigging,



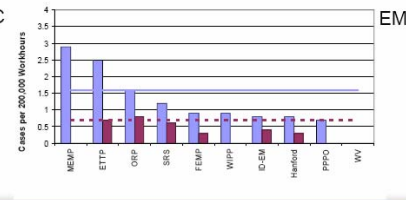
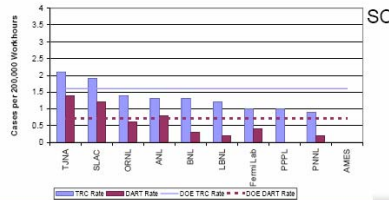
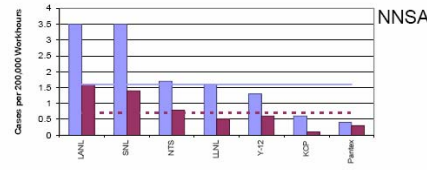
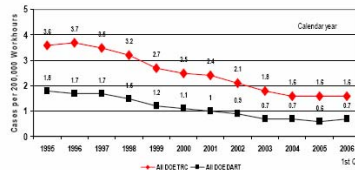
Performance Information – shared with management



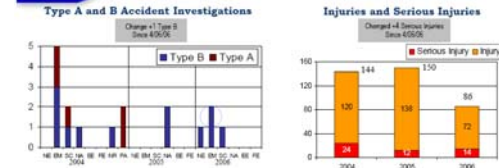
Monthly Deputy Secretary Briefing

TRC and DART Rates

Total Recordable Case and Days Away/Restricted Time by PSO based on 1st Q CY06



Safety Across the DOE Complex (Through June 30, 2006)



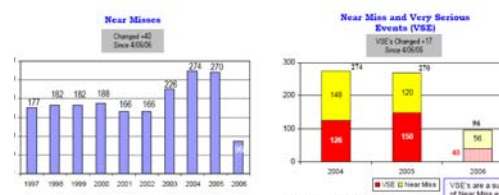
Recent Type B Investigations:
BNL – On April 14, 2006, the site detected an Operational Emergency (OE) and evacuated Building 100R due to a small fire in a breaker panel caused by an electrical arc fault when an employee opened a 400-ampere switch. The fire was extinguished by Emergency Services and the OE was terminated. The employee received first degree burns on his forearms and a second degree burn on one forearm. The injured employee was transported to a local hospital, where he was treated and later released. The investigation is on-going, but preliminary indications are that the event was due to a defective 400-ampere switch.

SNL – On June 20, 2006, two workers were seriously injured during the decontamination activities of a stored and 74.6G. One worker received multiple fractures to a leg and pelvic region, the other worker sustained a simple fracture of a leg.

CTA – On June 15, 2006, a security officer was participating in a Security Protection Officer (SPO) training competition at the DOE National Training Center Live Fire Range, and suffered a non-penetrating injury. The injured officer was treated by onsite paramedics, and later transported to a local hospital. The SPO suffered head exhaustion and was released from the hospital on June 24, 2006. He will require some additional rest/grabbing on his leg but is expected to make a full recovery.

LLNL – On April 20, 2006, a hydraulic jack used in the following activity unexpectedly slid off a wall at the F1020-1 and struck an employee in the head, causing a cervical (neck vertebrae) fracture and head laceration. The injured employee went to the site medical facility where first aid was administered, and the employee was released without restriction.

BNL – An employee was injured in the April 14, 2006 Type B event.



Recent Very Serious Events:
KCP – On May 19, 2006, a plant employee was struck and pinned on the left shoulder after a 400-pound fire hose kipped off a stud and pinned the employee against an overhead pipe. The injured employee was treated after his other employees lifted the hose, and he was taken to the site medical facility for evaluation and released without restriction.

BNL – On May 17, 2006, during retrieval operations of boxes from the waste stack on PAD 1 within the Transuranic Storage Area/Inventories Enclosure at AMFP, an employee was operating a bin from the fourth level of the stack when a 200-pound and five-inch diameter steel approximately one foot long behind the bin shifted and fell, striking a second employee located in a nearby waste bin on the structure. The employee went to the site medical facility for evaluation, and was released without restriction.

