



***Status of Implementation of  
the DOE Corporate Operating  
Experience Program,***

***DOE O 210.2***

**Briefing to the EFCOG Feedback  
and Improvement Group**

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- Related OPEX Commitments to DNFSB 2004-1 and Status
- Lead Office OPEX Initiatives
- Formation of an Operating Experience Committee



## *DOE O 210.2 Status*



- DOE Order 210.2, DOE Corporate Operating Experience Program – Issued June 12, 2006
- Order required the Contractor Requirements Document (CRD) to be incorporated into affected contracts by December 12, 2006
- The CRD requires Contractors to incorporate the CRD into affected sub-contracts by June 12, 2007
- Four Regional Implementation Workshops were held in October and November 2006.



## *DOE O 210.2 - Contractor Implementation Status*



- **Contractor Status:** Contractor Requirements Document (CRD) has not been incorporated into all affected contracts by December 12, 2006 as required.
- Communications with DOE Contractors indicates they are all proceeding with implementation of the CRD requirements, although the CRD still has not been incorporated into all applicable contracts.
- Operating Experience Coordinators have been designated.
- HSS will contact Line Programs to urge CRD be incorporated ASAP.

**REQUIRED:** Complete listing of Contractors Indicating Status of Incorporation of the Contractor Requirements Document (CRD) into the Contracts



## *DOE O 210.2 - DOE Field Implementation Status*



- **Field Federal Status:** Federal Field Elements contacted have been preparing implementing procedures and Operating Experience Coordinators have been designated
  - NNSA Service Center Albuquerque and related Site Offices,
  - Richland Operations,
  - Office of River Protection,
  - Oak Ridge Operations Office,
  - Chicago Service Center and related Site Offices,
  - NNSA Nevada Office, etc.)

**REQUIRED:** Complete listing of listing of Field Federal Operating Experience Coordinators and Field Element Status of Procedures to Implement DOE O 210.2



## *DOE HQ Program Implementation Status*



### **Program Offices Status:**

- NNSA has established performance review process and quarterly briefings of the Administrator on ES&H issues. HSS is providing assistance. Also participate in DOE Corporate Safety Indicator process
- NA (Frank Russo's office) has met with HS-32 to discuss what actions they need to implement to meet the DOE O 210.2 requirements for Lessons Learned.
- NA-54 (Office of Project Management and System Support) Has established a Web page to share Lessons Learned on Project Management and Construction
- Incorporation of Safety into Design – Ted Wycka NNSA lead – discussions held on use of DOE LL Database



## *DOE HQ Program Implementation Status*



### **Program Offices**

- NNSA – Contacted HSS to incorporate additional Safeguards and Security Hazard categories to corporate LL Database. Encourage use by S&S community
- Environmental Management – has established a Lessons Learned process under Bob Goldsmith (Pramad Mallack lead)
- EM evaluates Site performance Monthly (Dae Chung's group – Bob Murray and Richard Stark). Also participate in DOE CSI Process.
- Incorporation of Safety into Design – Pramad Mallack EM lead
- Nuclear Energy and Science participate in DOE CSI Process

**REQUIRED:** Complete listing of Headquarters Operating Experience Coordinators and DOE O 210.2 Implementation Progress



## *Lead Office Implementation Status*



### ■ **Lead Office: Office of Health, Safety and Security**

- Office of Corporate Safety Performance is formalizing procedures that describe the processes used by the Office of Analysis in conducting the program.
- HSS Functions Responsibilities and Accountabilities (FRA) is being updated to Reflect Functions
- Web Resources Updated and Clearinghouse Databases Functioning
- Working in conjunction with the EFCOG ISM Working Group – ORPS, Electrical Safety Improvement Project, Feedback and Improvement, HPI
- Operating Experience Committee to be Chartered
- HSS Continues to Establish Contacts with External Agencies and

8/30/2007 Review of External Experience



## ***Linkage to DNFSB 2004-1***



### ***Three Operating Experience Program related Commitments***

- ***Commitment 17: Complete Department-wide formal review of Columbia and Davis-Besse events, and develop consolidated Department-wide Action Plan***

DOE Action Plan – issued July 2005 identified Ten DOE Lessons Learned, Five with 20 unique Actions

- ***Commitment 18: Develop a Comprehensive Operating Experience Program***

DOE O 210.2 fulfilled this commitment

- ***Commitment 19: Demonstrate Performance of DOE Operating Experience Program***

**Due by December 12, 2007.** DNFSB has continued interested in

8/30/2007 implementation progress.



