

Excessive Time Between Event Discovery and ORPS Categorization: A Causal Analysis

**EFCOG - ORPS Task Group
Las Vegas, Nevada
November 4, 2009**



**Quality Management Office
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(631) 344-4080**

“Facts are the givens that never deceive us, it is in judging that we go astray.”



**Antoine Lavoisier
(1743 - 1794)**

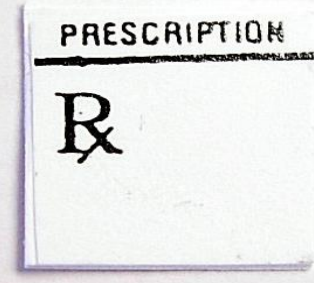
Brookhaven National Laboratory (BNL)

- Established in 1947
- 7 Nobel Prizes and Counting!
- Dr. Joanna Fowler, National Medal of Science, 2009

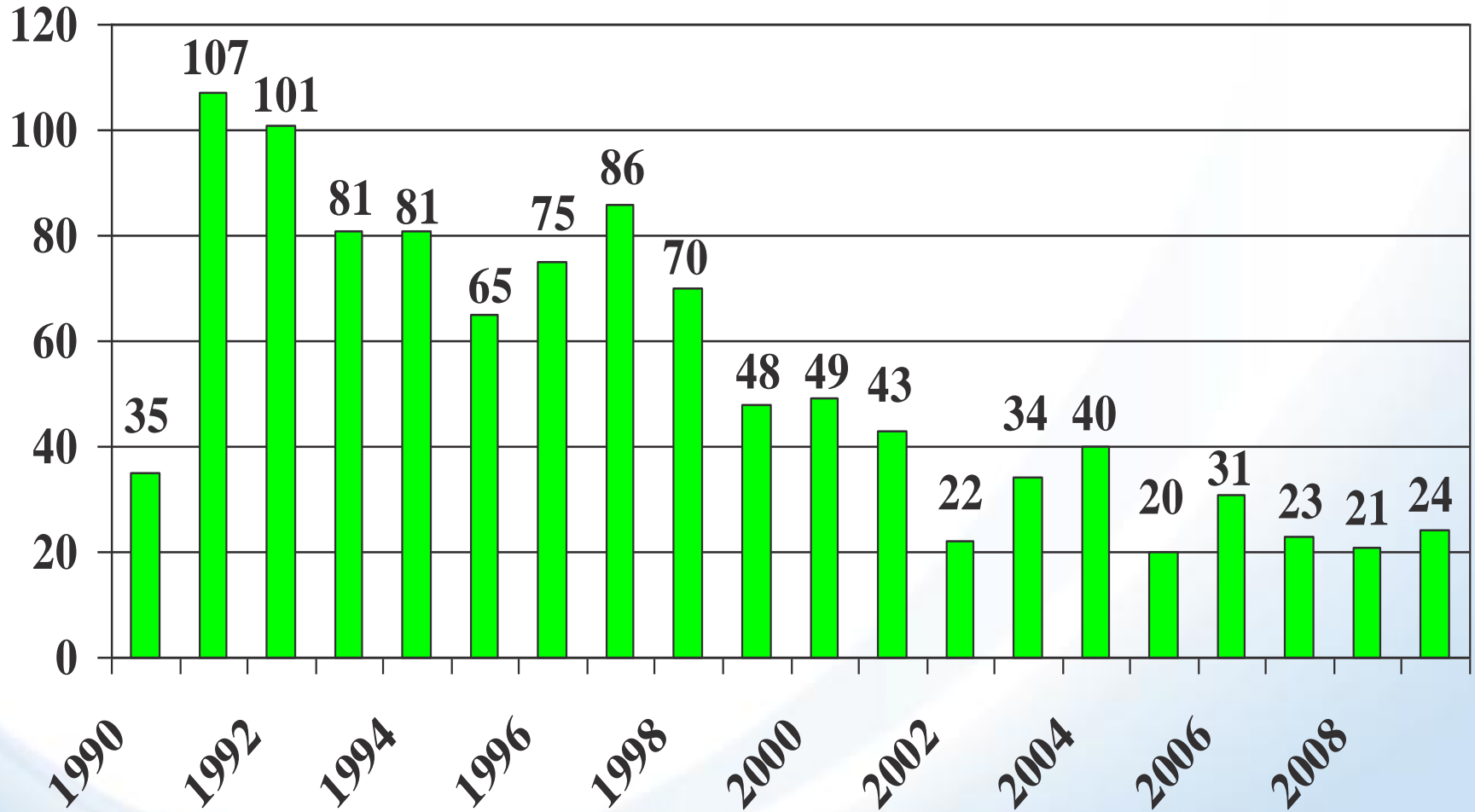


Brookhaven Lab's Dr. Joanna Fowler Awarded National Medal of Science





BNL Occurrence Reports by Calendar Year (As of 11/03/09)



How Do you Become a BNL Event Categorizer?

- 1. Self-study**
- 2. Event Categorizer Under Instruction**
- 3. Experienced-based small group instruction**

Follow up
You forwarded this message on 10/26/2009 10:36 AM.

From: Contos, Nicholas Sent: Fri 10/23/2009 4:07 PM
To: Coleman, Steven A; Labas, Joseph; Ellerkamp, John J; Drago, Joseph; Hayde, Phillip R; Seniuk, Chris; Sattler, John; Tilson, Pat; Sullivan, Patrick T (DOE); Kneitel, Terri E; Hanson, Michael; rdiem@bnl.gov; Parnell, Carol; Goode, George A; Dikeakos, Maria V; Cracco, Joseph W(DOE); Bebon, Michael J; Gunther, William E; Bates, Lanny; Lebel, Roy H; Desmarais, Robert; Polanish, Caroline; Janczewski, Adam; Granzen, Gerald A; Nelson, Lloyd; Parsons, Mark; Piper, Arthur J; Kelley, Peter W (DOE); Davis, Mark; Dimino, Charles; Usher, John L; Williams, Patricia; Sullivan, Kenneth; Sierra, Edward; Moss, Steven H; Levine, Andrew E; Krasner, Kenneth; Karol, Raymond C; Coleman, Steven A; Buckley, Michael; Bender, Patricia A; Davis, Mark
Cc:
Subject: RCT Injured After Falling on Sheet Metal Debris

Please be informed:

The following categorization decision has been rendered.