SLAC – On May 18, 2006, while a Stanford Linear Accelerator Center technician was on his way to perform a local backup of the Slac Data Center, the project manager from the subcontractor ordered his electrical job to cut the F1020V AC energized electrical lines in the tunnel. There were no personnel injuries.

ORNL – On April 11, 2006, a near miss occurred near the T3-13 Decontamination Facility at 11:00 AM when a parked Caterpillar wheel loader drove an eight engine slope, striking an unenclosed pickup truck. The water truck came to rest about 100 feet from the bottom of the slope near several decontamination crew employees.



“Unacceptable Outcomes”



- Concept has been Approved by the Deputy Secretary
- Those events that must be avoided.
- DOE Corporate safety performance is defined in terms of the DOE’s ability to avoid such outcomes.
- Poor performance in preventing these outcomes would likely indicate serious systemic failures and impact the Department’s success.



Corporate Safety Indicators - Proposed “Unacceptable Outcomes”

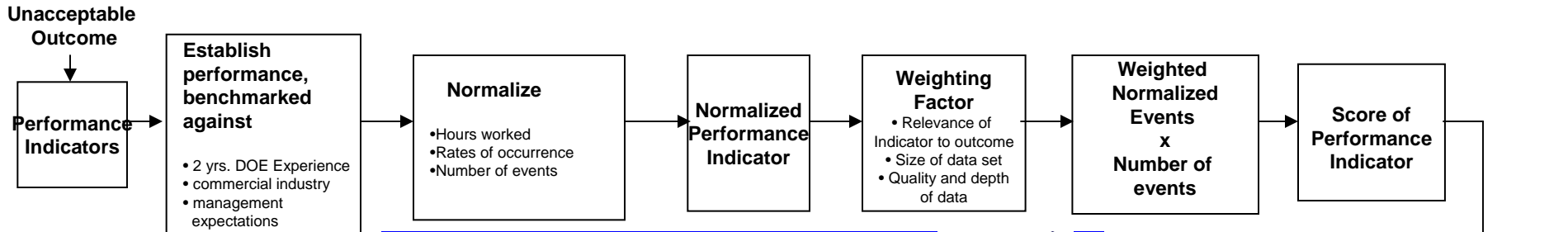


- Significant Offsite Loss of Control of Radiological or Contaminated Material
- Significant Offsite Environmental or Public Impact (non-radiological)
- Inadvertent Criticality
- Deaths/Serious Injuries
- Serious Radiation or IH Exposure to Workers
- Serious Unplanned Fire or Explosion

- *Loss of Control of SNM*
- *Loss of Control of Critical/Sensitive Information*
- *Mission Failures*



Proposed New Corporate Performance Indicator Process

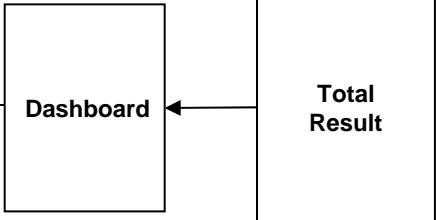


Legend:

