



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005

September 10, 2007

Randall K. Edington, Senior Vice  
President, Nuclear  
Arizona Public Service Company  
P.O. Box 52034  
Phoenix, AZ 85072-2034

SUBJECT: MEETING SUMMARY FOR PALO VERDE NUCLEAR GENERATING  
STATION PUBLIC MEETING

Dear Mr. Edington:

On September 6, 2007, the NRC held a quarterly 95003 supplemental inspection status meeting with the Palo Verde Nuclear Generating Station at Region IV in Arlington, Texas. During this meeting, Palo Verde management discussed the status of their preparation for the supplemental inspection, and the development and implementation of their improvement plan to address plant performance issues. The meeting attendance list and Palo Verde's presentation are enclosed.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

Troy Pruett, Chief  
Project Branch D  
Division of Reactor Projects

Dockets: 50-528, 50-529, 50-530  
Licenses: NPF-41, NPF-51, NPF-74

Enclosures:

1. Meeting Attendance List
2. Palo Verde Nuclear Generating Station Presentation

Randall K. Edington

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cc w/enclosures:

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National Preparedness Directorate  
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Randall K. Edington

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Electronic distribution by RIV:  
Regional Administrator (EEC)  
DRP Director (ATH)  
DRS Director (DDC)  
DRS Deputy Director (RJC1)  
Senior Resident Inspector (GXW2)  
Branch Chief, DRP/D (TWP)  
Senior Project Engineer, DRP/D (GEW)  
Team Leader, DRP/TSS (CJP)  
RITS Coordinator (MSH3)

SUNSI Review Completed: RP ADAMS: ☒ Yes ☐ No Initials: RP  
☒ Publicly Available ☐ Non-Publicly Available ☐ Sensitive ☒ Non-Sensitive

R:\\_REACTORS\IPV\2007\IPV Meeting Summary 9\_6\_07.doc

RIV:SPE:DRP/D	C:DRP/D			
GEWerner	TWPruett			
<u>RP</u>	<u>RP</u>			
09/10/2007	09/10/2007			

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax

# PUBLIC MEETING ATTENDANCE

LICENSEE/FACILITY	Palo Verde Nuclear Generating Station	
DATE/TIME	September 6, 2007 9:00 a.m.	
CONFERENCE LOCATION	Region IV Training Conference Room 611 Ryan Plaza Drive, Suite 400 Arlington, TX 76011	
NAME (PLEASE PRINT)	ORGANIZATION	TITLE
Neil O'Keefe	RIV	Sr Rx Insp
Eric Ruesch	RIV	Rx Insp
Joseph Bashore	RIV	Project Engineer
Victor Drink	RIV	PAO
Greg Werner	RIV	Senior Project Eng.
Tom Hiltz	NRP	BRANCH CHIEF
Roy Cariano	RIV	DEPT DIRECTOR DR.S
A. Vogel	RIV	D D DRP
E Collins	RIV	RA
Art Howell	RIV	D DRP
Troy Pruett	RIV	BRANCH CHIEF
Greg Watnick	RIV	SRI PSD

## PUBLIC MEETING ATTENDANCE

[illegible]

## PUBLIC MEETING ATTENDANCE

[illegible]