## *DNFSB 2004-1 Commitment 19*



### *Demonstrate Performance of DOE Operating Experience Program*

- Due Date – December 12, 2007 (18 Months after Directive Issued)  
– DOE is Currently Projected to Meet this Date but Dependent on Implementation Progress
- **Delay in adding CRD to Contracts could impact meeting this Commitment Date**



## ***DNFSB 2004-1 Commitment 17***



### ***Complete Department-wide formal review of Columbia and Davis-Besse events, and develop consolidated Department-wide Action Plan***

#### **Progress Report: Commitment was Met, Actions Ongoing**

- Memorandum transmitting the first semi annual progress report on the implementation of actions for the first five lessons learned unique to the Action Plan – currently in routing through Under Secretaries for concurrence



## ***Columbia Davis-Besse OPEX Related Actions to be Completed***



### **Lesson Learned 1: Operating Experience.**

- **Action 1.c Memo to Establish DOE Operating Experience Committee** – currently routing for concurrence to establish the OEC as a subgroup of the ISM Champions Council
  
- **Action 1.e. Sponsor Periodic Safety Forums for Sharing Lessons Learned**
  - Workshop Scheduled for May 2007 at Richland, WA
  
  - Future Workshops will be hosted by the OEC and coincide with ISM Champions Council Meetings



## *Lead Office OPEX Initiatives*



- **DOE has Implemented Corporate Safety Indicator Process** - 4<sup>th</sup> Qtr 2006 currently under review

Monthly performance update matrix has been developed. HSS Management placed this action on hold.

- **BP Fire Lessons Learned**

HSS issued ES&H Advisory 2007-02, Safety Culture Weakness Cited in BP Accident – based on the findings and recommendations of the independent safety review of BP U.S. refineries.

HSS will also recommend convening a DOE wide review team to identify other DOE Lessons Learned from this report.

Memo to establish the DOE working group is in routing.

Case Study being prepared for Nuclear Executive Leadership Training



## *Lead Office OPEX Initiatives*



- **THORP Lessons Learned:** HSS is currently reviewing the United Kingdom Health and Safety Executive Report on the Investigation into the leak of Dissolver product liquor at the Thermal Oxide Reprocessing Plant (THORP) for Lessons Learned. We expect to update a previous ES&H Bulletin issued on this event.
  
- **External Operating Experience:** HSS has made formal contacts with Several External Agencies and Searches external OPEX sources
  - U.S. Chemical Safety and Hazards Investigation Board
  - Nuclear Regulatory Commission
  - National Aeronautics and Space Administration
  - Naval Safety Center.



## *Revision to ORPS Reporting Criteria*



- **Proposed Revision of DOE M 231.1-2, Occurrence Reporting Criteria:** HS-30 is reviewing and finalizing proposed changes to the occurrence reporting criteria. Will submit for REVCOM review
  - Separate clarified Criteria for Fires
  - Separate clarified Criteria for Explosions
  - New Criteria for Hazardous Electrical Energy Control, and Hazardous Energy Control (Other),
  - Technical Safety Requirements (TSR) - revised to remove criticality),
  - Criticality Safety revised to capture TSR violations,
  - Facility Operations revised,
  - Management Concerns revised and



## *Revision to ORPS Reporting Criteria*



➤ Near Misses. Revised Definition:

10 (3) 1-3† A near miss to an otherwise ORPS reportable event, where something physically happened that was unexpected or unintended and significant consequences were avoided only by chance because either:

- a) no controls or protective equipment were in place to prevent more severe consequences, or
- b) the controls or protective equipment were ineffective.