- Acceptable Trend
- Unfavorable Trend
- Requires Immediate Attention

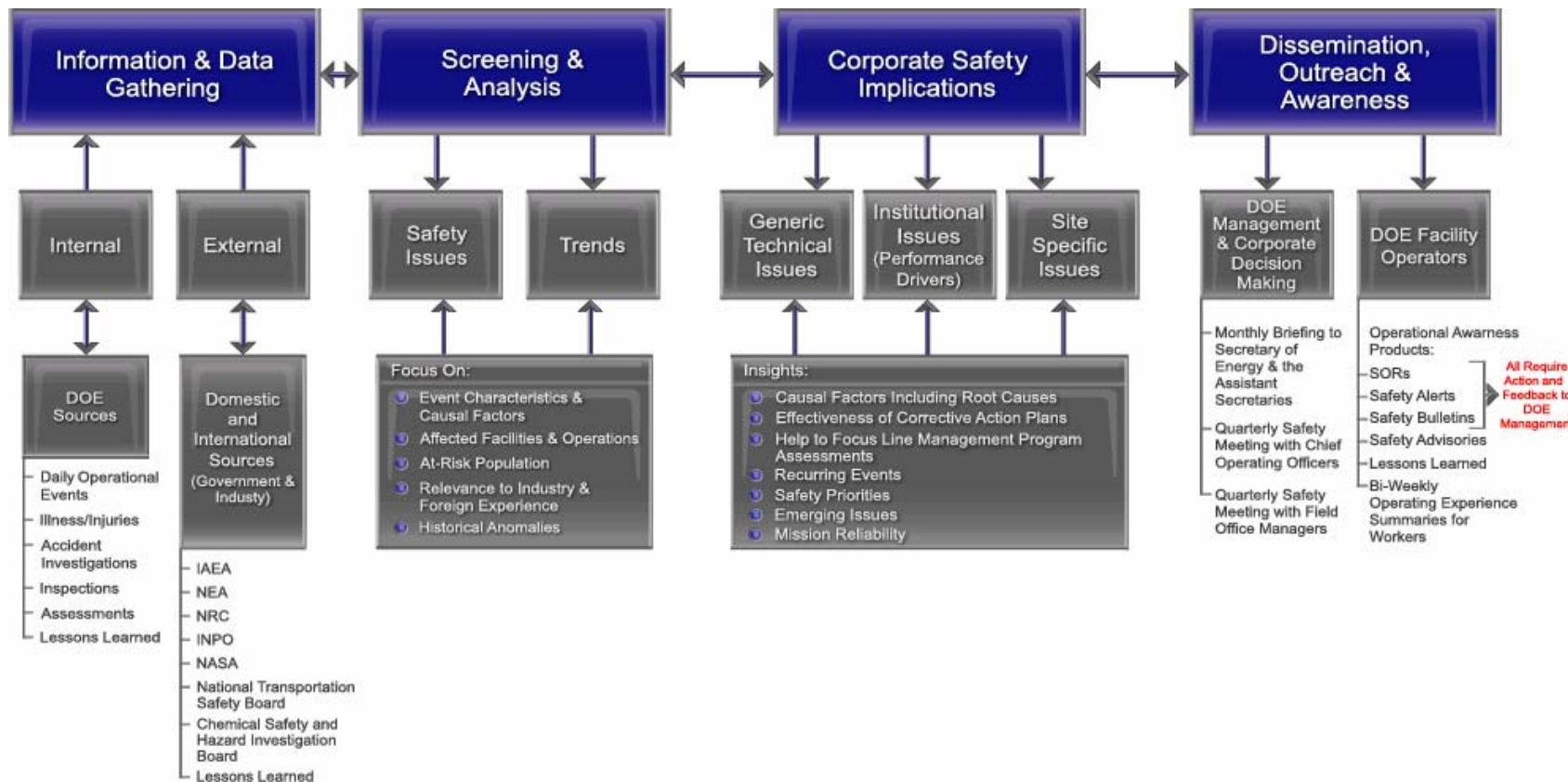
PSO Level		Significant Offsite Loss of Control of Radiological and Contaminated Material		Significant Offsite Environmental or Public Impact (Non-Radiological)		Inadvertent Criticality	
		Based on Keywords	Based on ORPS Reporting Criteria	Based on Keywords	Based on ORPS Reporting Criteria	Based on Keywords	Based on ORPS Reporting Criteria
DOE Wide		Y	Y	G	G	G	G
PSO #1 Wide		G	G	G	G	G	G
PSO #2 Wide		Y	Y	Y	Y	Y	Y
PSO #3 Wide		G	G	Y	Y	G	G

PSO Level		Deaths/Serious Injuries		Serious Radiation or IH Exposure		Fire or Explosion	
		Based on Keywords	Based on ORPS Reporting Criteria	Based on Keywords	Based on ORPS Reporting Criteria	Based on Keywords	Based on ORPS Reporting Criteria
DOE Wide		G	G	G	G	G	G
PSO #1 Wide		G	G	G	G	G	G
PSO #2 Wide		G	G	G	Y	G	G
PSO #3 Wide		Y	Y	Y	G	G	G





Dissemination, Outreach & Awareness





DOE Corporate Operating Experience Program



TWO TYPES OF PRODUCTS

- Operating Experience **Performance Information** Shared with Management
- **Lessons Learned** Focused Reports and Communications Mechanisms

URL: <http://www.eh.doe.gov/>



DOE Corporate Operating Experience Program



- **DOE Corporate Operating Experience Web Page** (<http://www.eh.doe.gov/ll>) web based resource tool to:
 - DOE Site Performance Information
 - DOE Corporate Lessons Learned Collection
 - **SELLS** – Society for Effective Lessons Learned Sharing
 - **EFCOG** – Energy Facilities Contractors Group
 - Links to Other Lessons Learned Resources (Websites)