[View Event/Issue Categorization](#)

Ed Sierra
Quality Management Office
BNL ORPS Coordinator
631-344-4080
esierra@bnl.gov

Categorization
Details
Groups/Sub-Groups
Support Information
Back to Events/Issues
Other Information
BNL Site Index
Can't View PDFs?

Categorization: Employee strains ligament as a result of repetitious forklift access

Event Categorizer: [Mark Davis](#) ext. (2165)

Details

Item	Value
Event/Issue Date/Time:	09/02/2009 04:00:00PM
Notification Date/Time:	09/03/2009 03:40:00PM
Categorization Date/Time:	09/03/2009 03:41:00PM
Facility/Building Involved:	C-AD Facilities
Department or Division Involved	[FM] - Facility Operations Office
Who Notified the Categorizer:	[23930] - Lombardi, Donna
Event/Issue Owner:	[12605] - Houvener, Nicholas
Who is the point of contact at the origination organization for more information?	[12605] - Houvener, Nicholas ext. (4436)

Brief Event/Issue Description

Employee reported to BNL clinic for ligament strain after repeatedly mounting/dismounting forklift the previous day.

Groups/Sub-Groups

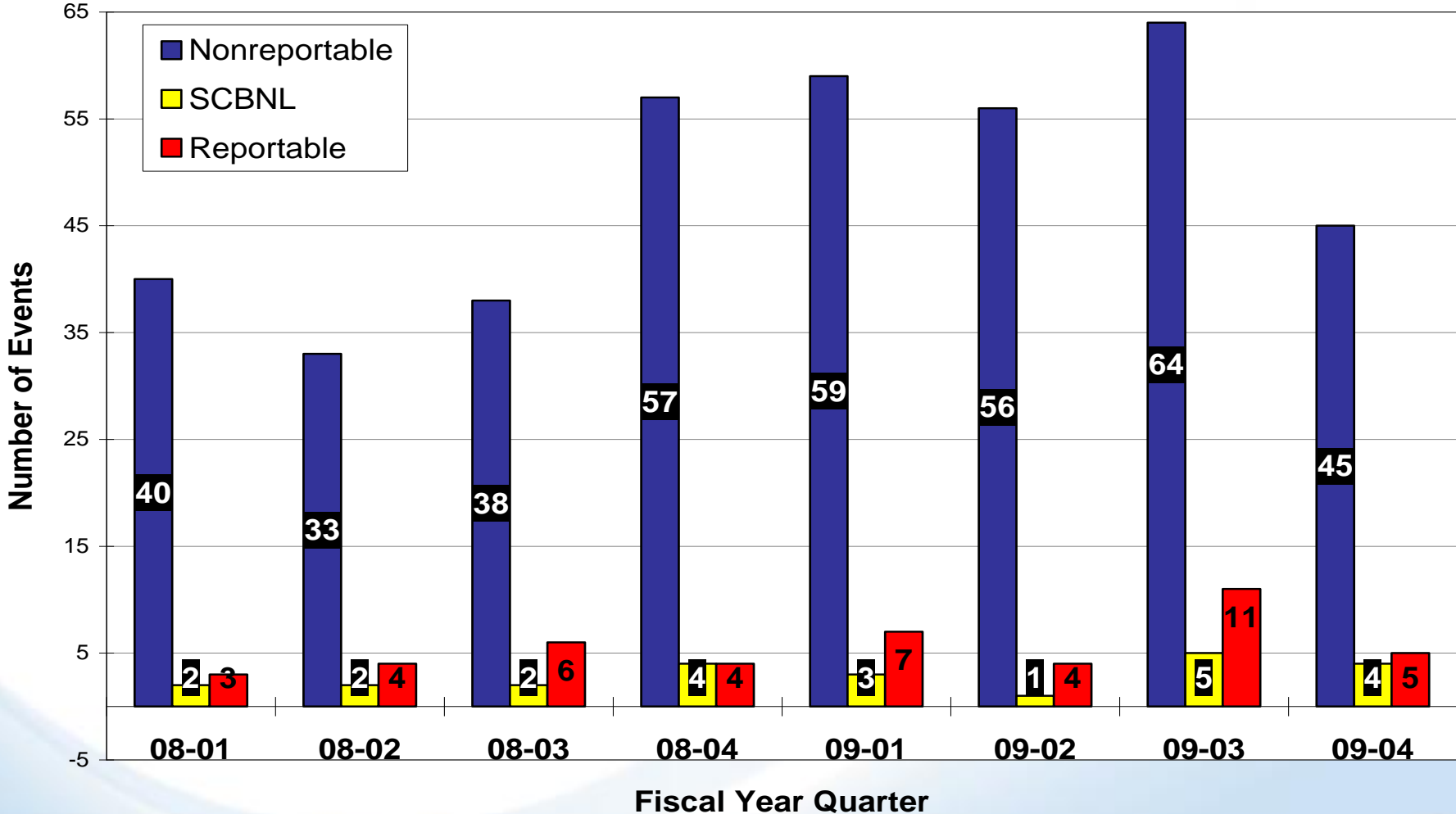
Group	Sub-Group 1	Sub-Group 2	Sub-Group 3	Reportable
Personnel Safety and Health	Subgroup A Occupational Illnesses/Injuries	(6) 3 Any single occurrence resulting in a serious occupational injury. A serious occupational injury is an occupational injury that:		no
Personnel Safety and Health	Subgroup A Occupational Illnesses/Injuries	(6) 3 Any single occurrence resulting in a serious occupational injury. A serious occupational injury is an occupational injury that:	SCBNL: Causes damage to nerves, muscles, tendons, and/or ligaments as determined by a physician	no

If not reportable, provide brief explanation:

Injury did not meet severity level for ORPS or SCBNL reportability.

