



# Perry Nuclear Power Plant

July 11, 2006

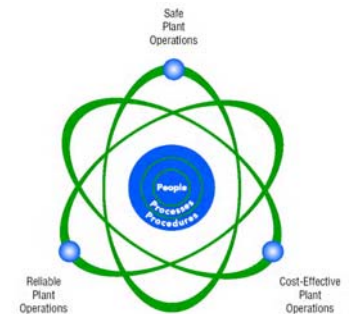
Public Meeting

95003 Follow Up Inspections

# Perry Nuclear Power Plant

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Bill Pearce  
*Site Vice President*

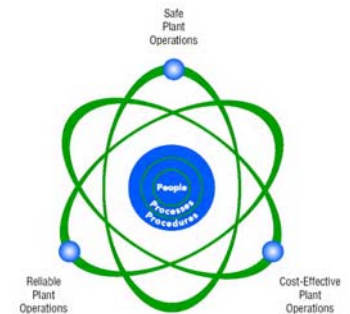


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# Introduction

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- Emergency Preparedness – Fred Cayia
- Corrective Action Program – Fred Cayia
- Human Performance – Fred vonAhn
- Performance Improvement Initiative (PII) – Greg Halnon
- Closing Remarks

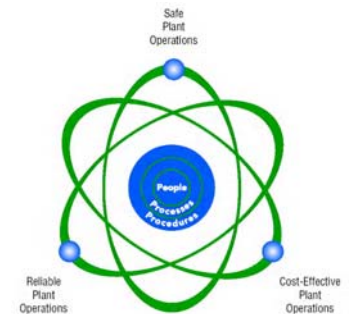


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# Emergency Preparedness

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Fred Cayia  
*Director,*  
*Site Performance Improvement*

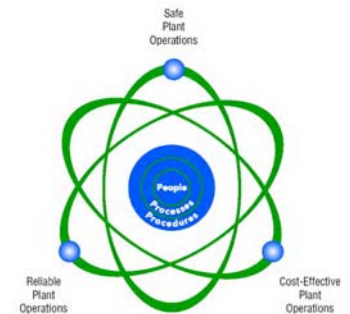


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# Emergency Preparedness

## ■ Completed Actions

- Completed Confirmatory Action Letter commitments
- Increased depth of emergency preparedness responders
- Conducted four successful off-hour unannounced drills
- Received satisfactory inspection result

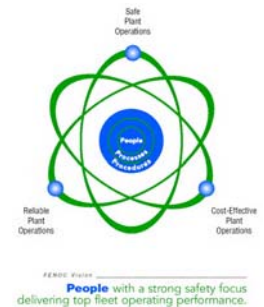


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# Emergency Preparedness

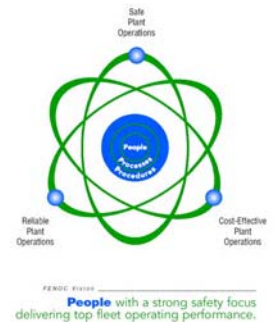
## ■ Key Actions for Sustainability

- Annual assessment to verify adequate emergency response organization staffing
- Benchmarking to identify continuous improvement areas
- Focused self-assessment by Fleet Emergency Response on site Emergency Response Organization key areas
- Additional off-hour drills conducted biennially, exceeding the Emergency Plan requirement



# Corrective Action Program (CAP)

- One remaining Confirmatory Action Letter item
  - Perform a self-assessment to evaluate overall CAP health (September 2006)
- Completed site-wide CAP expectation training
  - CAP fundamentals and importance of CAP
  - Understanding of the CAP process
    - Learning Map focused on individual's CAP roles and responsibilities
- Conducted snapshot self-assessment in May 2006
  - Focused on Performance Improvement Initiative (PII) CAP Implementation Effectiveness





# Corrective Action Program

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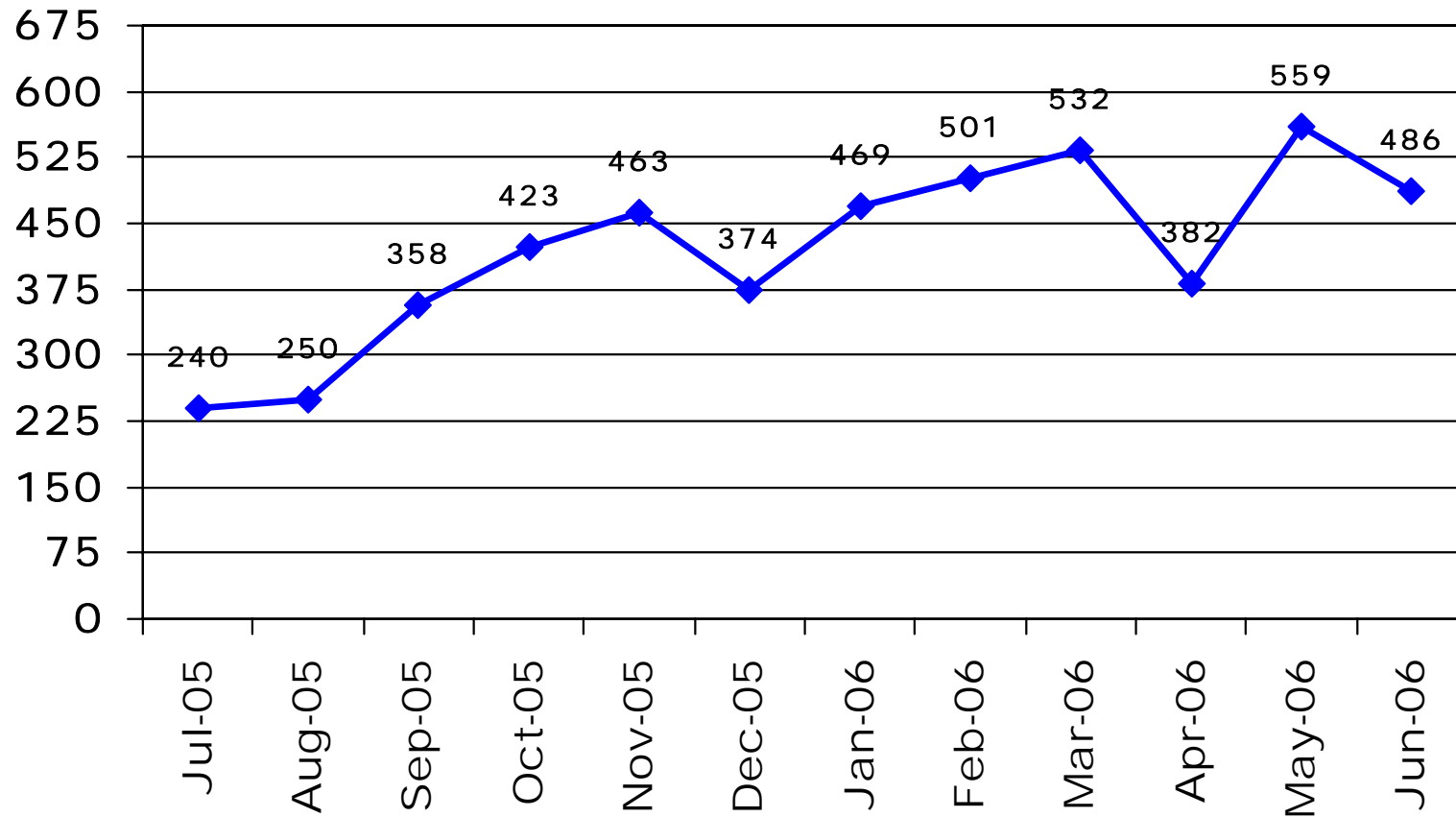
- Snapshot self-assessment lessons
  - CAP PII closure package actions achieving desired results
  - Worker and supervisor awareness of achieving successful CAP expectation confirmed
  - Key Performance Indicators related to critical behaviors improving
  - Quality and attention to detail improved, though some closure package issues exist
    - Initiated revalidation of closure packages
    - Performed an apparent cause evaluation
  - Work remains, but Perry on track for PII action closure and achieving sustainable CAP performance improvement