Performance Information – shared with management



- **Daily Event Summary** – summarizes and communicates all daily occurrences
- **Under Secretary Weekly Report** - Summarizes most significant occurrences and trends
URL: <http://www.eh.doe.gov/ll/occurrences.html>
- **Monthly Deputy Secretary Briefing**
- **Quarterly Site Performance Reviews – Developing new Corporate Performance Indicators**
 - **ESE and SC Under Secretary with Direct Reports**
 - **NNSA Administrator/Under Secretary**



Corporate Lessons Learned – *communications mechanism*



- **DOE Corporate Lessons Learned Collection**
(<http://www.eh.doe.gov/ll/oellproducts.html>) web based resource tool to:
 - **DOE Lessons Learned Database**
 - internet Push-email
 - 2,752 Registered Users (as of 10/23/2006)
 - **DOE Corporate Operating Experience Documents web pages**
 - **Actionable Documents – SORs, SAs, SBs**
 - **Informational Documents – SAdS, OE Summary, J-I-Ts**
 - **Suspect/Counterfeit and Defectives Items websites (registry required)**
- **Actionable Documents** – are formally transmitted thru the line PSOs/NNSA Deputy Secretaries to the Contractor



Corporate Lessons Learned – *communications mechanism*



■ Management Level Documents

- Special Operations Reports (SOR's) – Action Required
- ES&H Alert (SA) – Action Required
- ES&H Bulletin (SB) – Action May be Required
- ES&H Advisories (SAd) – Informational
- Lessons Learned Issued by NNSA Deputy Administrators /
PSOs – Action May be Required

■ Supervisory / Worker Level Documents

- Operating Experience Summary
- Push Mail Lessons Learned (Database)
- Just-In-Time Reports
- Data Collection Sheets (SCDI)

URL: <http://www.eh.doe.gov/ll/oellproducts.html>



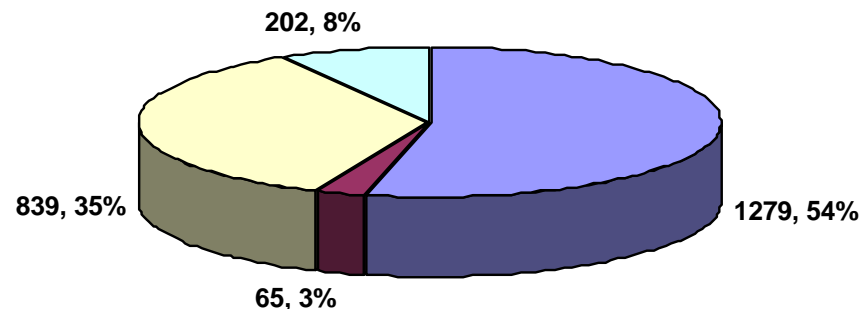
DOE Lessons Learned Database



KEY:

- Red = Urgent
- Yellow = Caution
- Blue = Informational
- Green = Good Work Practice

DOE Lessons Learned Issued by Type
(1994 - Present)



Includes both DOE Corporate and Field Generated Lessons Learned

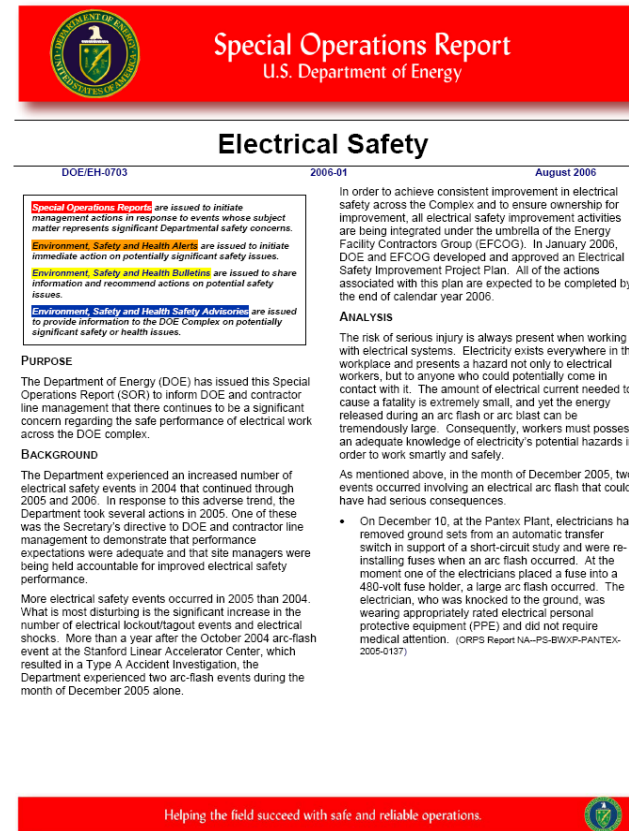
URL: <http://www.eh.doe.gov/DOE11/index.asp>