The Facility Manager (T. Landertson) has determined that this event/condition is not at a level of safety significance or concern that warrants reporting to other facilities in the DOE Complex or at BNL.

As Deemed by the Event Categorizer





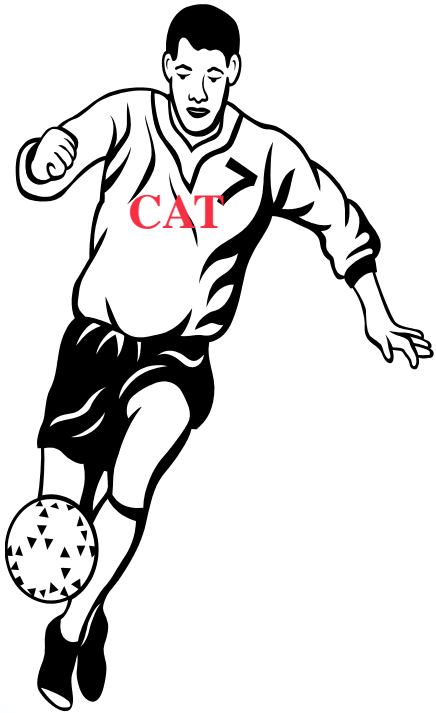
CATEGORIZER Team Workshop

Workshop Goals:

To **EVALUATE** and **CONTINUOUSLY IMPROVE** the BNL Occurrence Reporting Program.

To **MAINTAIN** a baseline categorization process such that reportability decisions are both **VALID** and **CONSISTENT**.

To **REVIEW/ EVALUATE** data to determine if repeat events should be identified as potentially **RECURRING** occurrences.



ORPS DOE M 231.1-2 Reporting Requirements

“The Facility Manager must categorize all occurrences, except Operational Emergencies, **within 2 hours of discovery** by the cognizant facility staff ...”

“**DISCOVERY DATE AND TIME.** The discovery date and time is **when the facility staff discovered or became aware** of the event or condition.”

BHSO/DOE Surveillance, September 18 - 22, 2008: Conclusions

- **“The sample of ORPS entries surveyed indicates that further assessment is warranted to determine the BNL wide cause for not meeting the recommended guidelines on ORPS Reporting.”**
- **“Specific focus is recommended to determine the cause for delay of categorizer notification and not documenting notification of DOE representatives.”**

The Problem Statement!

**BNL ORPS Reports not categorized
within 2 hours of discovery!**



Action Taken Prior to Issuance of DOE Surveillance

- **Lessons Learned Communication, dated 9/23/08**

“Immediate Notification of the BNL Occurrence Categorizer is Critical to Notifications Within the Established Time Limits, Rev 1”

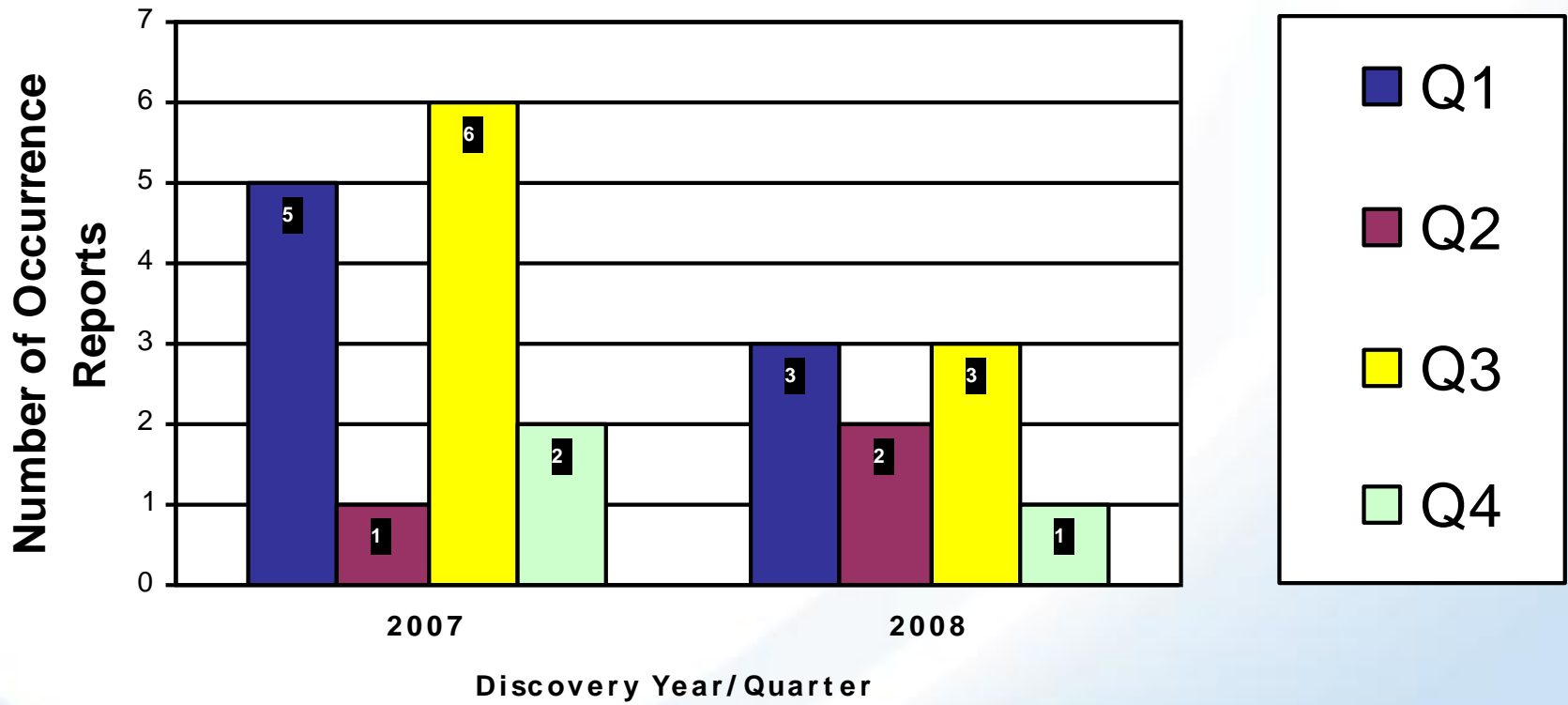
CAUSAL ANALYSIS

- **1st Meeting, 10/20/2008**
 - **Brainstorming/Expert Judgment**
 - **Need more Data**
 - **Need a new Facilitator**
 - **DOE Participates**

