



Edwin I. Hatch Nuclear Plant  
NRC Region II Status Meeting  
August 15, 2007

Dennis Madison – Hatch Vice President  
Steve Douglas – Plant Manager

Southern Nuclear Operating Company



# Agenda



- Introduction
- Hatch Project Overview
  - Plant Performance
  - Site Vice President Reorganization
- Topical Updates
- Major Projects
  - Major Projects Underway
  - Recently Completed Projects
- Open Discussion

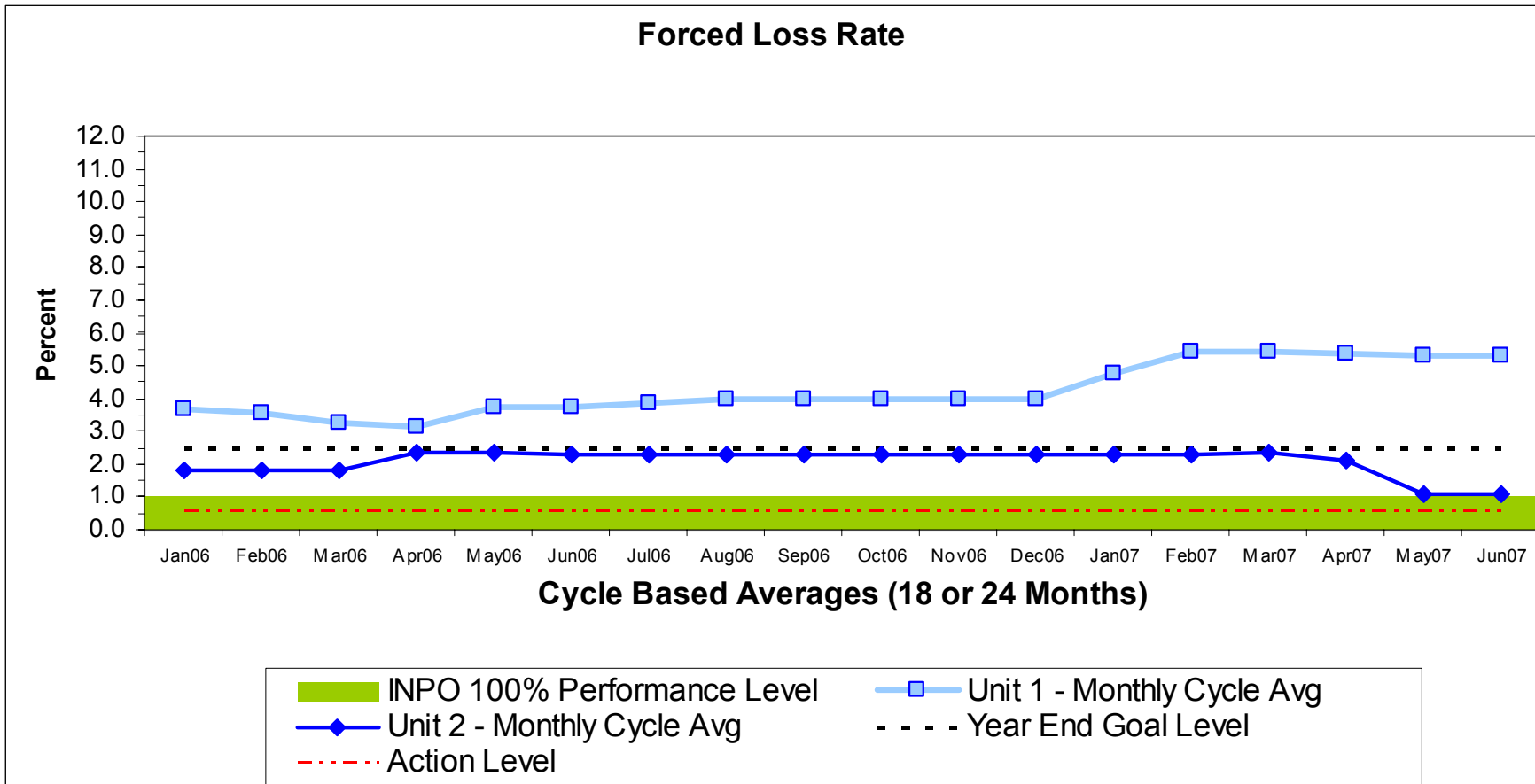
# Plant Performance

# August 7, 2007 Unit 2 Reactor Trip

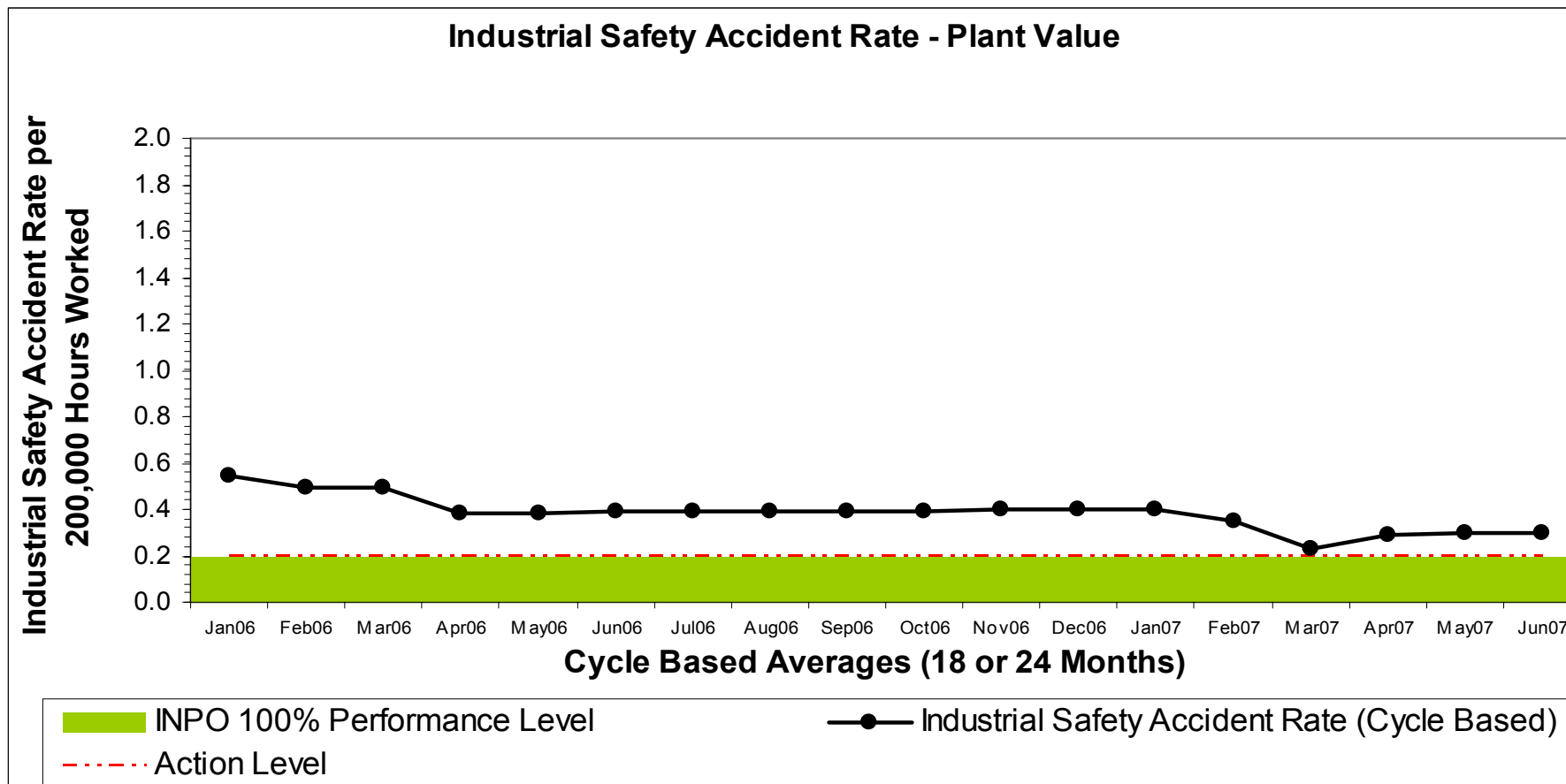


- I&C technician inadvertently tripped an overcurrent relay on the normal incoming feeder breaker for "D" 4160 VAC bus during calibration
- Loss of this bus resulted in a loss of 2 condensate pumps and 2 booster pumps, as well as a recirc runback
- Plant scrambled on low reactor water level
- All systems responded as designed; no actuation of HPCI or RCIC
- Bus re-energized about 1.5 minutes from alternate source
- Breakdown in risk assessment process