# Corrective Action Program

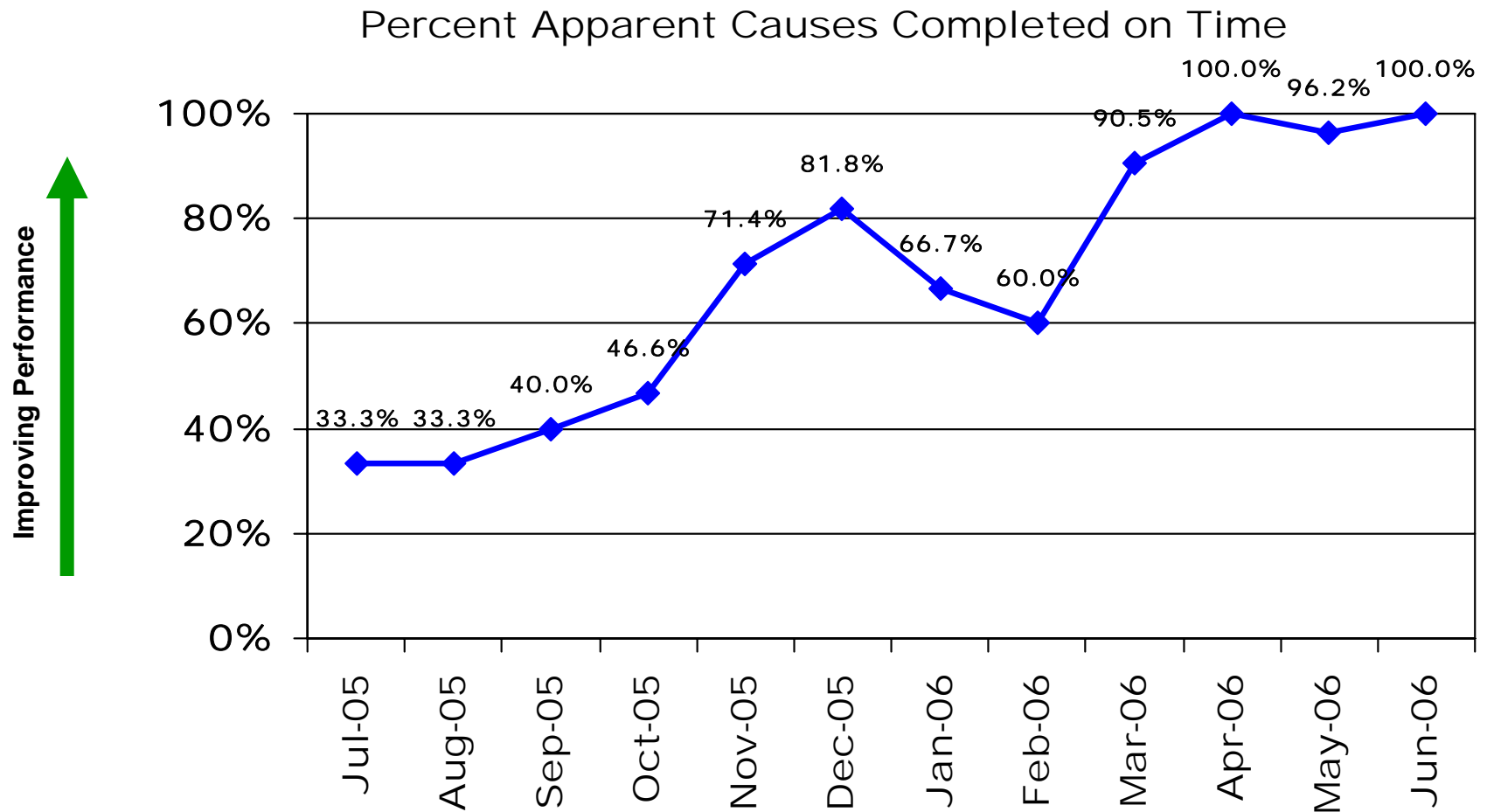
## *Improved Self-Identification of Issues*

Adverse to Quality CRs Initiated Per Month



# Corrective Action Program

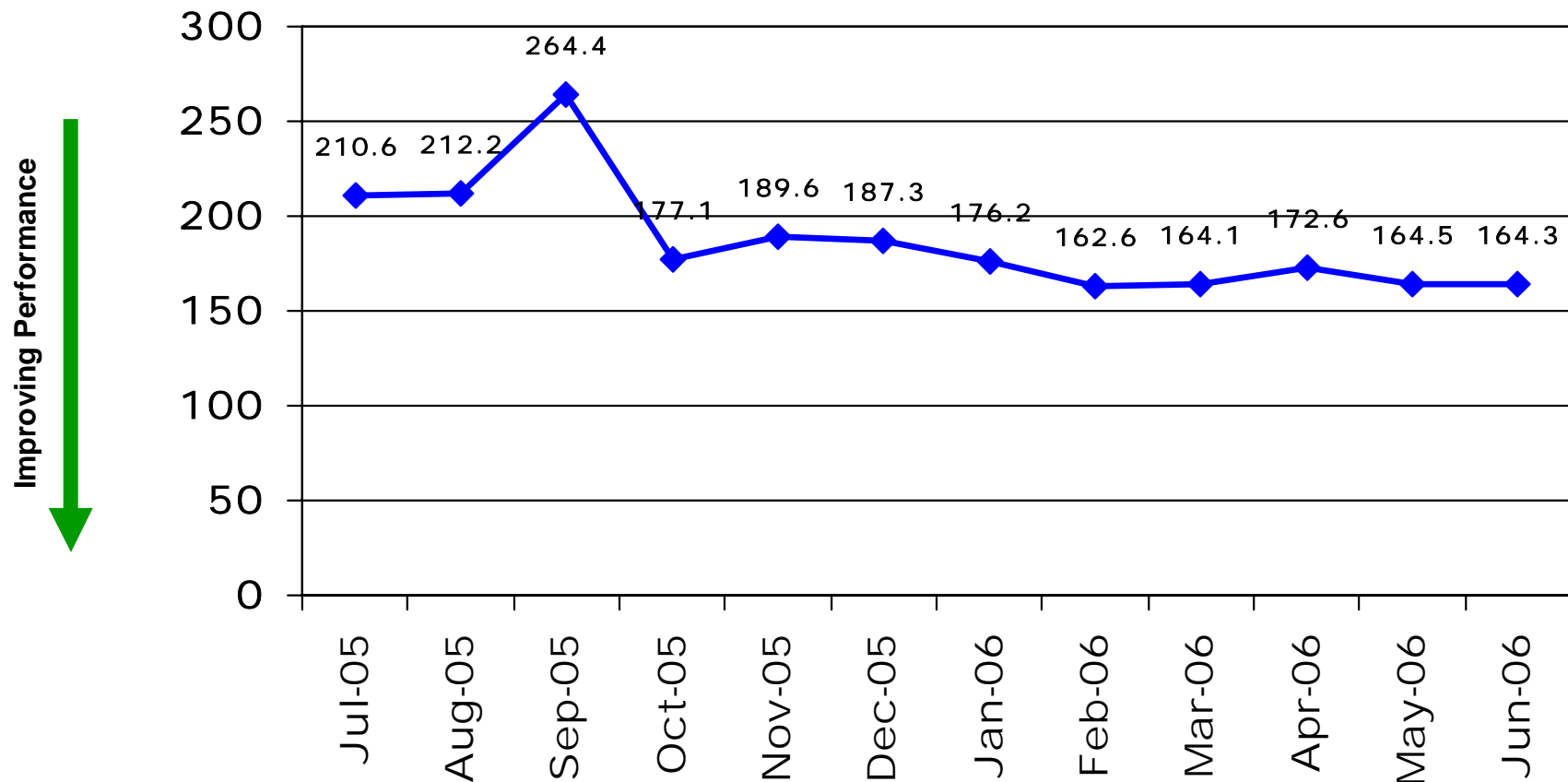
## *Improved Timeliness of Investigations*