- **2nd Meeting, 11/04/2008**
 - **Data Analysis, (1/01/2007 - 11/02/2008)**
 - **23/40 (58%) ORPS Reports > 2 hours**
 - **Presentation of Data/Graphs**
 - **Focus on 23**
 - **DOE Participates (Value-added)**
 - **Action Plan**

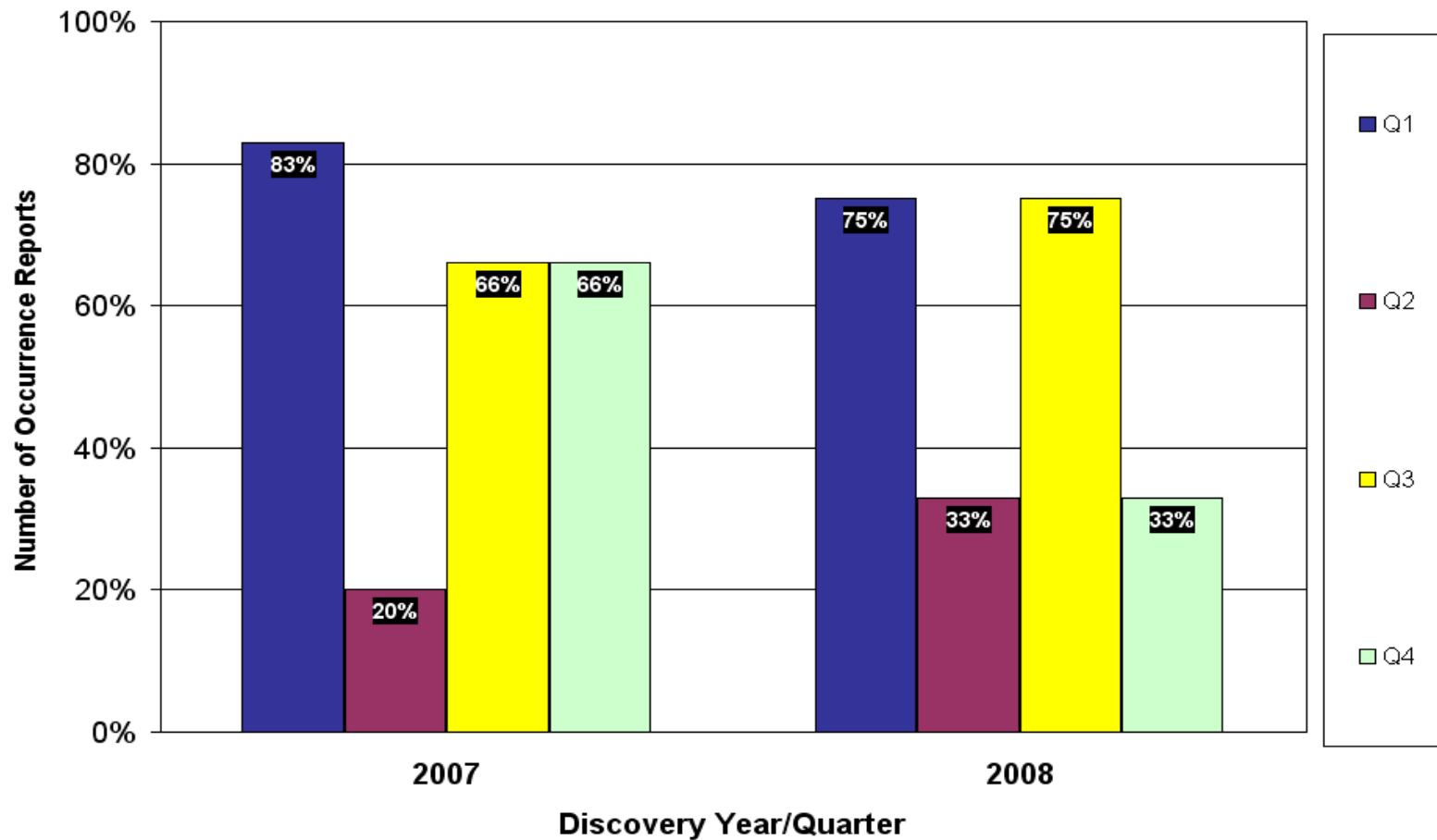
Is Time of the Year a Factor?