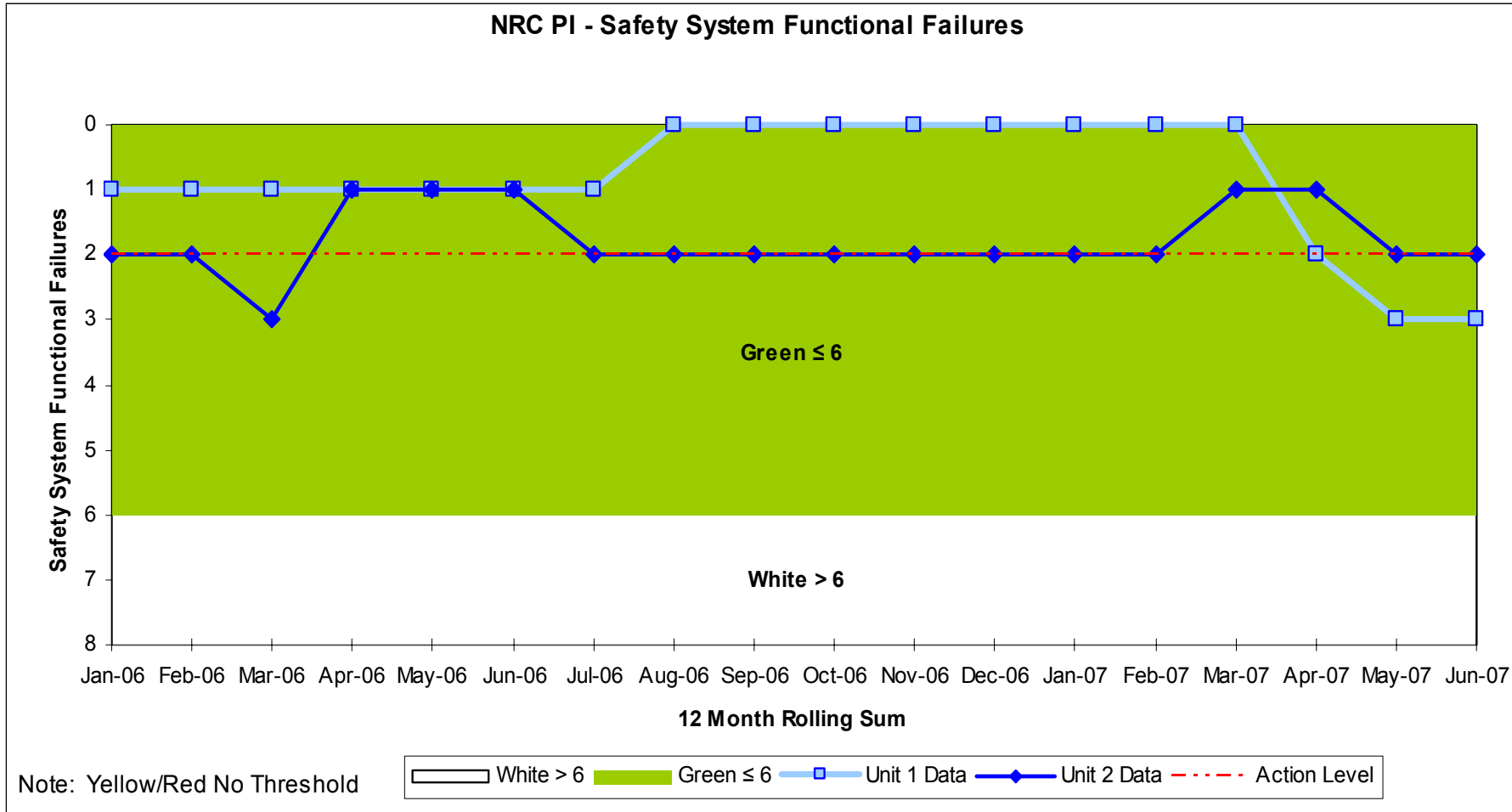
# Forced Loss Rate - Hatch



# Industrial Safety - Hatch



# NRC Performance Indicators - Hatch



# Unit 1 HPCI

SOUTHERN  
COMPANY





# Unit 1 RCIC

SOUTHERN  
COMPANY



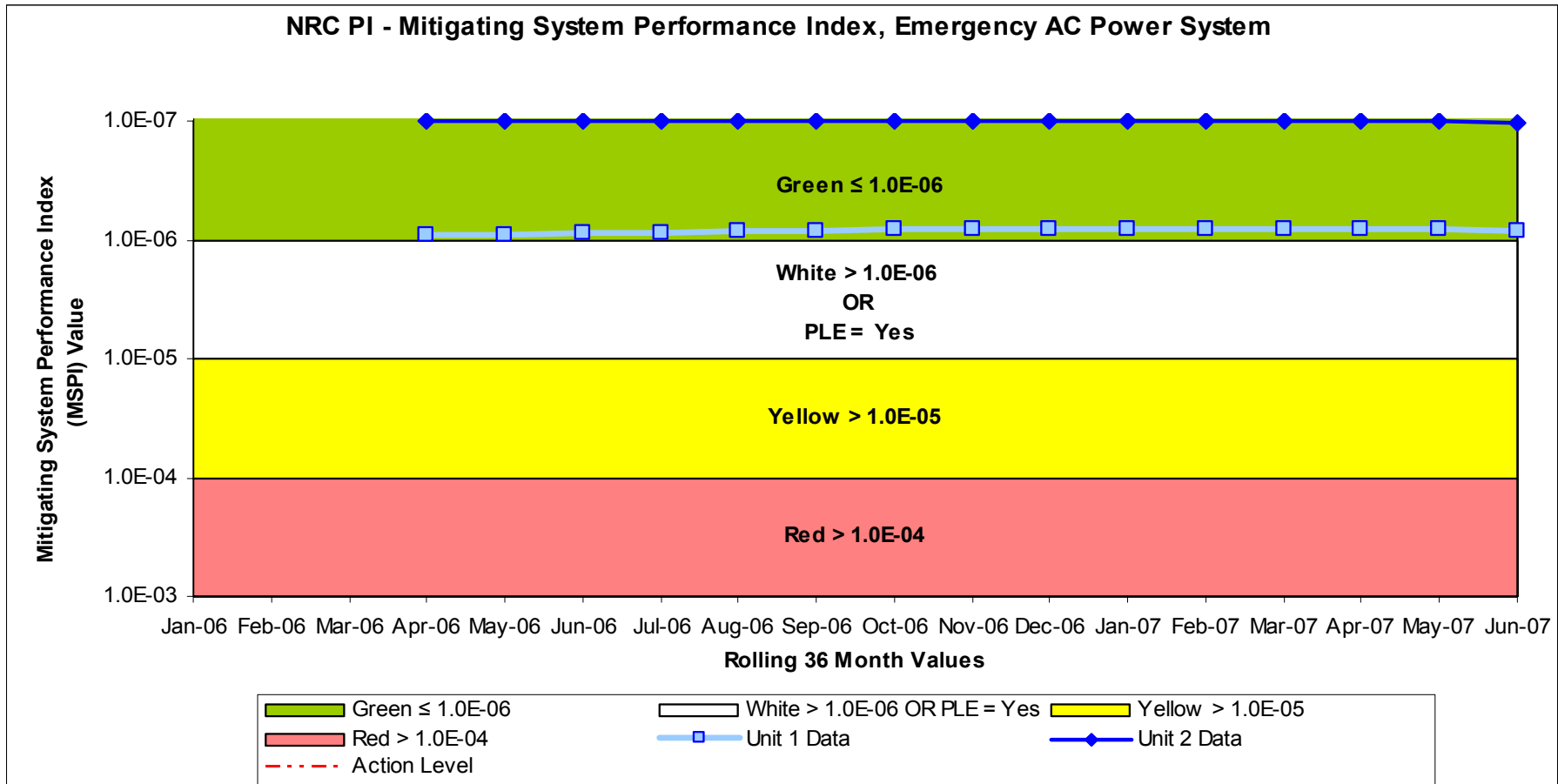