# Corrective Action Program

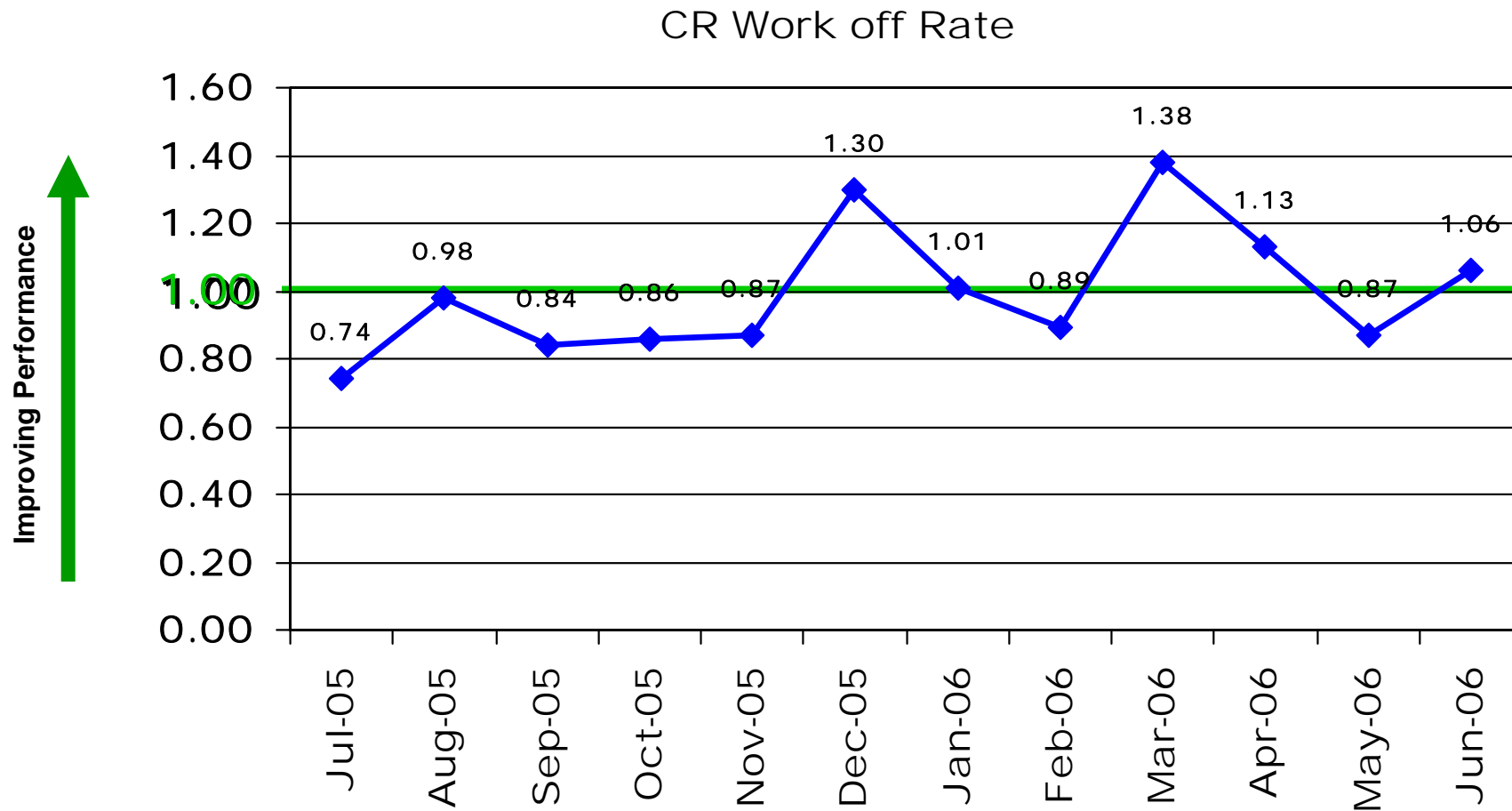
*Improved Ability to Work Today's Issues Today*

Median Age of Condition Reports



# Corrective Action Program

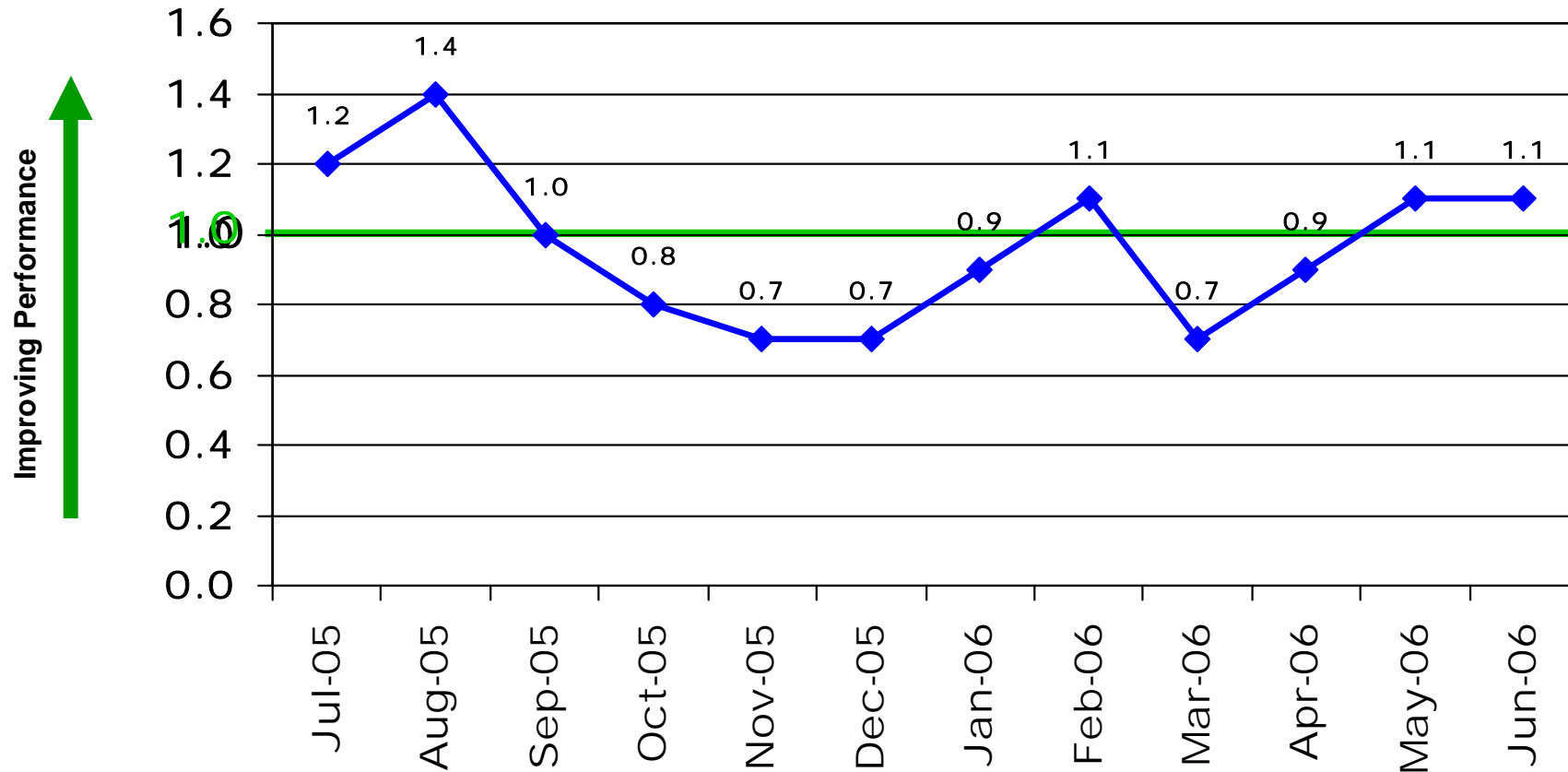
## *Improved Completion Rate of Condition Reports*



