

# DOE Order 433.1 Working Group FY 08 and Outyears Activities

“Maintenance Management  
Program for DOE Nuclear  
Facilities”



# DOE O 433.1 Objective

- To define the safety management program required by 10 CFR 830.204(b)(5) for maintenance and the reliable performance of Structures, Systems and Components (SSCs) that are part of the ***safety basis*** required by 10 CFR 830.202.1 at ***hazard category 1, 2 and 3*** Department of Energy (DOE) nuclear facilities.

# DOE Nuclear Facility Hazard Categories

■ HC-1 Inventory = Offsite Consequences

■ HC-2 Inventory = Onsite Consequences

■ HC-3 Inventory = In Facility Consequences

■ \*\*\*Radiological = Localized Consequences

# Nuclear Facility Safety Basis

Documented Safety Analysis – As-Built Facility Capabilities & Limitations at HC-1, 2 & 3 Facilities:  
10 CFR 830 Subpart B

- Accident Prevention/Mitigation Controls

- \* Derived From the DSA
- \* Hardware
- \* Administrative Controls
- \* Human Actions

# Nuclear Facility Safety Basis

## ■ Technical Safety Requirements

- Numerical Limits and Related Actions Necessary for Safe Operation Derived From the DSA

\* Safety Limits

\* Set Points

\* Limiting Control Settings

\* Limiting Conditions for Operations

\* Surveillance & Testing Requirements

\* Administrative Controls

\* Bases

# Nuclear Facility Safety Basis

- Unreviewed Safety Question – Governs Changes to the Safety Basis
  - Facility Structure
  - Processes
  - Nuclear Material Inventory
  - Safety SSCs
  - Safety Management Programs
  - Drawings, Procedures & Admin Controls
  - Other Documentation

# Nuclear Facility Safety Basis

- Safety Management Programs
  - \*\*\*Integrated Safety Management System
  - Quality Assurance
  - Conduct of Operation & Personnel Training
  - Procedures & Emergency Preparedness
  - Fire Protection & Criticality Safety
  - Natural Phenomena Hazards
  - Radiation Protection & Waste Management
  - Configuration Management
  - Maintenance

# Nuclear Facility Safety Basis

## ■ Safety Evaluation Report

- DOE Approval of Contractor DSA
- License to Operate
- License Conditions



# 2006-7 Revision and Issuance of DOE O 433.1A

- Resolution of >300 Comments
- 17 Tabled Comment Resolutions
- 12/1/06 Memo Established O 433.1 Working Group (composed of DOE and Contractor personnel)
- 3 -10 CFR 851 Issues Handled by EFCOG
- Prioritized 14 Crosscutting Issues – 5 Subgroups
- Funding Proposals for Issue Resolutions Submitted to HS for Consideration

# Prioritization of Technical Issues

- ❑ Graded approach guidance for radiological facilities - Subgroup #1: 20K [**DNFSB COMMITMENT**]
- ❑ Aging management and degradation guidance for nuclear facilities and equipment - Subgroup #4: 20K [**DNFSB REC 2002-2**]
- ❑ Nuclear facility life-extension criteria - Subgroup #4: (see 2) [**DNFSB REC 2002-2**]
- ❑ Facility maintenance training program revision - Subgroup #6: 30K [**DNFSB/TQP**]
- ❑ Deferred maintenance impact on safety SSCs Subgroup #4: 2K [**DNFSB REC 2002-2**]
- ❑ Trending safety related maintenance costs against National Research Council's recommended maintenance expenditure of 2-4 percent of RPV/OECM O&M budget normalization criteria - Subgroup #3: 30K [**NRC/OMB/GSA**]
- ❑ Development of nuclear facility maintenance oversight CRADs - Subgroup #2: 20K [**DNFSB 2004-1**]
- ❑ MIP review criteria and treatment of non-nuclear portions of nuclear facilities in MIPs and CRADs - Subgroup #1 (see 1) [**DNFSB 2004-1**]
- ❑ Examples of the graded approach using risk-based analysis - Subgroup #1: (see 1)
- ❑ DOE Guide 433.1-1 definitions - MWG [**SUNSET REVIEW DIRECTIVES REVISION**]
- ❑ DOE Guide 433.1-1 examples (i.e., commercial nuclear) - MWG [**SUNSET REVIEW DIRECTIVES REVISION**]
- ❑ DOE Guide 433.1-1 redundancies - MWG [**SUNSET REVIEW DIRECTIVES REVISION**]
- ❑ Rick Kendall comments - MWG [**SUNSET REVIEW DIRECTIVES REVISION**]
- ❑ Working Group Charter, schedule, travel requirements, and contractor support cost - MWG [**12/06 Podonsky Memo**]

# DOE O 433.1 Main Working Group

- Review Future Order Revisions
- Approve Issue Resolutions
- Make DOE policy recommendations to HS
- Revise DOE Guide 433.1-1