# Unit 2 HPCI



# Unit 2 RCIC



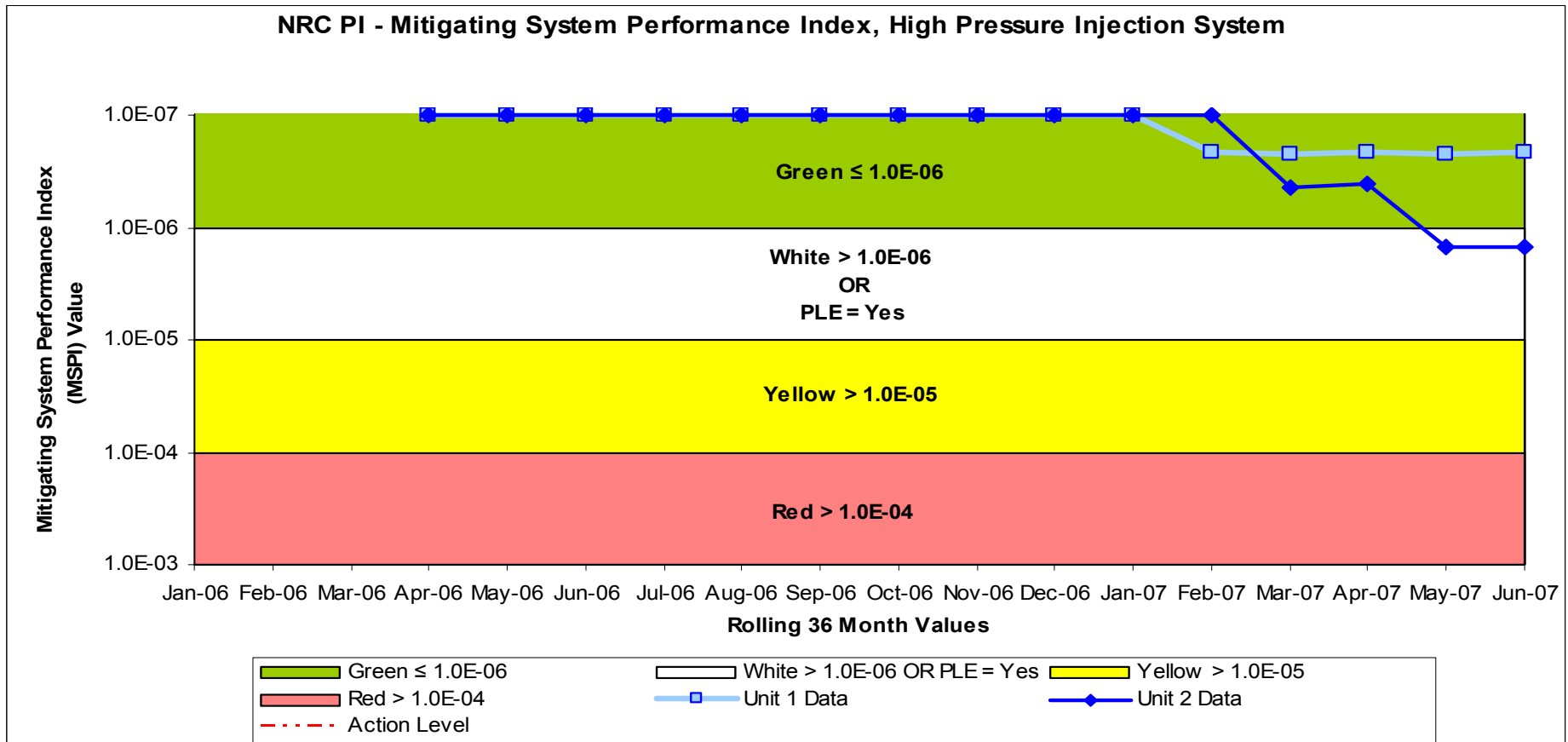
# NRC Performance Indicators - Hatch



# Emergency Diesel Generator

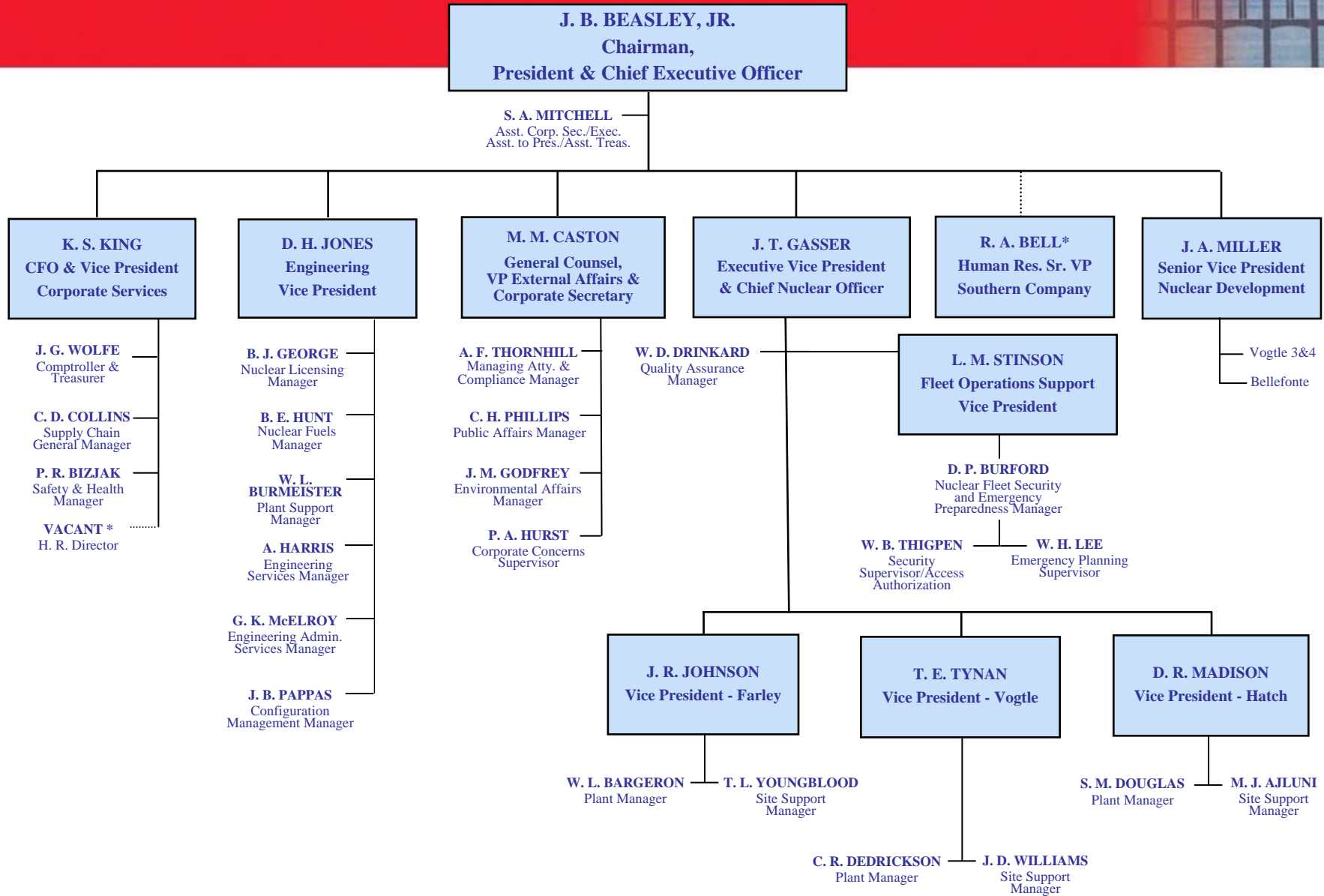


# NRC Performance Indicators - Hatch



# Site Vice President Reorganization

# Site Vice