ORPS Distribution by Discovery Year/Quarter

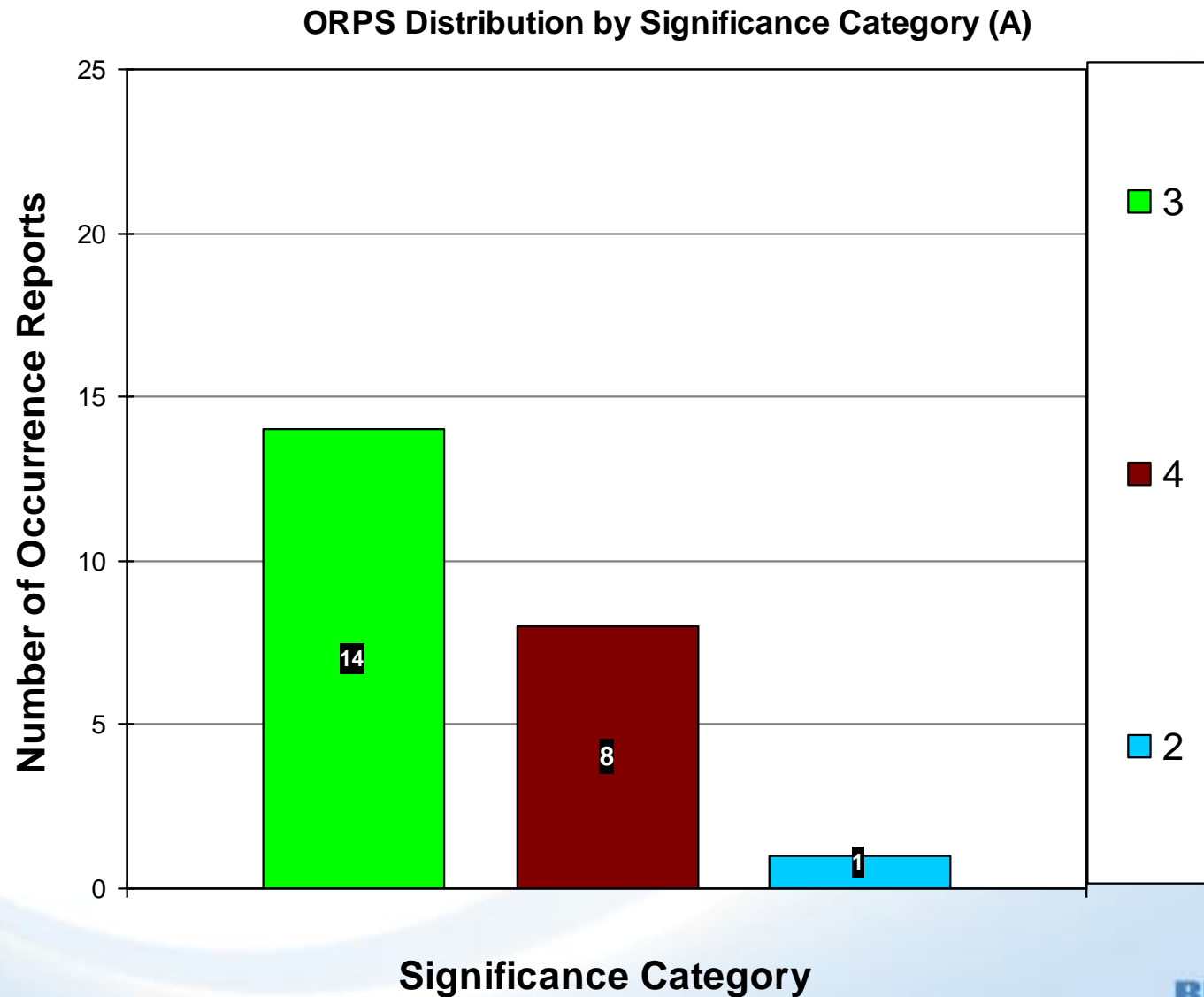


What About as a Function of Percent?