The significance category assigned to the near miss should be based on an evaluation of the potential risks and planned or anticipated corrective actions.

- The proposed changes are intended to correct known reporting problems and enhance the Corporate Safety Indicator Process



## *Corporate Safety Indicator (CSI) Process*



- Deputy Secretary has been formally briefed on Performance for two Quarters (2<sup>nd</sup> QTR 2006 and 3<sup>rd</sup> Qtr 2006)
- 4<sup>th</sup> Qtr 2006 Dashboards currently being vetted with Line Programs
- CSI Process Enhancements Being Implemented:
  - Revision of some Performance Metrics criteria
  - Use of a Four Color Scheme
  - Use of Headquarters Keyword Binning to evaluate Metrics
  - Inclusion of Relevant Additional Information
- Process has been formally documented and Memorandum in routing to institutionalize the process.



# Corporate Safety Indicator (CSI) Process



## Example DRAFT 4<sup>th</sup> Quarter CY 2006 Dashboard

NA Sites	Potential Offsets: Loss of Control of Radiological and Contaminated Material		Potential Offsets: Environmental or Public Impact (Non-Radiological)		Potential Inadvertent Criticality		Potential Serious Injuries		Potential Radiation or IH Exposure		Potential Fire or Explosion															
	Keywords	Reporting Criteria	Keywords	Reporting Criteria	Keywords	Reporting Criteria	Keywords	Reporting Criteria	Keywords	Reporting Criteria	Keywords	Reporting Criteria														
	01/01/2006	03/31/2006	01/01/2006	03/31/2006	01/01/2006	03/31/2006	01/01/2006	03/31/2006	01/01/2006	03/31/2006	01/01/2006	03/31/2006														
	04/2006	04/2006	04/2006	04/2006	04/2006	04/2006	04/2006	04/2006	04/2006	04/2006	04/2006	04/2006														
<b>NA Wide</b>	T	G	G	G	T	G	T	G	T	G	Y	B	T	T	R	T	Y	G	T	G	T	G	T	G	G	G
Kansas City Plant	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Lawrence Livermore National Laboratory	B	G	B	G	T	T	G	T	B	B	T	T	G	Y	G	B	T	T	B	B	B	B	B	B	B	B
Los Alamos National Laboratory	T	G	G	G	T	G	G	G	T	T	T	T	Y	T	G	G	R	T	T	T	B	B	B	B	B	B
Modena	B	B	B	B	B	B	B	B	B	B	T	G	T	G	B	B	B	B	B	B	B	B	B	B		
Office of Secure Transportation	B	B	B	B	B	B	B	B	B	B	G	G	G	G	B	B	B	B	B	B	B	B	B	B		
Panlex Plant	T	B	B	B	G	B	B	B	B	B	G	T	T	T	Y	B	B	B	B	B	B	B	B	B		
Sandia National Laboratories	G	B	G	B	T	G	T	T	B	B	T	T	T	T	Y	G	T	T	B	B	B	B	B	B		
Savannah River Site	G	B	G	B	B	B	B	B	B	B	B	B	G	G	G	G	G	G	B	B	B	B	B	B		
102 Site	T	G	Y	G	T	B	T	B	Y	B	Y	B	B	G	B	B	B	B	B	B	B	T	B	Y		
	G	G	G	G	G	B	B	B	Y	B	G	G	Y	B	B	B	B	B	B	B	B	B	B	B		



## 3<sup>rd</sup> Qtr 2006 Safety Summary



- The DOE Contractor's performance continues to be of high quality in nuclear and radiological operations.
- However, injuries continue to occur.
- Precursor events which identify a potential for a problem continue to receive attention.
- DOE injury rates are better than comparable industry.
- DOE Federal injury data is not of high quality for some sites. Attention is needed.