President Reorganization – January 2007

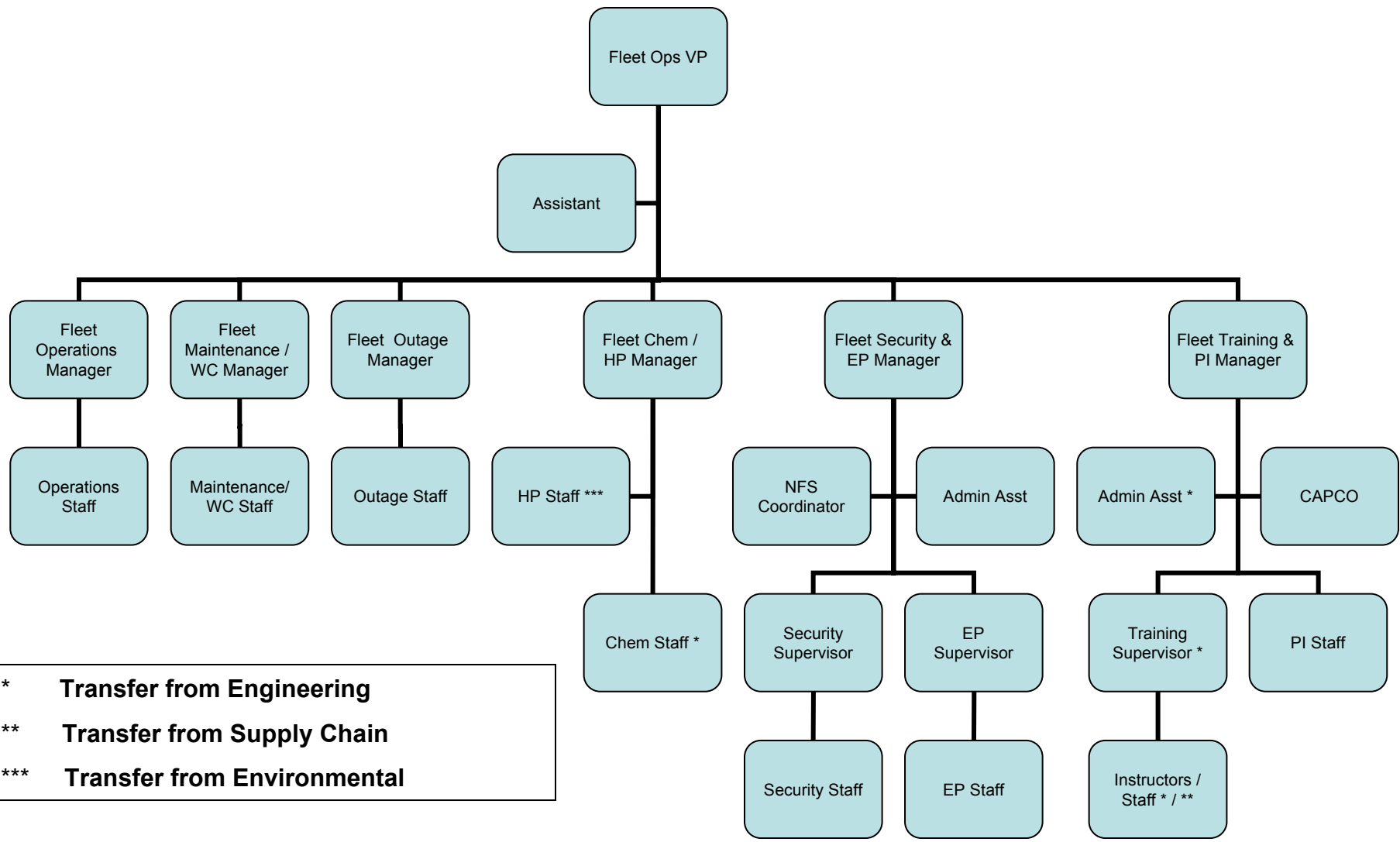


0407

\*SCS Employee



# Fleet Operations Support (proposed)

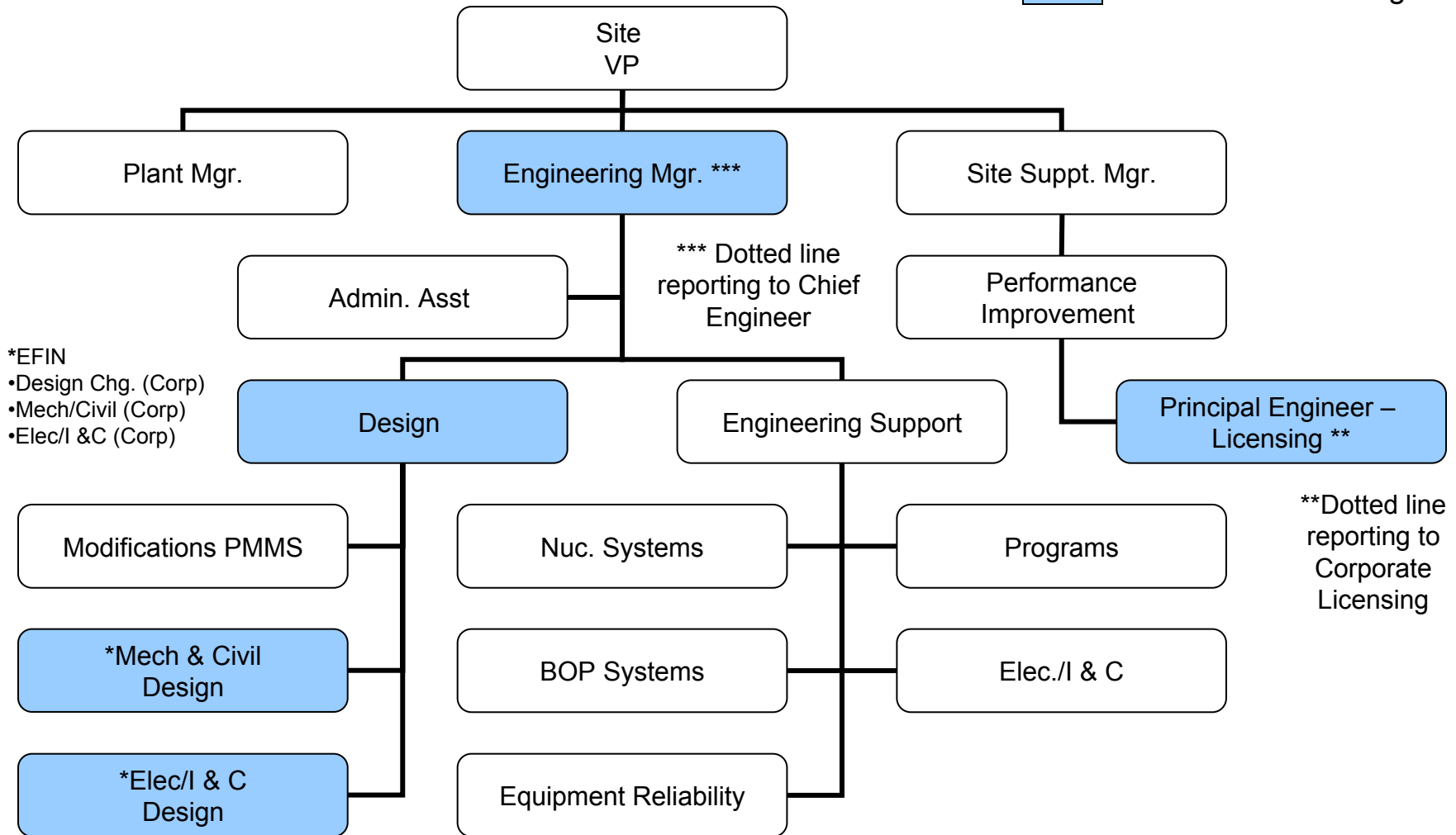


\* Transfer from Engineering  
 \*\* Transfer from Supply Chain  