ORPS Distribution by Discovery Year/Quarter by Percentage

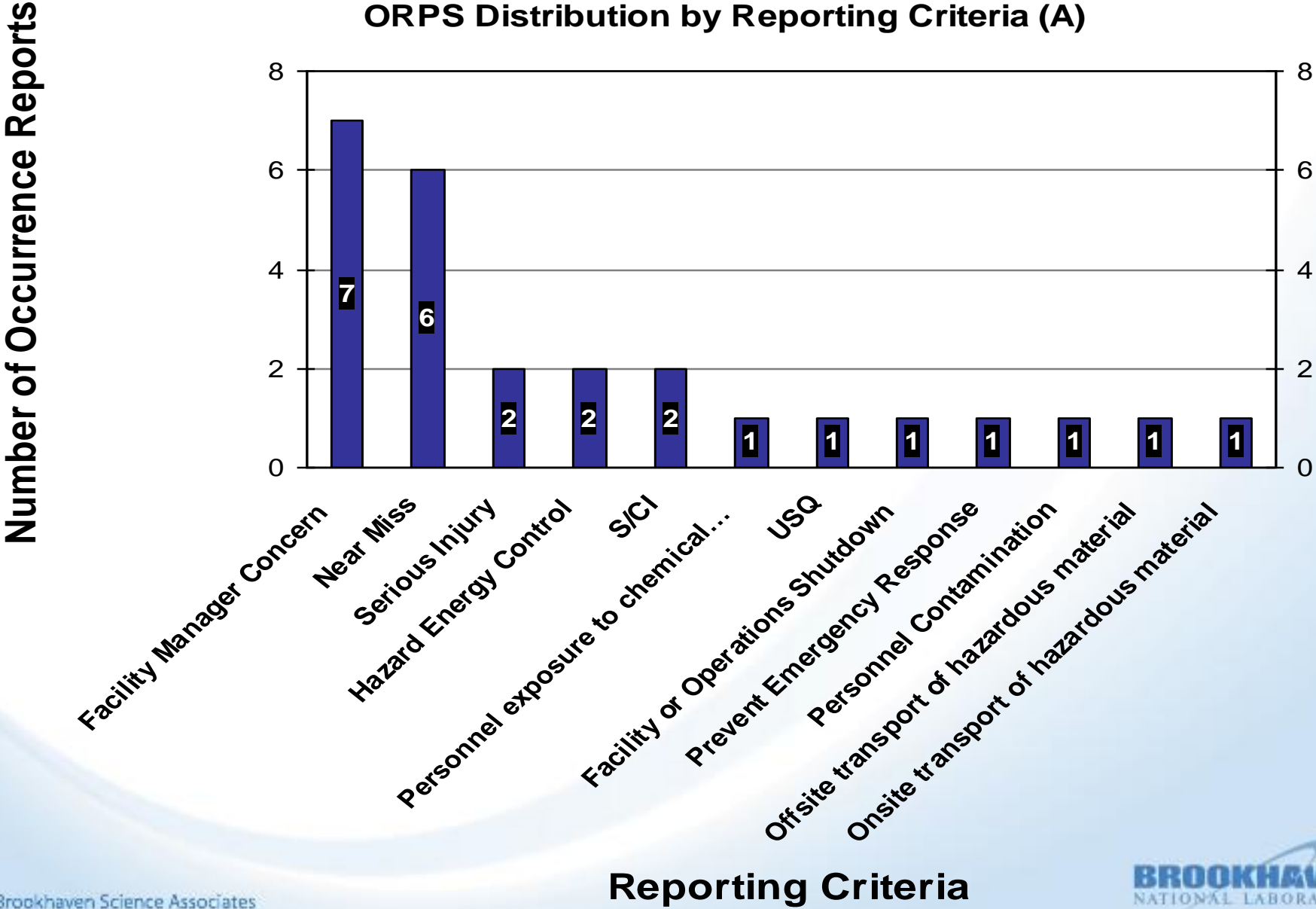


Is Significance Category a Factor?



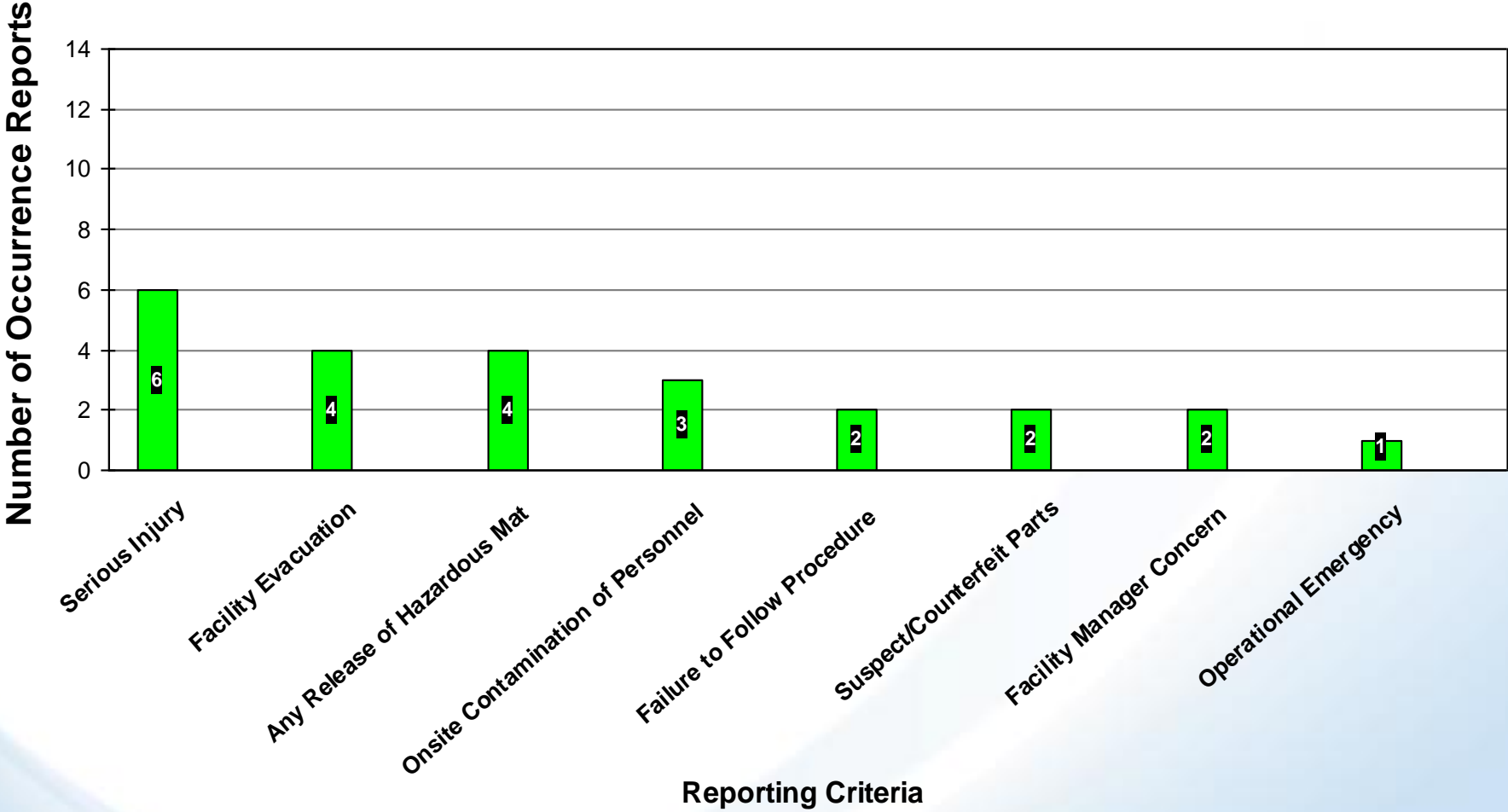
What About Reporting Criteria?

ORPS Distribution by Reporting Criteria (A)



Categorization That Was Timely

ORPS Distribution by Reporting Criteria (A)



Do Subcontractors Play a Part?