Special Operations Reports (SOR)



- Most significant safety concerns
- Issued by the Deputy Secretary of Energy
- Sets performance expectations
- Requires action and feedback
- Issued:
 - 1 in 2005 - *Laser Safety, SOR 2005-1, Feb 2005,*
 - 1 in 2006 - *Electrical Safety, SOR 2006-1, Aug 2006*



URL: http://www.eh.doe.gov/paa/specialops_reports.html



ES&H Alert (SA)



- Issued to advise DOE and contractors
- of potentially significant ES&H issues
- that require immediate attention
- Actions are Required
 - Requires positive & negative responses
 - Field/PSO verification
- Implementation feedback required to PSOs and HS-1
- Issued 2 in 2005, 2 in 2004, 2 in 2003

Environment, Safety and Health Alert

Untested Compressed-Gas Cylinders

DOE/EH-0673 2005-02 October 2005

Special Operations Reports are issued to initiate management actions in response to events whose subject matter represents significant departmental safety concerns.

Environment, Safety and Health Alerts are issued to initiate immediate action on potentially significant safety issues.

Environment, Safety and Health Bulletins are issued to share information and recommend actions on potential safety issues.

Operating Experience Summaries are issued to share lessons learned information, operating experience information, and best practices from significant events or important individual DOE activities.

PURPOSE

This Alert is being issued to initiate actions to determine if Department of Energy (DOE) facilities are using potentially hazardous gas cylinders distributed by the All-Out Fire Equipment Company, Inc. of Holbrook, New York, and to remove any identified cylinders from service.

BACKGROUND

Compressed-gas cylinders that are utilized on DOE sites are required to be qualified, inspected, tested, and maintained in accordance with applicable U. S. Department of Transportation (DOT) regulations and industry standards, such as those promulgated by the National Fire Protection Association. DOT issued a Safety Advisory in the Federal Register (see next page), informing the public that alleged unauthorized marking of compressed-gas cylinders by All-Out Fire Equipment Co., Inc. is being investigated. DOT has obtained evidence that the company had marked, certified, and returned an undetermined number of cylinders as being properly tested in accordance with Hazardous Material Regulations without conducting the required hydrostatic testing of those cylinders. Those cylinders include fire extinguishers, oxygen tanks, and self-contained breathing apparatus.

IMPLICATIONS

Cylinders are periodically tested to confirm that their structural integrity has not deteriorated in service. If testing is omitted, cylinders with compromised structural integrity could be returned to service, resulting in a risk of property damage, serious injury, or death from a cylinder failure.

A previous Environment, Safety and Health Alert, *Potential Problems with Hydrostatic Testing*, which was issued in September 2003, addressed similar certification issues with another testing company.

ACTIONS

Sites are requested to:

- Review procurement documentation to determine if any cylinders were acquired from All-Out Fire Equipment Company.
- Remove all cylinders acquired from All-Out Fire Equipment Company from service.
- Inspect those cylinders for the markings indicated in the Federal Register Notice.
- Notify DOT of any identified cylinders that are marked as indicated in the Federal Register Notice. Report discovery of these items in the Occurrence Reporting and Processing System (ORPS).
- Report results of the procurement document review and any follow-up activities to the Program Secretarial Officer and to the Environment, Safety and Health point of contact listed below.

Information contact: Tom Williams, Office of Corporate Performance Assessment (EH-3), telephone (301) 903-4850, e-mail Thomas.F.Williams@eh.doe.gov.

Helping the field succeed with safe and reliable operations.