 \*\*\* Transfer from Environmental

# Site Engineering (proposed)



New or Modified Org.



# Topical Updates

# SNM Update



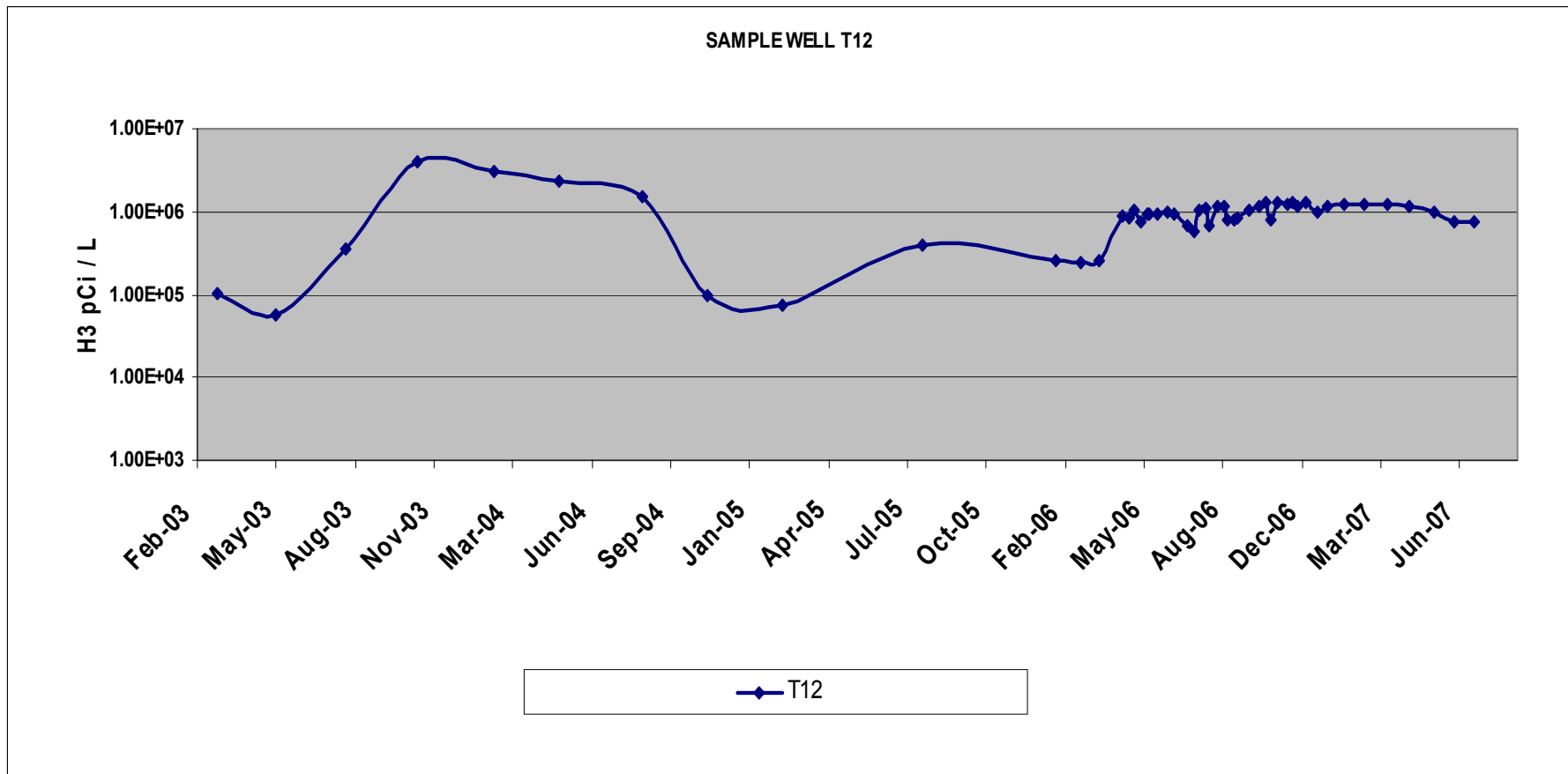
- Procedure revisions implemented to upgrade SNM accountability practices for in-core detectors following conclusion of SNM retrieval activities last year
- Initial results indicated that 4 in-core detectors were not at the location specified
- All 4 detectors were subsequently located and accounted for
- Fuel pool legacy cleanup scheduled 3<sup>rd</sup>/4<sup>th</sup> quarter 2007