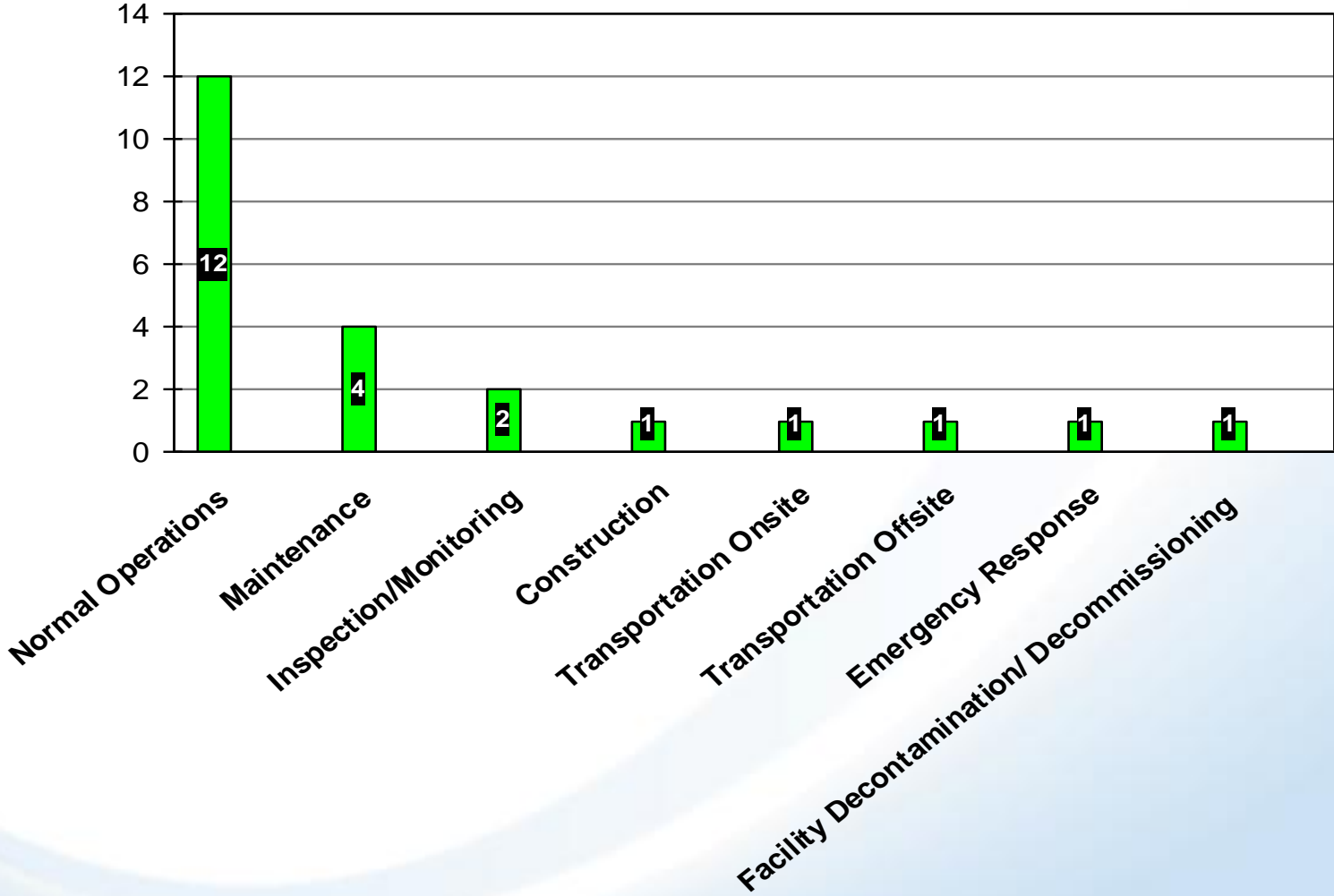
ORPS Distribution by Subcontractor Involved (Yes/No) (A)



Activity Category?