# Corrective Action Program

## *Sustained Completion Rate of Corrective Actions*

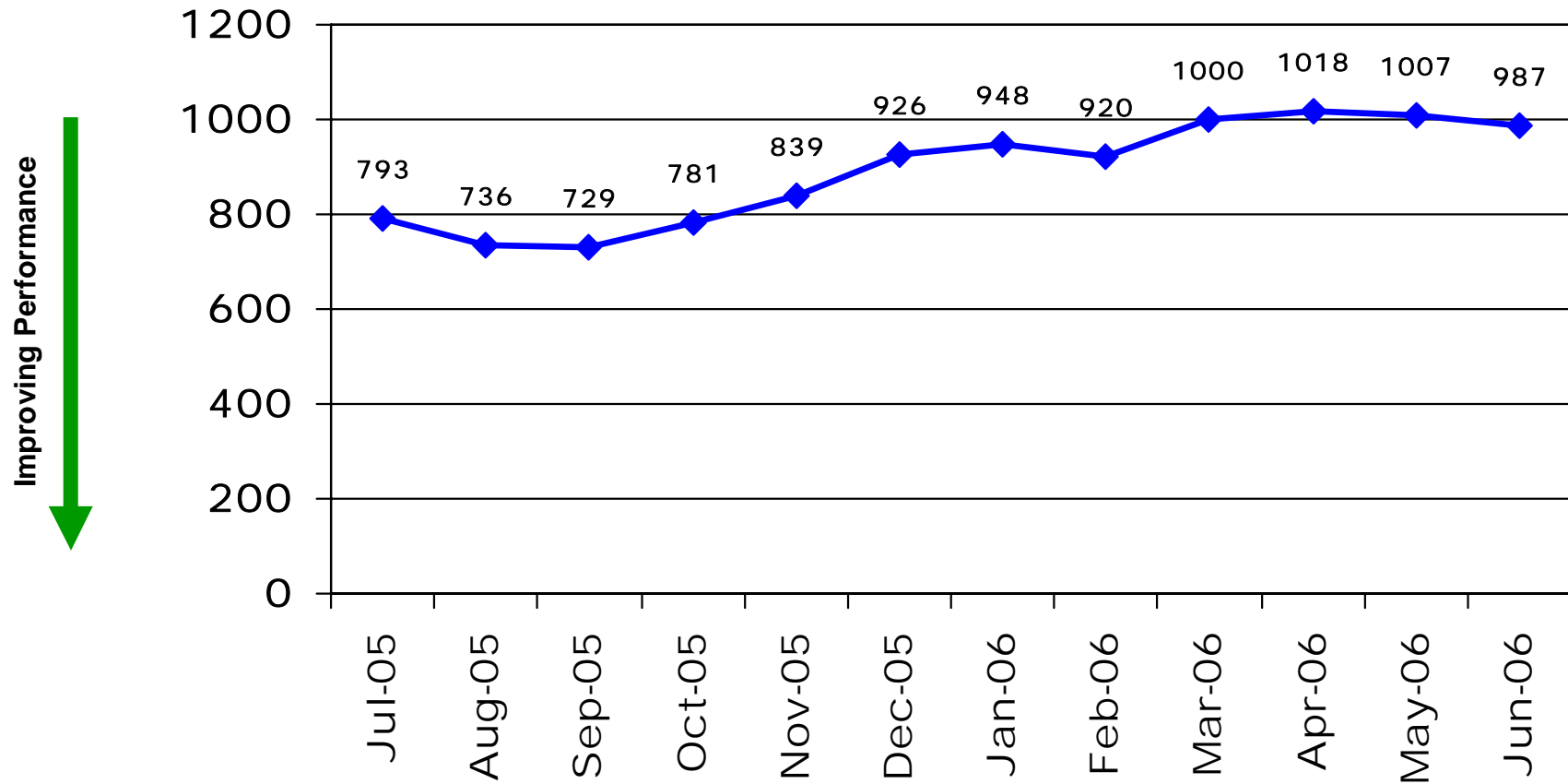
Corrective Action Work off Rate



# Corrective Action Program

## *Important Issues in Backlog Understood*

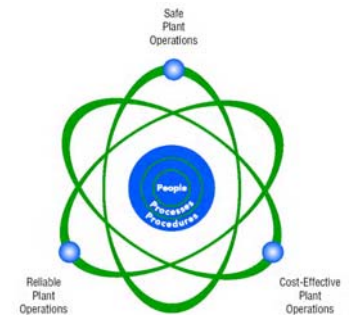
Total Open Non-Outage Related Corrective Actions



# Human Performance

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Fred vonAhn  
*Director of Site Operation*

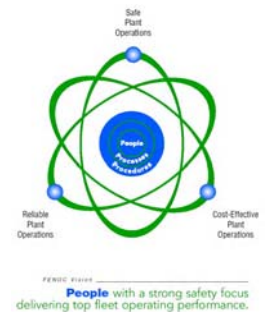


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# Human Performance

- Key actions implemented
  - Confirmatory Action Letter commitments completed
  - Roles and responsibilities defined and communicated
  - Training meetings focused on Human Performance improvements
  - Communications plan developed and implemented
  - Human Performance training provided
  - Interim effectiveness review (self-assessment) conducted
- Satisfactory inspection results for implementation of Human Performance



# Human Performance

## *Improved Performance at the Individual Level*

- Improved field procedure use and adherence



# Human Performance

*Standards Established and Reinforced Through Training*

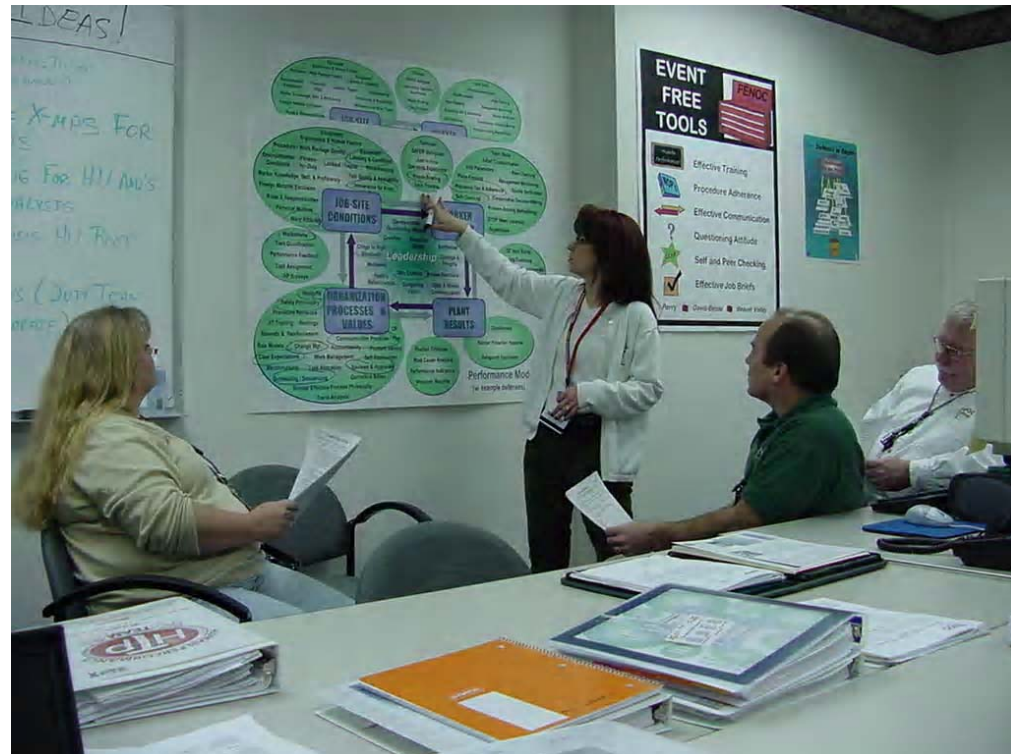
- Maintenance Flow Loop simulator procedure training



# Human Performance

## *Improved Engagement of Line Employees*

- Site Human Performance Advocate Involvement





# Human Performance

## *Anchored in Training*

### ■ Task Performance Evaluation(TPE) Card

Core Work Practices	
<b>FAILURE criteria</b>	<p><u>ANY</u> deviation from shaded components.</p> <p>Inconsistent application of other practices such that the trainee is unable to demonstrate competency.</p>