# Tritium Sampling

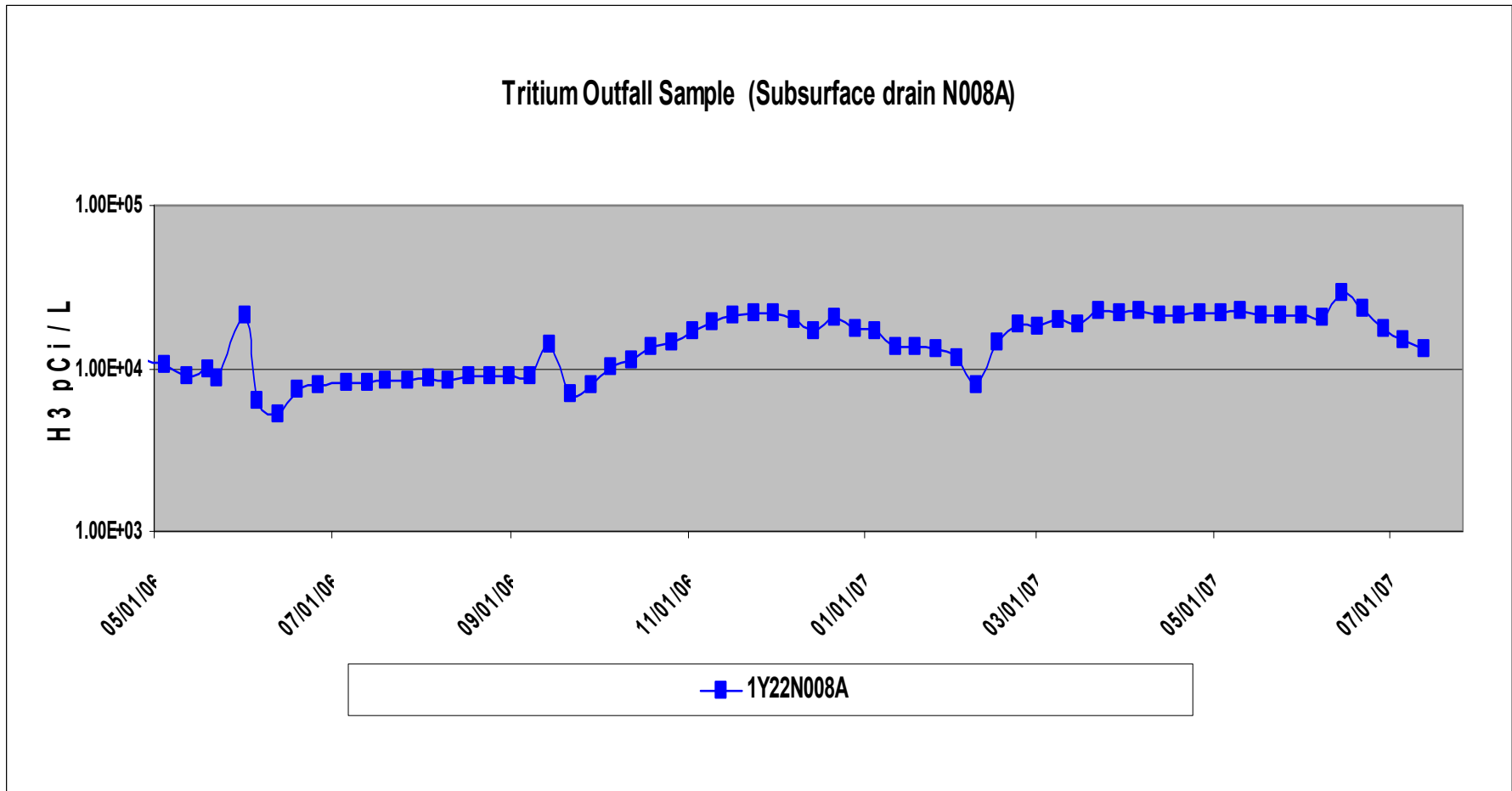


- Update on tritium graphs (T12, NW10, N008A)
- Mactec Status
  - Phase 2 Report (2007)
  - Complete hydrology study (determine need)
- Unit 2 CST pipe Replacement Update