URL: <http://www.eh.doe.gov/paa/alerts.html>



ES&H Bulletin (SB)



- Issued to advise DOE and contractors of a potentially significant ES&H issue that:
 - Requires management awareness and/or
 - Has longer term impacts
- Actions are Recommended
- Implementation/applicability feedback required to PSO's and HS-1
- Issued: 5 in 2006, 15 in 2005

Environment, Safety and Health Bulletin

Gas Buildup in Drums

DOE/EH-0697 2006-04 July 2006

Level of Concern: **High** are issued to initiate management actions required to prevent serious adverse health or safety consequences. **Departmental safety concerns.**

Administrative Safety and Health (AS&H) Bulletins are issued to initiate immediate action on potentially significant safety issues.

Environment, Safety and Health (ES&H) Bulletins are issued to share information and recommend actions on potential safety issues.

Safety Alerts are issued to provide information to the DOE Contractor on potentially significant safety or health issues.

Purpose:
This Bulletin provides information on a safety concern that may impact operations at Department of Energy (DOE) facilities. Specifically, the concern is the safe handling, storing, venting, and opening of drums that may be pressurized or may contain flammable vapors.

BACKGROUND:
Potential causes of drum overpressurization include:

- Radiolysis of water or organic materials.
- Chemical reactions such as oxidation of organic material or reaction of metals with water and acids.
- Decomposition of waste by anaerobic bacteria.
- Change in altitude or temperature.
- Exposure of volatile liquids to sun or heat.

DOE records show that there have been 36 safety incidents involving gas buildup in drums over the past 5 years. In one-third of these incidents, the lid ruptured or the drum ruptured, releasing some of the contents. The remaining incidents resulted from an accumulation of flammable hydrogen or methane gas in the drum headspace or overpressurization from unvented or inadequately vented containers.

WHAT ARE THE HAZARDS?
An unexpected lid ejection could strike a worker, resulting in serious injury. Workers could be exposed to the released drum contents, or flammable or explosive vapors could ignite. Subjective tests for drum safety, such as looking for the absence of deformation and bulging or using the two-hand flex test, where a worker presses both hands on a drum and concludes the drum pressure to be safe if the lid flexes downward, are not reliable indicators of safe pressurization.

CONTROLLING THE HAZARDS

- Know the materials or wastes that are being stored.
- Do not mix incompatible materials or wastes.
- Consult Material Safety Data Sheets or Waste Profile Forms.
- Ensure that stored materials are compatible with the containers.
- Avoid situations (e.g., temperature changes) that can promote pressurization and generation of flammable vapors.

- Material handlers and drum users should approach, handle, and open all sealed drums as if they were pressurized.
- Assume that "empty" drums can become sufficiently pressurized to cause injury.
- Lid-restraining safety devices should be used routinely when opening drums or other containers.
- When using a restraining device to open a drum lid, allow external gas to escape slowly before fully removing the lid.
- Follow applicable facility procedures for venting hazardous waste containers when required under 40 CFR Parts 261 and 265, Subparts AA, BB, or CC.
- Always consider the potential for a fire when planning work involving drums that may contain flammable or explosive gases.
- Avoid potential friction or impact sparks, static electricity, and self-ignition and ensure that drums and containers are properly grounded when they could contain explosive concentrations of gases.
- Use non-sparking venting devices to help prevent ignition of flammable vapors.
- If possible, handle the drums remotely or isolate them from personnel.
- Immediately evacuate the area when bulging or smoking drums are identified and notify your supervisor and emergency response or fire department.
- Follow the guidance in the DOE fee safety directives (18 CFR 81.1 DOE O 420.18, Facility Safety, DOE O 420.1-5, Implementation Guide for Fee Safety Program when handling drums and containers of hazardous material or waste.

ADDITIONAL SOURCES OF INFORMATION

- Your Safety and Health Office

Information on the Web on related operating experience, lessons learned, and DOE directives:

<http://www.eh.doe.gov/paa/bulletins.html>

<http://www.drums.doe.gov/information/urgent.html#bulletin>

SUMMARY
Prevent drums and containers from becoming pressurized whenever possible. If pressurized drums or containers are found, take the necessary steps to handle them safely.

If you have any questions, please contact Dr. Bill McArthur by telephone at 301-905-9674 or by e-mail at bill.mcarthur@eh.doe.gov.