General Area	
Applicability	Components
<b>INDUSTRIAL SAFETY</b>	
At all times	<input type="checkbox"/> Addressed known hazards <input type="checkbox"/> Proper job specific PPE used
<b>RADIOLOGICAL WORK PRACTICES</b>	
When working in any posted RRA	<input type="checkbox"/> Followed RWP; e.g., proper dosimetry, etc. <input type="checkbox"/> Respected Radiological boundaries and postings <input type="checkbox"/> No spread of contamination due to poor work practices.
<b>PROCEDURE USE</b>	
When a procedure is required to perform the task	<input type="checkbox"/> Used current revision <input type="checkbox"/> Used as written <input type="checkbox"/> Used place keeping (step-by-step procedures only) Note: Procedure problem: stop eval, place equipment in safe condition (notify supervisor)
<b>FME CONTROLS</b>	
Around open pools, systems, components, cabinets or in Containment	<input type="checkbox"/> Loose articles secured <input type="checkbox"/> Tool/materials tied off <input type="checkbox"/> Material accountability maintained (Zones 1,2,3)

General Area	
Applicability	Components
<b>JOB BRIEF</b>	
At all times	<input type="checkbox"/> Used reverse brief (TPE only) <input type="checkbox"/> Critical steps and error likely situations identified <input type="checkbox"/> Human Performance barriers selected <input type="checkbox"/> Termination criteria identified
<b>HOUSEKEEPING</b>	
At all times	<input type="checkbox"/> Cleaned areas affected by evaluation promptly <input type="checkbox"/> Properly disposed of all waste material
<b>FIRE PROTECTION</b>	
At all times	<input type="checkbox"/> Did not compromise fire barriers <input type="checkbox"/> Adhered to welding, burning, or grinding permits in use <input type="checkbox"/> Transient combustible materials controlled
<b>EFFECTIVE COMMUNICATION</b>	
When oral communications involve actions or data transmittal	<input type="checkbox"/> Used 3-part communication <input type="checkbox"/> Was clear and concise <input type="checkbox"/> Used phonetic alphabet <input type="checkbox"/> Used noun names of equipment and components
<b>TAGGING PRACTICES</b>	
When a clearance is required	<input type="checkbox"/> Clearance walk down completed <input type="checkbox"/> Clearance sign-on completed
<b>CHEMICAL CONTROL</b>	
When chemicals are used	<input type="checkbox"/> Chemical containers properly labeled <input type="checkbox"/> Chemicals properly used and/or returned
<b>CONTROL ROOM PROTOCOL</b>	
When Control Room entry is required	<input type="checkbox"/> Obtained permission for entry (non-ops personnel) <input type="checkbox"/> Obtained permission to enter control panels

# Human Performance

## *Anchored in Day-to-Day Activities*

### ■ Pre-Job Briefs and Post-Job Critiques

**PRE – JOB BRIEFING**  
Low Impact  
Every Day, Every Shift, Every Task – Error Free

Evolution \_\_\_\_\_ Unit \_\_\_\_\_  
WO# \_\_\_\_\_ Clearance \_\_\_\_\_  
Asset \_\_\_\_\_

Discuss The Following Which Apply To The Evolution  
Ensure Proper Task Preview is Performed Prior to Pre-Job Brief.

☐ Evolution Overview, State Evolution, Sequence of steps.  
☐ Discuss P&L's, Tech Spec limits, Required Actions & Owners.  
☐ PSA, Maintenance Role and Protected Trains.  
☐ Discuss individual roles in evolution.  
☐ Review expected operating parameters. (SOI 5.0 Sect.)  
☐ Discuss Critical Steps in the evolution.  
☐ Verify the current rev., Check for missing/order of pages.  
☐ Get peer checks on proper procedure section for evolution.  
☐ How are we maintaining Configuration Control?  
☐ Discuss Clearance Order, need to sign on/off, Energy checks  
☐ Clearance Hang ☐ Clearance Removal  
☐ Discuss Scaffolding needs and necessary qualifications.  
☐ Discuss Safety hazards (personnel & equipment).  
☐ Discuss ALARA / Radiological conditions / RP support.  
☐ Discuss any required Permits: RWP, Chemical, Fire  
☐ Impairments, Confined Space, and Clearance.  
☐ Discuss any FME concerns.  
☐ Discuss communication methods.  
☐ Discuss Interfaces with other Departments, Radiation  
☐ Protection, Chemistry, Security, Maintenance, I&C, QC.  
☐ Notify Reactor Operator of any expected alarms.  
☐ Discuss error-likely situations / What could go wrong?  
 \_\_\_\_\_

☐ Verify appropriate procedure steps are "N/A'd" and discuss  
☐ Discuss conditional procedure steps (if, then, if desired)  
☐ Discuss lessons learned from previous evolutions.  
☐ Internal/External OE (Industry Wide)  
☐ Obtain Appropriate Tools, Keys, and M&TE  
☐ Set parameters or boundaries for stopping evolution.  
 \_\_\_\_\_


☐ Human Performance Tools and Techniques to be used:  
 Training, Procedure Adherence, Communications,  
 Questioning Attitude, Self & Peer Checking (Flagging,  
 Robust Barriers & Verification practices) & Job Briefs.

☐ Task performer (and peer checker if applicable) performs  
 a preview of the task at the jobsite to match site conditions  
 to that discussed at the brief. NOTE: Error likely situations  
 should be identified and defenses verified prior to starting the task.

Comments: \_\_\_\_\_  
 \_\_\_\_\_

Performed by \_\_\_\_\_ Date \_\_\_\_\_  
 (Print) Over

**POST – JOB CRITIQUE**



1. Were the procedures complete and accurate? ☐ Yes ☐ No  
 Problems: \_\_\_\_\_  
 \_\_\_\_\_

2. Was any equipment mislabeled? ☐ Yes ☐ No  
 \_\_\_\_\_

3. Were there any unexpected results? ☐ Yes ☐ No  
 \_\_\_\_\_

4. Was communication adequate? ☐ Yes ☐ No  
 \_\_\_\_\_

5. Are there lessons learned? ☐ Yes ☐ No  
 (Include ways it could have been done better or ways it was done better that could prevent an error)  
 \_\_\_\_\_

6. Was a Gold Nugget Card documented? ☐ Yes ☐ No

☐ Amount of dose received \_\_\_\_\_ mrem.  
☐ Forward to Operations Post Job Critique Coordinator.

Flip card over. ↓

# Human Performance

## *Anchored in Day-to-Day Activities*

### ■ Maintenance Excellence Cards

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MAINTENANCE EXCELLENCE  
FENOC-0039 Rev. 00

Work Order # \_\_\_\_\_ Unit \_\_\_\_\_  
System \_\_\_\_\_ Asset \_\_\_\_\_

TURNOVER CHECKLIST ☐ N/A

☐ DOCUMENTATION UPDATE:  
☐ Required signatures and initials  
☐ WIP Log  
☐ CR Written

☐ CLEARANCE SIGNED OFF

☐ REVIEW WORK ORDER

☐ REVIEW INITIAL CONDITIONS

☐ REVIEW WORK IN PROGRESS LOG

☐ REVIEW COMPLETED PROCEDURE STEPS

☐ REVIEW COMPLETED DATA SHEETS

☐ REVIEW CALCULATIONS

☐ JUMPER / LIFTED LEADS? ☐ Yes ☐ N/A

☐ FME COVERS INSTALLED? ☐ Yes ☐ N/A

☐ TOOLS / M&TE STAGED: Locations?

☐ REVIEW PRECAUTIONS/BARRIERS/CONTINGENCIES

☐ REVIEW PERSONAL SAFETY/HUMAN PERFORMANCE TOOLS:  
S.T.A.R., SELF/PEER CHECKING, CLEAR COMMUNICATIONS

POST-JOB BRIEF

☐ WAS THE TASK COMPLETED SUCCESSFULLY?

☐ REVIEW WORK ORDER

☐ REVIEW PROCEDURE STEPS (Required Signatures and Initials)

☐ REVIEW DATA SHEETS

☐ REVIEW CALCULATIONS

☐ HOUSEKEEPING (Job site checked/tools & equipment returned)

☐ CLEARANCE SIGNED OFF

DOCUMENTATION COMPLETE

☐ WIP Log ☐ Test equipment recorded

☐ MMD (Data entered into computer) ☐ FME Checklist

☐ Data Sheet forwarded ☐ M&TE Recorded and

☐ CR Written ☐ Returned

☐ Maintenance Work Arounds ☐ Deficiency Tag /

☐ Out of Specification Conditions ☐ Work Request written

☐ Procedure Enhancement

☐ PARTS RECLAIMED

☐ LESSONS LEARNED (Morning Meeting, Continuous Training, etc.)