# DOE O 433.1 Main Working Group Membership

- ❑ Main Working Group Membership
- ❑ Co-Chair DOE: Charles Ramsey, HS-21
- ❑ Co-Chair EFCOG: Lynnwood Dukes, SNL
- ❑ DOE Intern Assistant: Brian Kauffman, NA-173
- ❑ DOE: Sam Johnson, NA-173
- ❑ DOE: Pete O'Konski, MA-50
- ❑ DOE: Larry Berg, EM-3/CNS
- ❑ DOE: Ken Guay, YSO
- ❑ DOE: Max Rosenquist, CHSO
- ❑ DOE: Don Barnes, NE-32
- ❑ DOE: David Michlewicz, SC-31.2
- ❑ NR: Darren Morton
- ❑ EFCOG: Fran Lemieux, NTS
- ❑ EFCOG: Lynn Eberhardt, ORNL
- ❑ EFCOG: Laura Valdez, Pantex
- ❑ EFCOG: Reed Sharp, PNNL
- ❑ EFCOG: Tim Flake, SRS
- ❑ EFCOG: Steve Little, Y-12
- ❑ EFCOG: Jacky Angell, LLNL
- ❑ EFCOG: Don Shoemaker, LANL
- ❑ EFCOG: Rick McCollum, Hanford
- ❑ EFCOG Assistant Vacant



# DOE O 433.1 Subgroup #1

## Handout Available

-Technical Issues: Treatment of Rad Facilities; MIP Format, Content & Review Criteria; Graded Approach Guidance

- Issue Resolution Drivers: 10 CFR 830; DNFSB; REC 2002-2; Previous Exemption Requests; Previous MIP Reviews; EFCOG MWG Concerns; DOE O 433.1A 4.c

# DOE O 433.1 Subgroup #1

## Membership



DOE Co-Chair	Sam Johnson, NA-173
EFCOG Co-Chair	Dwaine Coppinger, Y-12
DOE	Brian Kauffman, NA-173
DOE	Jim Hutton, EM-62
ORNL:	Kerry Miller
PNNL:	Reed Sharp
Hanford:	Rick McCollum
SNL:	Ed Williams
Nevada Test Site:	Fran Lemieux
SRS	Jackie Wilkinson

# DOE O 433.1 Subgroup #2

## Handout Available

- Technical Issues: Nuclear Maintenance CRAD

- Issue Resolution Drivers: DNFSB 2004-1; Internal/External Assessments Cost Effectiveness; 10 CFR 830, Subpart A

# DOE O 433.1 Subgroup #2 Membership

- DOE Co-Chair Larry Berg, EM-3/CNS
- EFCOG Co-Chair Tim Flake
- DOE Ken Guay, YSO
- LANL: Don Shoemaker
- Y12: Beth Green
- Pantex: Cathie Harris
- LLNL: Jacky Angell
- Hanford: Rick McCollum
- Nevada Test Site: Joseph Hains

# DOE O 433.1 Subgroup #3

## ■ Handout Available

- Technical Issues: O&M Cost Normalization Criteria; Sustainment Models & Analysis of Safety Related Maintenance Costs vs 2-4% RPV

- Issue Resolution Drivers: National Research Council, OMB; GSA; DOE O 433.1A 5d(3)

# DOE O 433.1 Subgroup #3 Membership



■ DOE Co-Chair	Peter O'Konski, MA-50
■ EFCOG Co-Chair	Lynnwood Dukes, SNL
■ DOE	Max Rosenquist, CHSO
■ LLNL:	Terry Kinner
■ LBNL:	Ken Fletcher
■ Kansas City:	Mike Ginder
■ PNNL:	Reed Sharp
■ LANL:	Don Shoemaker
■ SRS:	Jackie Wilkinson
■ Pantex:	Laura Valdez
■ SNL	Ed Williams

# DOE O 433.1 Subgroup #4

## Handout Available

- Technical Issues: Aging Management, Technical Obsolescence & Degradation Guidance; Nuclear Facility Life Extension Criteria; Examination of Deferred Maintenance Impact on Safety SSCs

- Issue Resolution Drivers: DNFSB Rec 2002-2; 10 CFR 830; DOE O 433.1A 4.c(2)

# DOE O 433.1 Subgroup #4 Membership



DOE Co-Chair	Sam Johnson, NA-173
EFCOG Co-Chair	Don Shoemaker, LANL
DOE	Brian Kauffman, NA-173
DOE	Ken Guay, YSO
LBNL:	Ken Fletcher
Y12:	David Peebles
Hanford:	Rick McCollum
SNL:	Lynnwood Dukes
SRS	Jackie Wilkinson
ORNL	Craig Green

# DOE O 433.1 Subgroup #6

## ■ Handout Available

- Technical Issues: Facilities Maintenance Management Training Course #PMCE06 Revision for DOE and Contractors: Development of Instructor Guide; Prequalifying online training module; Senior Managers Course; Middle Managers, Program/Budget Analyst, etc Course; Facility Rep/Maintenance Rep Course

- Issue Resolution Drivers: 10 CFR 830, Subpart A; DNFSB/TQP

# DOE O 433.1 Subgroup #6 Membership

- DOE Co-Chair: Donald Barnes, NE-32
- EFCOG Co-Chair: Kerry Miller, ORNL
- DOE: Nestor Folta, MA-50
- DOE: Max Rosenquist, CHSO
- DOE: Cheri Dent, HC-22
- SRS: Tim Flake
- Y-12: Eva Irwin