C. Russell H. Shearer
C. Russell H. Shearer
Acting Assistant Secretary
for Environment, Safety and Health

Helping the field succeed with safe and reliable operations.


URL: <http://www.eh.doe.gov/paa/bulletins.html>



ES&H Advisory (SAd)



- Issued to advise DOE and contractors of a potentially significant ES&H issue that:
 - Requires management awareness
- Informational only
- Issued: 5 in 2006, 3 in 2005, e.g. Revised OSHA Assigned Protection Factors, Sep 2006

 Environment, Safety and Health Advisory

Revised OSHA Assigned Protection Factors

DOE-EH0699 2006-05 September 2006

Special Operations Alerts are issued to initiate management actions in response to events whose subject matter represents significant Departmental safety concerns.

Environment, Safety and Health Alerts are issued to initiate immediate action on potentially significant safety issues.

Environment, Safety and Health Bulletins are issued to share information and recommend actions on potential safety issues.

Safety Advisories are issued to provide information to the DOE Complex on potentially significant safety or health issues.

DEFINITIONS

The Assigned Protection Factor (APF) is the level of respiratory protection that is expected to be provided to employees who wear respirators when the employer implements a continuing, effective respiratory protection program.

Maximum Use Concentration (MUC) means the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator.

APF EXAMPLES FOR FULL FACEPIECE RESPIRATOR TYPES

Respirator Type	APF
Air-purifying respirator (APR)	50
Powered air-purifying respirator (PAPR)	1,000
Supplied-air respirator (SAR)(airline respirator)(pressure demand)	1,000
Self-contained breathing apparatus (pressure demand)	10,000

PURPOSE

This Advisory is being issued to alert DOE sites to the recent Federal Register [Notice](#) announcing the revised Assigned Protection Factors (APFs) for respiratory protection. This Notice applies to the DOE O 440.1A and 10 CFR 851 implementation plans and the standards promulgated by the Occupational Safety and Health Administration (OSHA) in 29 CFR Parts 1910, 1915, and 1926.


BACKGROUND

OSHA announced in the August 24, 2005, Federal Register that it had modified its respiratory protection Standard to include definitions and requirements for APFs and Maximum Use Concentrations (MUCs). This final Standard, which requires implementation by November 22, 2006, applies to general industry, construction, shipyard, longshoring, and marine terminal workplaces. The revised APFs provide employers with information to use when selecting respirators for employees exposed to atmospheric contaminants. Using APFs as the basis for respirator selection is an important component of an effective respiratory protection program. The revised Standard supersedes the respirator selection provisions of existing substance-specific standards with these new APFs (except for the respirator selection provisions of the 1,3-butadiene Standard).

DOE IMPACT

Significant aspects of these changes on the DOE O 440.1A and 10 CFR 851 implementation plans include:

- APFs for full facepiece APFs are set by OSHA at 50, compared to 100 in ANSI Z88.2-1992.
- APFs for PAPR or SAR/airline respirator helmethood set by OSHA range are 25 or 1,000 (with employers responsible for obtaining manufacturer information to justify an APF of 1,000), compared to 1000 in ANSI Z88.2-1992.
- These OSHA APFs are enforceable and not recommendations.

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URL: http://www.eh.doe.gov/paa/safety_advisory.html



Operating Experience Summary



- Reviews of selected occurrences for workers and first line supervisors – convey operating errors and best practices
- Intended for use at safety meetings, e.g., tail gate meetings
- OE Summary issued by-weekly to monthly



URL: <http://www.eh.doe.gov/paa/oesummary/index.html>



Other Informational Products



Just-In-Time Operating Experience

- Informational OE products issued to improve awareness of OE issues and improve Work Processes
- Can include:
 - Notification of events at other sites (inside or outside of DOE)
- No specific action or feedback is required beyond internal dissemination
- **“Contractor Just-In-Time Submittals Are Encouraged”**

URL:

<http://www.eh.doe.gov/paa/jit.html>



2006-01 Improper Material Handling Results in Near Misses June 2006

Events

Site/Facility: Kansas City Plant, Main Building
Employee Pinned by Load Falling from Walkie Stacker
Reference: ORPS Report NA-KCSO-AS-KCP-2006-0004

On April 26, 2006, an employee was struck and pinned against a freight elevator gate by a 670-pound trim fixture that had fallen off a skid as the fixture was being transported on a Walkie Stacker from the attic to the ground floor. Luckily, the employee was not injured. A one-week safety stand-down was held following the event.