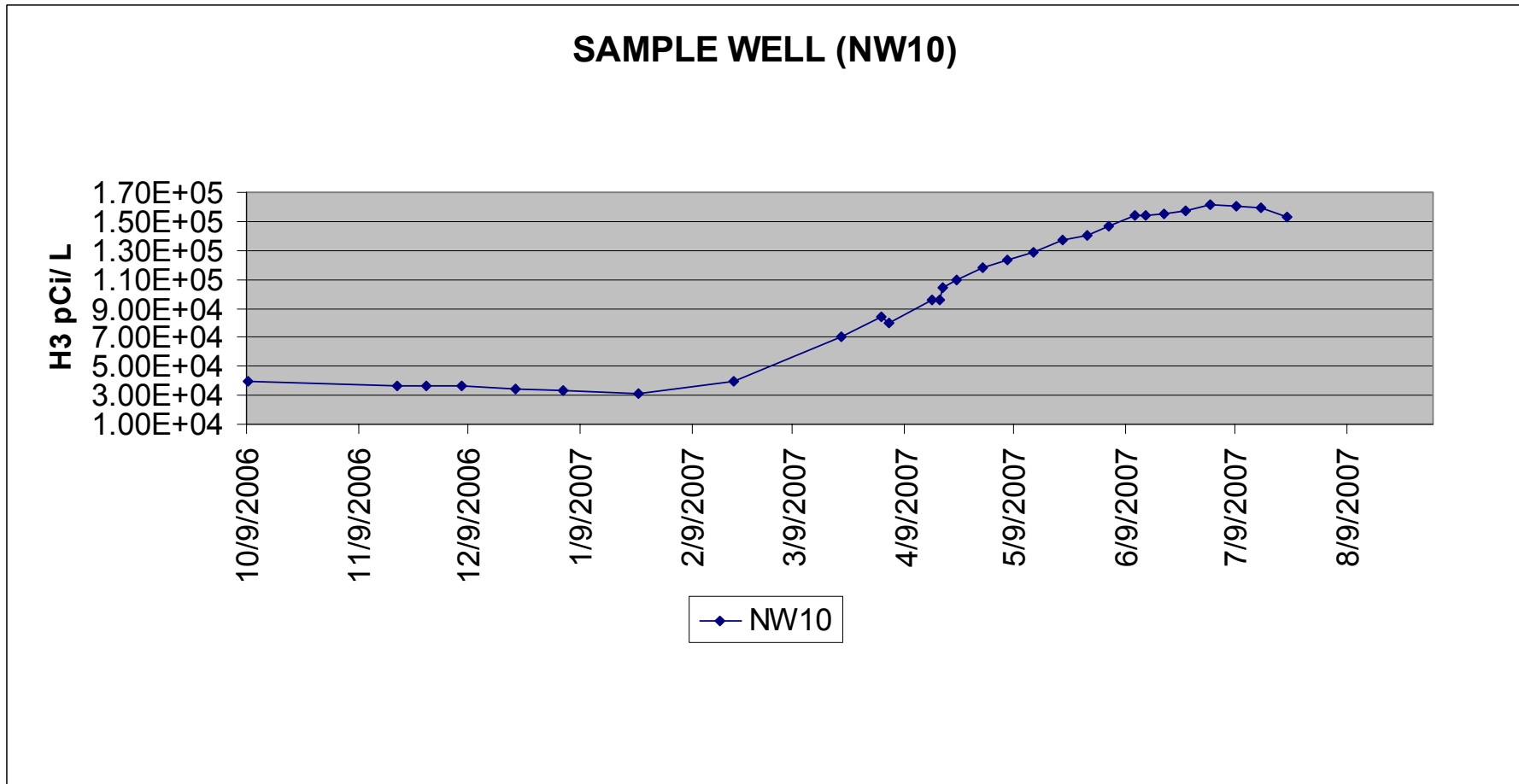
# Tritium Sampling



# Tritium Sampling



# Tritium Sampling





# 1A RHR Pump Vibration



- Vibration observed on 1A RHR pump only during two pump flow in Division 1 (Pumps A & C)
- Occurs only in loop flow range of 4000 – 6000 gpm
- Cause of vibration has not been determined
- Conceptual design being developed to increase natural frequency of the loop

# Alternative Source Term



- Full scope AST analysis submitted to NRC 8/29/2006
- Addresses control room inleakage concerns of Generic Letter 2003-01
- Control room inleakage testing showed good results, well within interim licensing basis limits
- Approval of AST submittal required by 5/31/2010
- Significant interdisciplinary review at NRR is in progress
- Planned and potential modifications to support AST are scheduled to complete by spring 2010

# Staffing



- Pipeline Replenishment
  - Strategies for hiring entry level workers and engineers
  - License classes
    - 8 candidates to finish this December
    - 10 SRO candidates started June 2007
    - 16 candidates to start March 2008
    - 16 candidates to start March 2009
    - Average class size of 16
  - All other initial programs up and running (Chemistry, HP, Maintenance, etc.)

# Steam Chase Grating Analyses



- Tool boxes were staged over grated vent openings between Reactor Building steam pipe chase and torus room
- Hinged vent covers were strapped to vent grating on Unit 2
- Tool boxes were removed from grating on both units and strap was removed on Unit 2

# Tool Box



# Steam Chase Grating Analyses



- Unit 1 limiting parameter is differential pressure on wall between torus room and ECCS pump rooms
- Unit 1 analysis demonstrated that as-found vent paths provided adequate opening to meet differential pressure limits
- Unit 2 limiting parameter is differential pressure on wall between torus room and reactor building ground level floor
- Unit 2 analysis is at the preliminary results stage (not checked)
- Preliminary results indicate that correcting for mass flow conservatisms will result in differential pressures within the analyzed limits

# TSC HVAC Availability



- Event represents good incorporation of corrective actions from 2005 TSC white finding
- EP and work planning personnel discussed work activity during planning phase
- Work was placed on hold when first phase took longer than expected so issue could be discussed with NRC Region II personnel
- Region II provided timely feedback regarding SNC's planned course of action

# Planned Major Projects



# Unit 1 Main Transformer Replacement



- Unit 1 Main transformer replacement (2008)
  - Asset management/Life Cycle management
  - Replaces leased Alabama Power transformer with permanent transformer
  - Spare transformer delivered early 2008 for infant mortality issue
  - New transformer good to end of plant life

# Shroud Tie Rod Upper Restraints



- Unit 1 Shroud tie rod upper restraint replacement (2008)
- Unit 2 Shroud tie rod upper restraint replacement (2009)
  - Equipment reliability/safety
  - Replaces upper supports with larger components to remove susceptibility to IGSCC
  - Restores to BWRVIP criteria for repaired shrouds
  - Eliminates need to re-inspect shroud horizontal welds
  - Licensing submittal for Unit 1 has been issued

# Condenser Bypass Sparger Replacement



- Unit 1 and Unit 2 Condenser bypass sparger replacements (Unit 1 in 2008. Unit 2 in 2009)
  - Replaces degraded bypass spargers
  - Spargers currently limit Operations use of bypass (i.e., length of time in Hot shutdown)

# Adjustable Speed Drives



- Adjustable speed drives (Unit 1 in 2010 and Unit 2 in 2011)
  - Asset management/Life Cycle management
  - Replaces the Recirculation M-G sets with Variable Frequency drives
  - Eliminates Recirculation flow step changes from fluid coupling positioner
  - Does not eliminate step changes from Bi-stable flow
  - Equipment reliability

# Feedwater Sparger End Pins



- Feedwater sparger end pin replacement (Unit 1 in 2008, no Unit 2 installation)
- Remote tooling will allow the installation of the Feedwater Sparger End Pins simultaneously with other work activities on the refueling floor

# Completed Major Projects

# Mark VI Turbine Controls



- Unit 1 and Unit 2 Mark VI Turbine Controls
  - Completed on both units
  - Asset management/Life Cycle management
  - Installs triple redundant digital controls
  - Replaces obsolete Mark I control system

# Unit 2 Generator Exciter Controls



- Unit 2 Generator Exciter Controls
  - Completed on Unit 2 – Unit 1 to complete in 2008)
  - Asset management/Life Cycle management
  - Replaces obsolete exciter with EX 2100 alterex



# Condenser Bellows Replacement



- Unit 1 and Unit 2 Condenser Bellows Replacement
  - Completed on both units
  - Equipment reliability – Industry OE
  - Replaced bellows that were beyond design life

# Unit 1 Drywell Cooler Replacement



- Unit 1 Drywell Cooler Replacement
  - Equipment reliability
  - 2005 shutdown due to drywell leakage and containment integrity issue (leak from drywell into cooler)
  - Replaced all 16 Drywell cooler coils

# Open Discussion