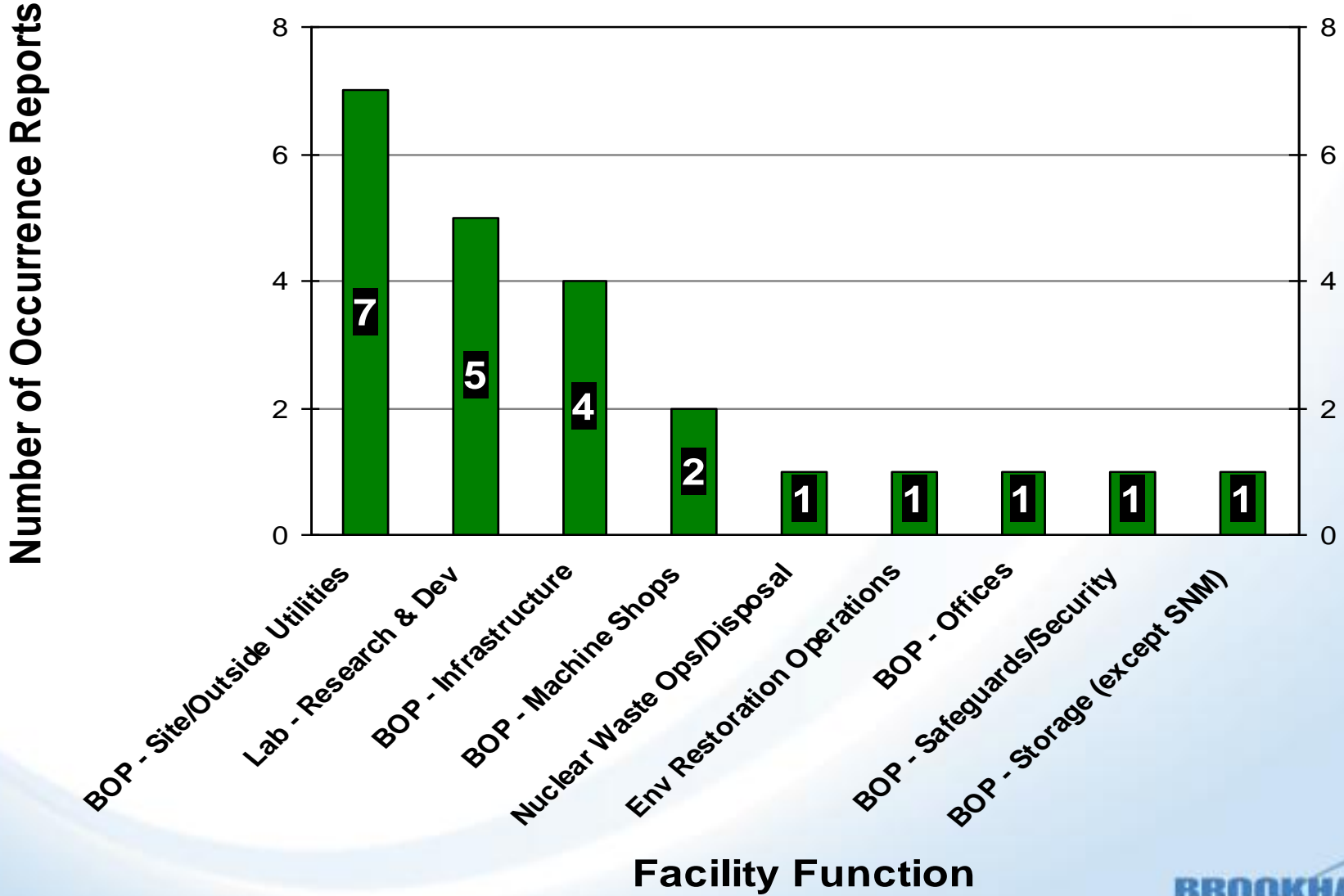
Number of Occurrence Reports

ORPS Distribution by Activity Category



Facility Function?

ORPS Distribution by Facility Function



DATA ANALYSIS, (1/01/07 - 11/02/08)

- **Most Events Occurred During Normal Working Hours**
- **61% of the time the Categorizer was not notified within 2 hours of discovery**
- **39% of the cases the Categorizer did not render a decision within 2 hours of discovery**

The Deviation Potential Model ©

The diagram shows the equation $Deviation\ Potential \propto \frac{Difficulty}{Risk + Observation}$. A large red arrow on the left points upwards towards the text 'Deviation Potential'. A red arrow above the fraction line points to the right towards the word 'Difficulty'. Two red arrows on the right side point downwards from the denominator 'Risk + Observation'.

$$Deviation\ Potential \propto \frac{Difficulty}{Risk + Observation}$$

- *Always ask the Question:* Why did **the person** do **what** he/she did, at the **time** he/she did it, under the **conditions** that existed???

© Fisher Improvement Technologies

Apparent Causes

- 1. Need to report within 2 hours was either not known or underappreciated.**
- 2. Some staff felt the need to further investigate events before reporting to the Categorizer.**
- 3. Lack of timely reporting of occupational injuries/illness to the Categorizer.**

Apparent Causes

- 4. When the categorizer is informed of an event within 2 hours of discovery but does not have the required information to make an informed categorization decision it “appears” that the 2 hour time limit from discovery to categorization has been exceeded.**

CORRECTIVE ACTIONS:

- 1. Issue a Lessons Learned Communication to the Laboratory titled: “Immediate Notification of the BNL Occurrence Categorizer is Critical to Notifications Within the Established Time Limits, Rev 1,” 2008-CH-BNL-QMO-0001.**
- 2. Coordinate with “Bulletin” editor and publish an article, which discusses that immediate notification of the BNL Event Categorizer is critical to notifications within the established time limits.**

CORRECTIVE ACTIONS:

3. Issue an e-mail to Event Categorizers notifying them of the following and discuss this report at the next Event Categorizers Workshop:

- If the Categorizer declares an event or condition reportable to DOE it is his/her responsibility to inform the BNL ORPS Program Manager (or delegate) ASAP, but certainly within 1 hour of categorization, so that he may inform DOE/BHSO. If the Categorizer is off-site at the time of declaration the Categorization form will be filled out upon return to BNL.**
- The Categorizer must determine reportability within 2 hours of event/condition discovery. In the event that needed information is lacking, the Categorizer shall log “non-reportable” and follow-up when other required information is available.**

CORRECTIVE ACTIONS:

- 4. In coordination with the ES&H ALD, deliver a presentation to the Policy Council, which discusses that immediate notification of the BNL Event Categorizer is critical to notifications within the established time limits.**
- 5. Deliver presentations to the Management Council, Building Managers, and ESH Coordinators which discusses that immediate notification of the BNL Event Categorizer is critical to notifications within the established time limits.**
- 6. Establish a protocol whereby the Occupational Medical Clinic contacts the Event Categorizer to report occupational injuries/illness.**

Search by: Search string (use * character for partial):

Department:

Mail Address



Brookhaven National Laboratory
P.O. Box 5000
Upton, NY 11973-5000

Other Information

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Search Hints

- Entering **smith** returns all entries for last name = SMITH.
- Entering **smi*** returns all entries beginning with the letters SMI.
- Entering ***ith** returns all entries ending with the letters ITH.
- To return a list of ALL members of a particular department, leave the first field blank and select a department from the drop-down list.
- To return a list of Lab personnel with a known name, phone extension or e-mail address, but from within one department only, enter a search string in the first field AND select a department from the drop-down list.

General Lab Numbers

All Lab extensions are prefaced by (631) 344-xxxx

EMERGENCY	x2222
Safety Hotline	x8800
General Lab Number	x8000, (631) 344-8000
ORPS Event Categorizer	x1234, (631) 433-0443
BERA Store	x3347
Biology Dept.	x3415
Cafeteria	x3541
Chemistry Dept.	x4301
Computer Security Incidents	x8484
Collider-Accelerator Dept.	x4619
Credit Union	x2790
General Info Hotline	x4636
Guest, User, Visitor Center	x3333
Human Resources	x2882
ITD Helpdesk	x5522
Main Gate Visitor Center	x4720
Medical Dept.	x3604
MSDS Information	x6387
NSLS	x2145
Occupational Medicine Clinic	x3670
Post Office	x2539
Physics Dept	x4901

CORRECTIVE ACTIONS:

- 7. Deliver three (3) presentations to the Building Managers during CY 2009 to provide an ORPS Update (to include review of reporting criteria).**
- 8. Determine effectiveness of the action plan.
Due Date: 12/31/09**



- **Seek Agreement on Discovery Definition**
- **Explain apparent late reporting in ORPS Reports**
- **Educate DOE, Bigger Fish to Fry!**
- **“Keep the Conversation Going”
Gawande, Atul., “Better: A Surgeon’s Notes on Performance,” 2007**