# An Evaluation of the National Nuclear Security Administration's Safety Performance



- NNSA-wide, there were four areas for discussion -
  - Injuries
  - Fire or Explosion
  - Radiation or IH Exposure
  - Offsite Loss of Control of Radiological and Contaminated Material

# An Evaluation of the National Nuclear Security Administration's Safety Performance



## Injuries

Serious Injuries	
ORPS Criteria	
Q1 2006	Q2 2006
Q3 2006	
NA-Wide	
Kansas City	
LLNL	
LANL	
Nevada	
Pantex	
SNL	
SRS	
OST	
Y-12	

### LLNL:

- An employee was ascending a fixed building ladder when he lost his footing and fell six feet resulting in multiple fractures to his wrist, shoulder and pelvis. Due to the extent of the injuries he was hospitalized for 26 days. A Type B Accident Investigation was conducted, and the Accident Investigation Board concluded that the systemic root cause of this accident was that LLNL senior management did not provide leadership to ensure the ISM processes were implemented rigorously.
- An off-site vehicular fatality involving a Laboratory employee occurred as the employee was returning to the laboratory from a business trip to San Jose, CA, in a government owned pickup truck.

### Sandia:

- Two subcontract employees were lifting a metal fence post when one of the employees stumbled and dropped the post, resulting in the amputation of his right index fingertip. The employee was taken to a local hospital, but the fingertip could not be re-attached.
- An employee while exiting a forklift, stepped on a rock and fractured his left foot.
- During troubleshooting operations of a Class IV laser, an employee reported seeing a bright flash of light. There were no injuries.
- Four occurrences of employees receiving electrical shocks during the 3<sup>rd</sup> Quarter.
- An employee drilled into a dock wall and unexpectedly penetrated a energized 208-volt conduit. There were no injuries.

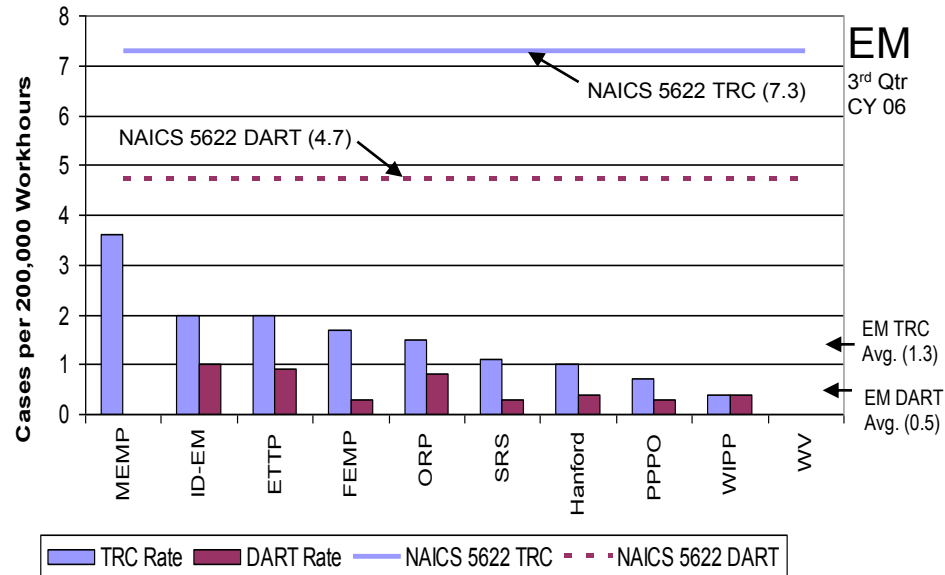
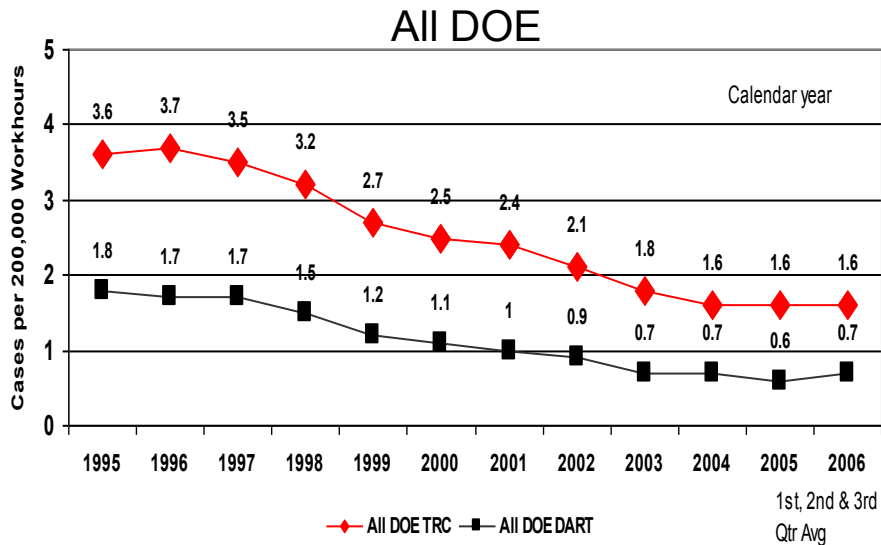
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SRS	
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Y-12	