NAME \_\_\_\_\_ Date \_\_\_\_\_

FENOC  
MAINTENANCE EXCELLENCE  
FENOC-0039 Rev. 00

Work Order # \_\_\_\_\_ Unit \_\_\_\_\_  
System \_\_\_\_\_ Asset \_\_\_\_\_

PRE-JOB / REVERSE BRIEF

☐ SCOPE: Review & Discuss Procedures, Work Orders & Tech. Specs.

☐ CONDUCT S.A.F.E.R. DIALOGUE:

☐ Summarize critical steps & job hazards

☐ Anticipate errors or mistakes for each critical step

☐ Forsee a probable or worst case consequence if an error were to occur during a critical step

☐ Evaluate defense barriers or contingencies to prevent & catch errors & to mitigate consequences for errors at each critical step

☐ Review previous experience relevant to the specific task

☐ HUMAN PERFORM. TOOLS AND TECHNIQUES TO BE USED:  
Training, Procedure Adherence, Communications, Questioning Attitude, (OOPS - Outside of procedures, parameters or processes) Self & Peer Checking (Flagging, Robust Barriers & Verification practices) & Job Briefs.

☐ JOB HAZARDS & PRECAUTIONS

☐ PHYSICAL ACTIVITIES: Lifting, Pushing/Pulling, Eyes on Hands, Eyes on Path, Line of Fire, Rushing

☐ PERSONNEL PROTECTIVE EQUIPMENT

☐ CLEARANCE: ☐ Verified Safe ☐ Signed On ☐ Energy Check

☐ PROTECTED TRAIN: ☐ Protected ☐ OK to Proceed

☐ OUT OF SERVICE TIME: ☐ PRA ☐ Tech. Spec. ☐ Maint. Rule

☐ EXPECTED PLANT RESPONSE: Alarms/Defects/Trips/Interlocks

☐ IDENTIFY PLANT TRIP SENSITIVE EQUIPMENT/DISCUSS PRECAUTIONS TO BE TAKEN

☐ INTERFACES: Ops RadPro Chemistry Security QC Other

☐ RAD WORK PRACTICES: RWP# \_\_\_\_\_  
(Have I received a brief from Radiation Protection? Am I on the right Radiation Work Permit (RWP)? Where is my dosimetry? Where should it be? What could be contaminated? How can I stop the spread of contamination?)

☐ CHEMICAL CONTROL: (MSDS) Flammable Storage & Fluid Control

☐ HOUSEKEEPING & FME

☐ DOCUMENTATION CHECKED:

☐ Walkdown Performed/Reviewed ☐ Drawings/VTI Controlled

☐ Risk Review Performed/Level ☐ Calculations/Data Transfer

☐ Work Order Signed On ☐ Fire Watch Log

☐ Procedure Approved for Use

☐ PERMITS: ☐ Hot Work ☐ Confined Space ☐ SWP ☐ N/A

☐ PARTS: ☐ Staged ☐ Proper Quality Class ☐ N/A

☐ TOOLS / EQUIPMENT / M&TE: (If special, note in WIP Log)

☐ QUAL AREA \_\_\_\_\_ Qualified? YES NO

☐ ROLES AND RESPONSIBILITIES

☐ INDUSTRY EVENTS & LESSON LEARNED

☐ EXPECTED RESULT & CONTINGENCY

What are the critical steps? What barriers/defenses are in place?

What could go wrong? When do we stop?

Error precursors?

NAME \_\_\_\_\_ Date \_\_\_\_\_

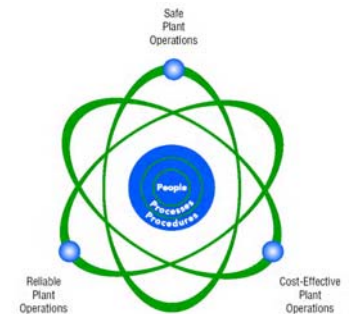


# Human Performance

## *Anchored in Fleet Processes*

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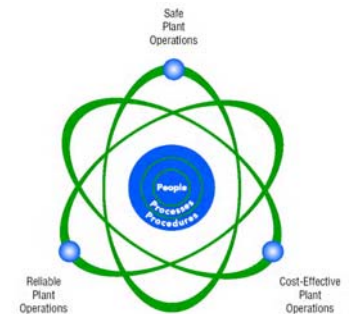
- Key Human Performance Procedures
  - NOBP-LP-2601 – Human Performance Program
  - NOP-LP-2601 – Procedure Use and Adherence
  - NOBP-LP-2602 – Human Performance Success Clocks
  - NOBP-LP-2603 – Human Performance Tools and Verification Practices



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# Human Performance Sustainability

- Anchored in Training, Day-to-Day Activities & Processes
  - Integrated into Excellence Plans
  - Continued use of training committees
- Governance & Oversight
  - Management reinforcement and oversight
  - Driving employee engagement and ownership
  - Benchmarking and self-assessments
- Metrics
  - Use of industry metrics
  - Use of section and station clock resets

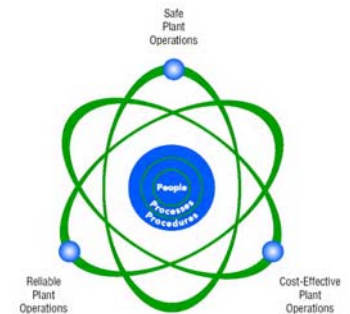


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# Performance Improvement Initiative

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Greg Halnon,  
*Director, Regulatory Compliance &  
Performance Improvement Initiative*

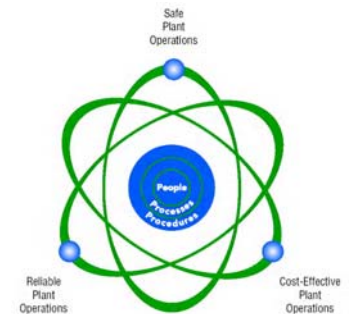


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# Performance Improvement Initiative

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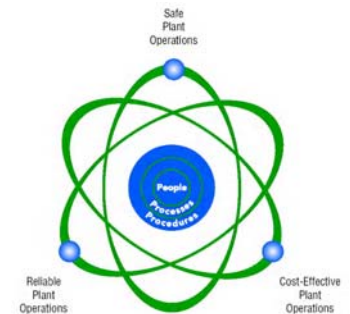
- Discuss on-going activities
- Highlight overall strategy for continuous improvement
- Plan for Performance Improvement Initiative closure



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# Performance Improvement Initiative