Important Point:	• The persons operating the Walkie Stacker were trained on use of the equipment.
Contributor:	• The fixture was not secured to the Walkie Stacker

Site/Facility: Paducah Gaseous Diffusion Plant, C-402 Lime House
Near Miss Results When Heat Exchanger Falls from Personnel Lift during D&D Operations
Reference: ORPS Report EM-PPPO-PRS-PGDENVRES-2006-0002

On May 2, 2006, two workers lost control of a 150-pound heat exchanger that they were trying to unload from a personnel lift, and the unit fell approximately 2 feet onto a concrete floor. The mechanics inappropriately used the lift to lower the heat exchanger from an elevated position, (carrying the exchanger on the safety railing of the lift) because a forklift could not be positioned as planned. There were no personnel injuries; however, coworkers were exposed to potentially contaminated lime dust after dust dispersed from the unit when it fell.

Important Point:	• Both the Front Line Manager and the assigned safety professional authorized use of the personnel lift for the job.
Contributor:	• The forklift to be used for the job would not fit through the doorway of the facility.

Site/Facility: Argonne National Laboratory East, Sector 30, Building 400
Crate Falls from Pallet Jack
Reference: ORPS Report SC-ASO-ANLE-ANLEFFS-2006-0002

On May 5, 2006, an experimental device packaged in a wooden crate rolled off of a manual pallet jack and fell approximately 8 inches onto a concrete floor during a move. The riggers were using a forklift and the pallet jack positioned at the ends of the 12-foot-long crate. The crate rolled off the pallet jack when the forklift was moved. There were no injuries.

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Other Informational Products



Data Collection Sheets

- Informational OE products issued to improve awareness of OE issues
- Can include:
 - Notification of events at other sites (inside or outside of DOE)
 - Suspect/Counterfeit or Defective Items Identification
- No specific action or feedback is required beyond internal dissemination
- **URL: (Access Limited)**
<http://www.eh.doe.gov/sci/>



UL Warning on Potentially Hazardous Jig Saw

Tracking Number	Source of Issue	Source Tracking Number
DCS 1048	LL-LANL	N/A

THIS ISSUE WAS POSTED AT THE UL WEB SITE AT <http://www.ul.com/media/newsrel/nr040606.html>

UL Warns of Potentially Hazardous Jig Saw

NORTHBROOK, Ill., - April 6, 2006 - Underwriters Laboratories Inc. (UL) is notifying consumers that the Professional Woodworker Jig Saw does not meet UL safety requirements and may pose a hazard to users. This product has not been evaluated for safety by UL and bears a counterfeit UL Mark for the United States and Canada.



Units: Unknown quantity

Manufacturer: Unknown

Date of Manufacture: Unknown

Identification:

On the Product: The jig saw is brown in color and has two labels. One label identifies the product as "Professional Woodworker." The other label contains a counterfeit UL Mark and the jig saw's following specifications:

120V - 60 Hz, 3.8A Strokes: 0-3100/min
LISTED, 95GA, E210256, Made in China

On the Packaging: The front of the packaging is marked "Professional Woodworker" with a counterfeit UL Mark. The bottom of the sleeve is marked "Stock No. JS34DLX/02732, Manufactured in China."

Hazard: This product has features that present potential fire and shock hazards.

What you should do: UL recommends that users stop using the product immediately and return it to the place of purchase.



Questions concerning this issue should be directed to Tom Williams of the Office of Analytical Studies (EH-32) by telephone at (301) 903-4859 or by e-mail at thomas_e.williams@eh.doe.gov.

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DOE Lessons Learned Format



- **Title:**
- **Date:**
- **Identifier:**
- **Lessons Learned Summary: ***
- **Discussion of Activities: ***
- **Analysis: ***
- **Recommended Actions:***
- **Estimated Savings/Cost Avoidance:**
- **Priority Descriptor:**
- **Work / Function:**
- **Hazard:**
- **ISM Core Function:**
- **Originator:**
- **Contact:**
- **Authorized Derivative Classifier:**
- **Reviewing Official:**
- **Keywords:**
- **References:**

***Key fields**



DOE Corporate Operating Experience Program



QUESTIONS?