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# Comparing TRC and DART Rates to Comparable Private Industries



## DOE Total Recordable Case (TRC) and Days Away/Restricted Time (DART) based on 3<sup>rd</sup> Q CY06



EM TRC and DART Rates for 2<sup>nd</sup> Qtr 2006 were: TRC 0.9, DART 0.4

The Department of Labor utilizes the North American Industry Classification System (NAICS) as a means to evaluate worker injury/illness rates among private industries. Since 2007, industries are categorized by NAICS Codes.

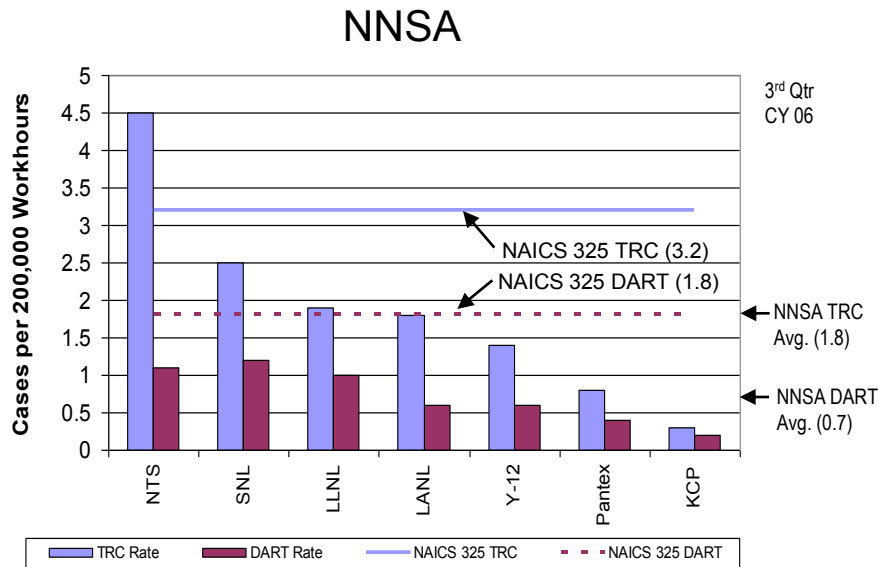
The most appropriate NAICS code that can be used to represent the type of work EM performs is #5622, Waste Treatment and Disposal.

The DOL rates for TRC and DART are for 2005.