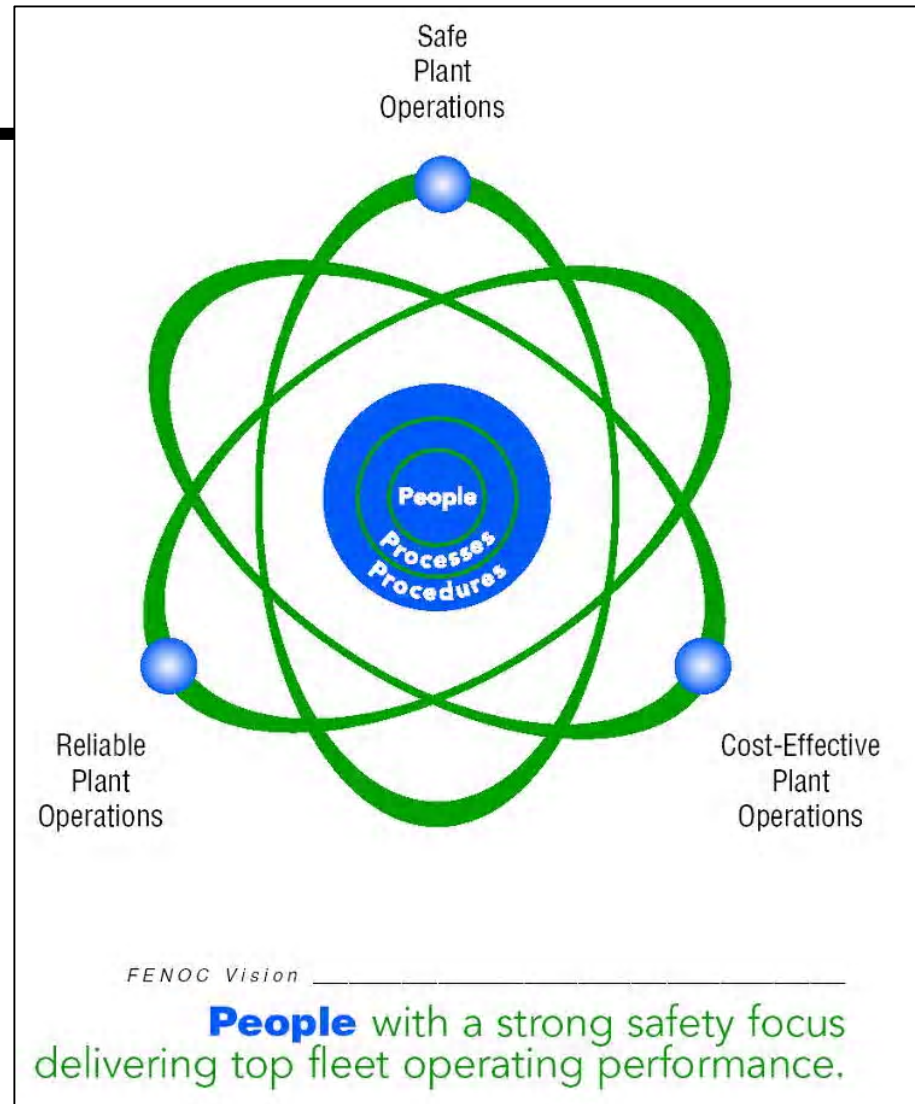
- Focused on effective implementation of Performance Improvement Initiatives to obtain desired results and continuous improvement
  - Rigorous review of Detailed Action Monitoring Plan closure packages
  - Monitor key station metrics to measure performance
    - Assessments to determine effectiveness of implemented actions
    - Monthly Performance Review meetings
    - Quarterly Performance Review meetings
  - Performance Overview Panel



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# Vision Icon





## Business and Excellence Plan

### Vision

People with a strong safety focus delivering top fleet operating performance

### Strategies

- Safe Plant Operations
- Reliable Plant Operations
- Cost Effective Plant Operations
- Through People, Processes and Procedures

### Business Planning Process

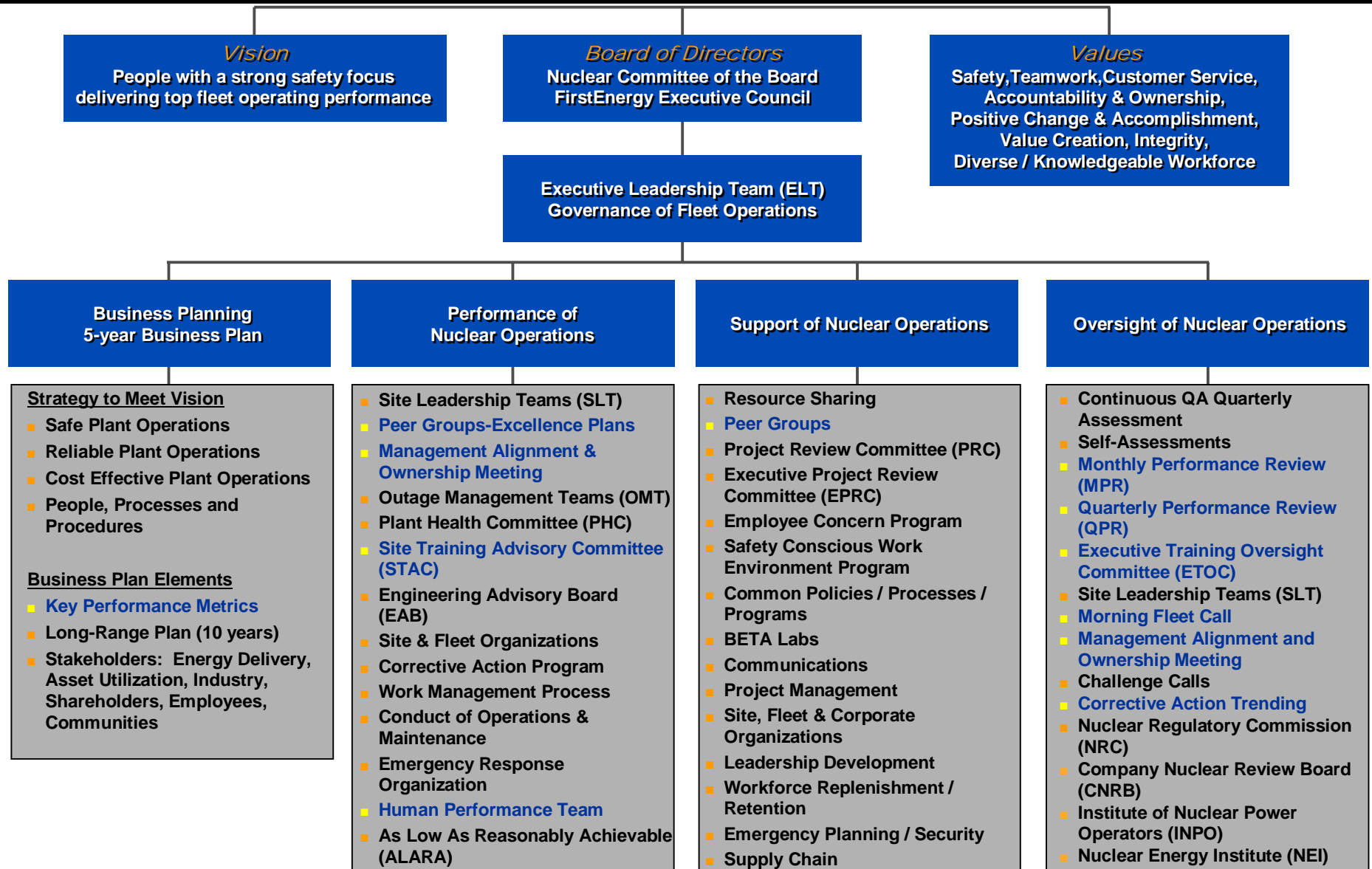
Five-year Business Plan focuses the organization on our priorities. Includes Vision, Values, Key Assumptions, Risks, Asset Improvements, Outage Plans, Metrics and Financials — all built around the strategies.

### Transformation to Excellence

The philosophy of excellence will drive continuous improvement through the use of our standardized programs, processes and procedures in each of our functional areas. The *Site Excellence Plans* included in the Business Plan will be used to implement our strategies.



# FENOC Management Model



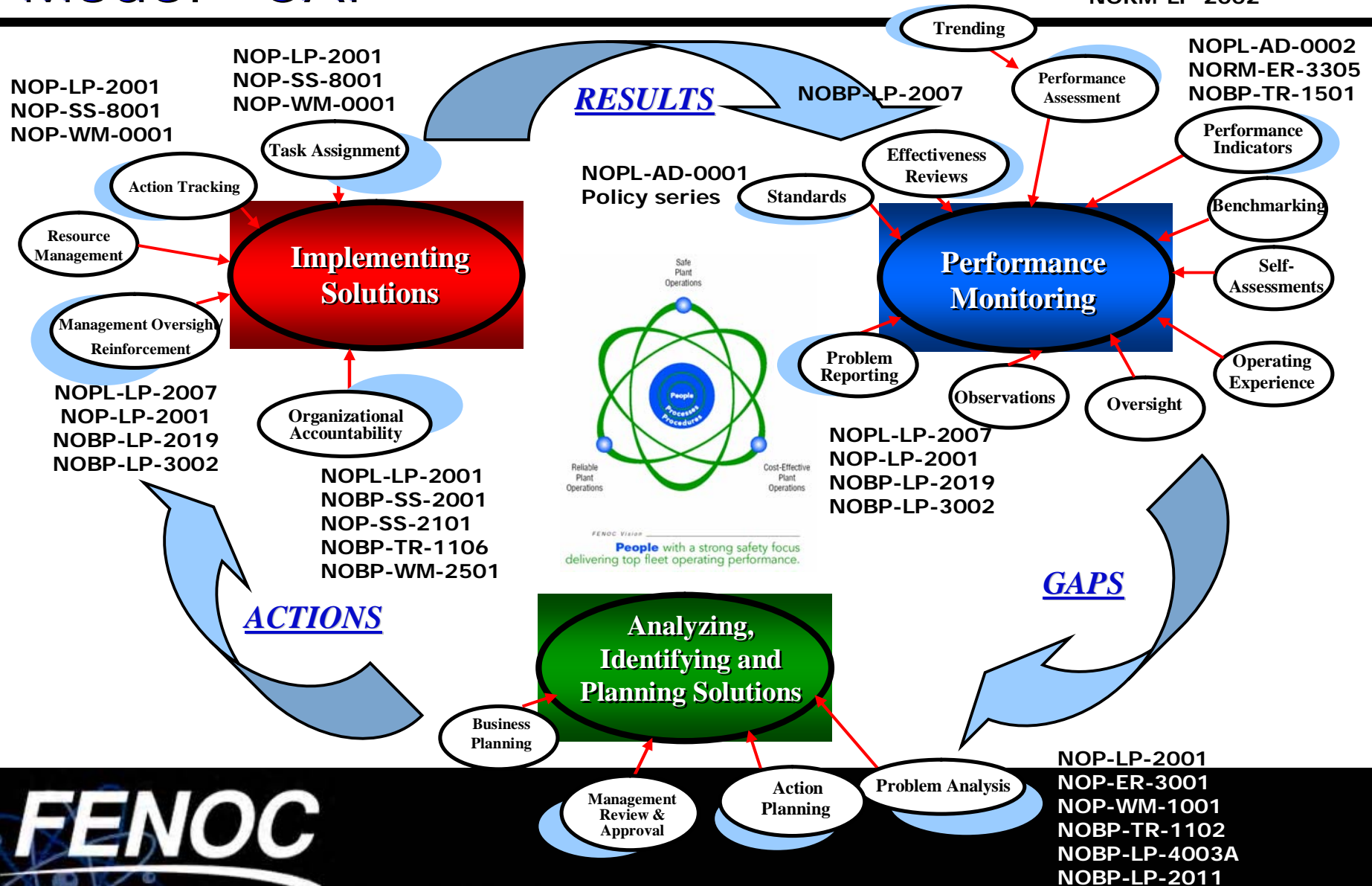
# Performance Improvement Model



# Performance Improvement Model - CAP

NOBP-LP-2018  
NOBP-LP-2010  
NORM-LP-2001

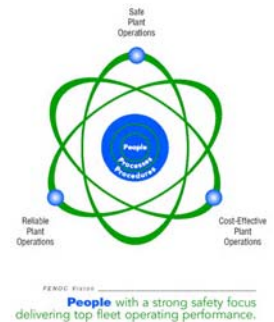
NOPL-AD-0002  
NOPL-LP-2009  
NOBP-LP-2018  
NORM-LP-2002



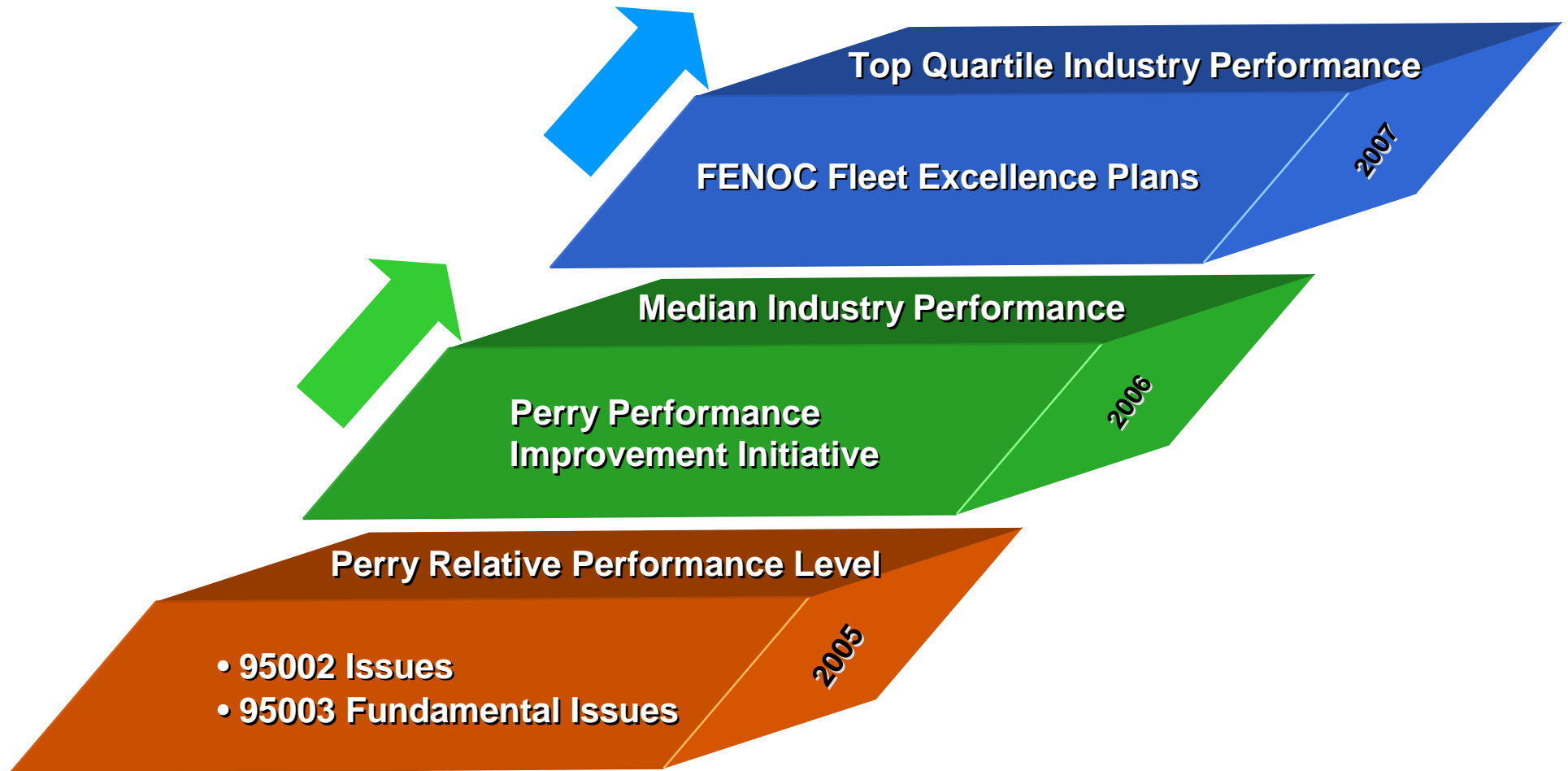


# Transition To Fleet Model

- Focused Self-Assessment and Key Performance Indicators
  - Demonstrate stable performance at acceptable levels
  - All results entered into Corrective Action Program and Action Tracking
  - Significant opportunities planned in Fleet Peer Group Excellence Plans
- Excellence Plans
  - Process starts with industry best comparison and benchmarking
  - Benchmarking integral part of Excellence Plans
  - Continuous Management Oversight
    - Monthly Performance Reviews
    - Peer Group Steering Committee
    - Executive Leadership and Site Leadership Teams



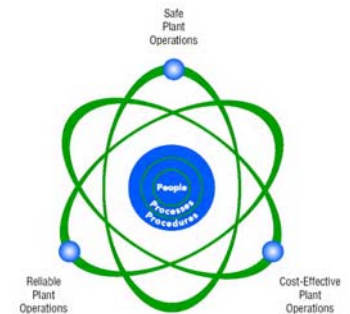
# Perry's Performance



# Closing Remarks

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Bill Pearce  
*Site Vice President*



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# Perry Nuclear Power Plant

July 11, 2006

Public Meeting

95003 Follow Up Inspections