# Comparing TRC and DART Rates to Comparable Private Industries



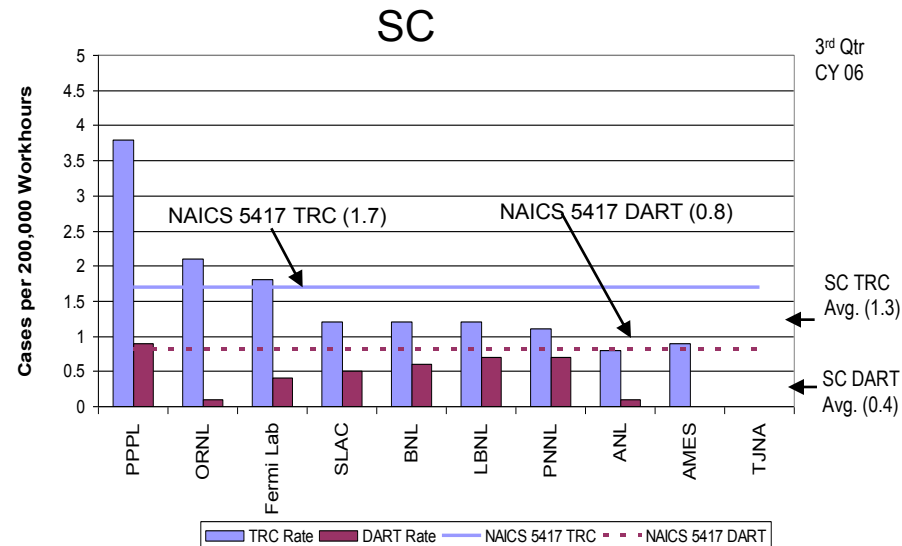
## DOE TRC and DART based on 3<sup>rd</sup> Qtr CY06



NNSA TRC and DART Rates for 2<sup>nd</sup> Qtr 2006 are as follows: TRC 2.1, DART 1.0

The most appropriate NAICS code that can be used to represent the type of work NNSA performs is #325, Chemical Manufacturing.

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SC TRC and DART Rates for 2<sup>nd</sup> Qtr 2006 were as follows: TRC 1.1, DART 0.3

The most appropriate NAICS code that can be used to represent the type of work SC performs is #5417, Scientific Research & Development Services.



## *Operating Experience Committee*



- HSS is Routing a Memo to Charter a DOE Operating Experience Committee as a Subgroup of the ISM Champions Council
  - Will meet Action 1.c of the Columbia-Davis Besse Action Plan
  - Will strengthen the feedback and improvement ISM core function
  - Increased Federal leadership and involvement in the review of operating experience
  - SELLS charter will be cancelled. SELLS Membership will become part of the OEC.
  - To realize the benefits of learning from external operating experience, the OEC will open its membership to other government agencies, contractors, and private sector companies and individuals



## *Operating Experience Committee*



- Standing DOE Operating Experience Committee Membership will include:
  - Lead Office Representative Designated by HS-1
  - All Designated DOE and Contractor Operating Experience Coordinators (per DOE O 210.2)
  - Director, Office of Analysis (HS-32), if not HS-1 the designated representative
  - DOE Program Offices ES&H managers or coordinators
  - DOE Field Element ES&H Managers
  - Chief of Nuclear Safety (CNS) and Chief of Defense Nuclear Safety (CDNS) or their designated representatives
  - EFCOG Representative
  - INPO Representative



## *Operating Experience Committee Charter*



**PURPOSE:** To enhance the safety conscience of the Department by:

- 1) Promoting the sharing and utilization of lessons learned information, gained from operating experiences, across the DOE complex, including the National Nuclear Security Administration (NNSA), as well as operating experience external to the DOE.
- 2) Enhancing the capabilities of DOE Programs, Field Elements and Contractors to review site specific operating experiences to better identify site specific root causes.
- 3) Enhancing the capabilities of the DOE Programs, Field Elements and Contractors to share insights that resulted in reportable occurrences.



## *Operating Experience Committee Charter*



**PURPOSE:** To enhance the safety conscience of the Department by:

- 4) Providing a corporate level review of DOE operating experiences to better identify generic and institutional root causes to deter recurrence of poor performance.
- 5) Facilitate the sharing of the operating experience review and lessons learned processes and associated programs beyond the DOE to other Government Agencies and the private sector, when requested, to support their efforts at continuous improvement in safety and general operations.

In addition, the OEC will make recommendations for continuous improvement to operating experience processes and programs and conducts business to facilitate implementation of those recommendations.