# **Performance Improvement & Sustainability**

**Randy Edington**

Senior Vice President - Nuclear  
& Chief Nuclear Officer

September 6, 2007



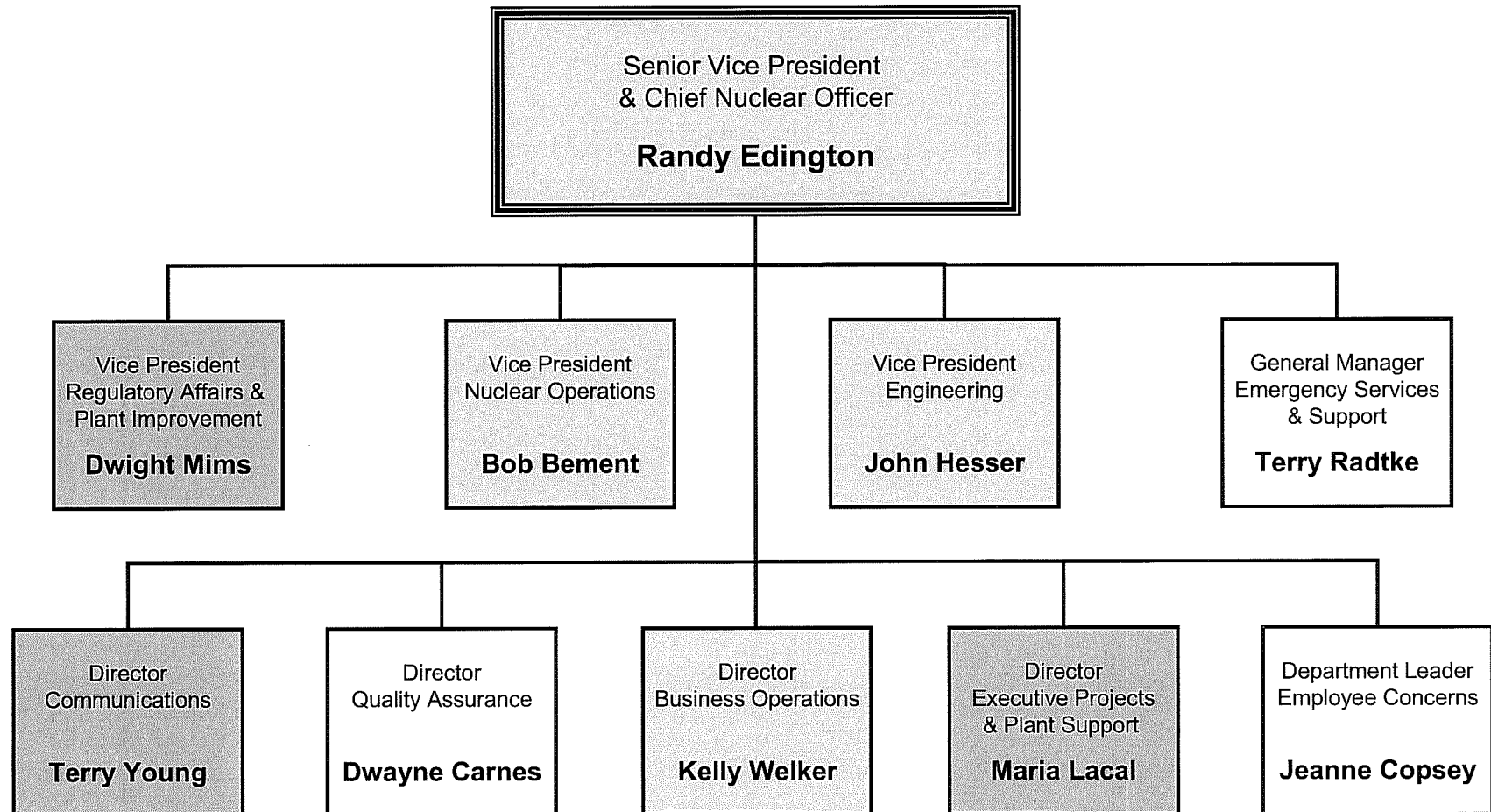


**History + New + Change = Palo Verde Way**

***Controlled change at deliberate speed***



# Palo Verde Organization



**History + New + Change = Palo Verde Way**

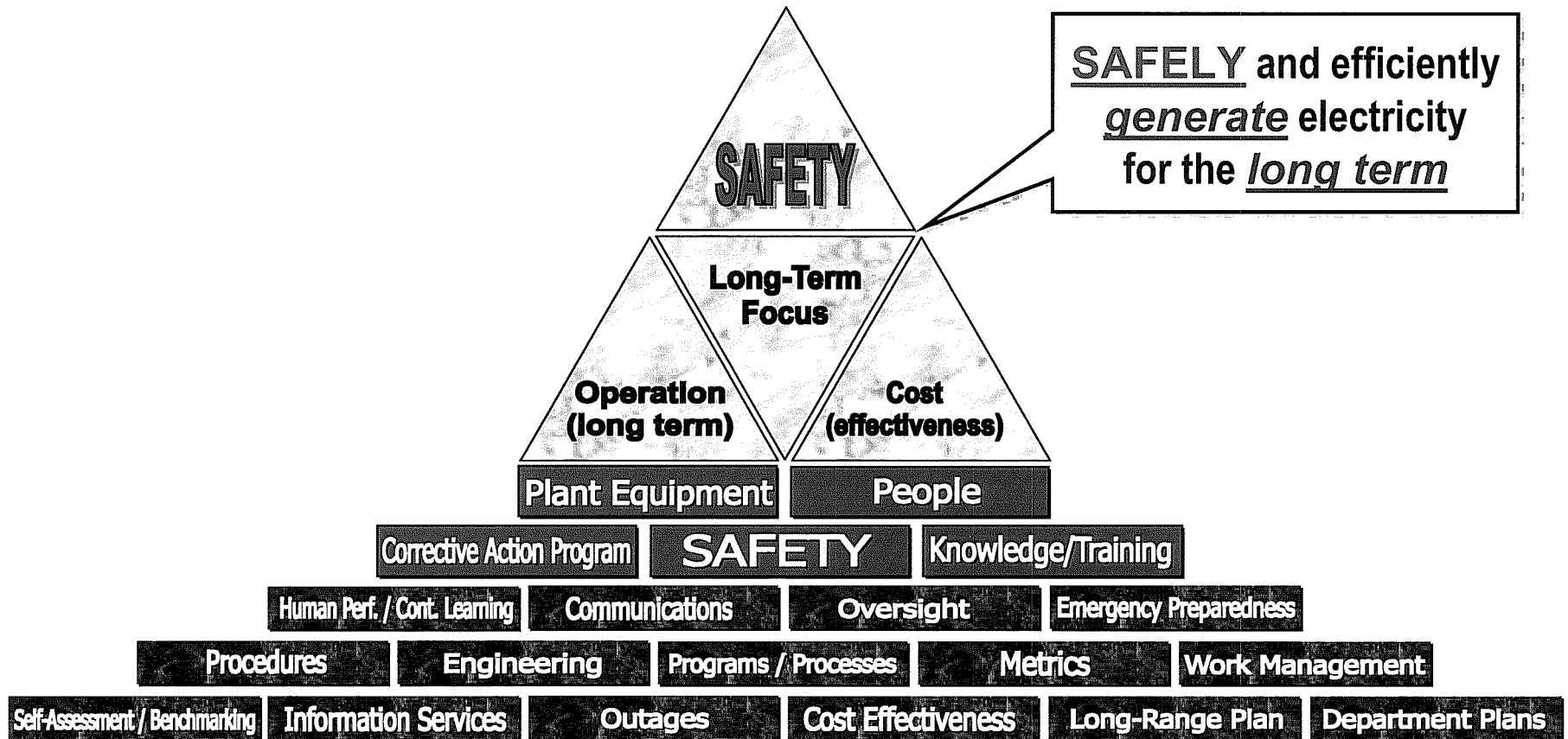


# Map and understand

## Then choose...

- *execution*
- *evolution*
- *revolution*

# Palo Verde Foundation



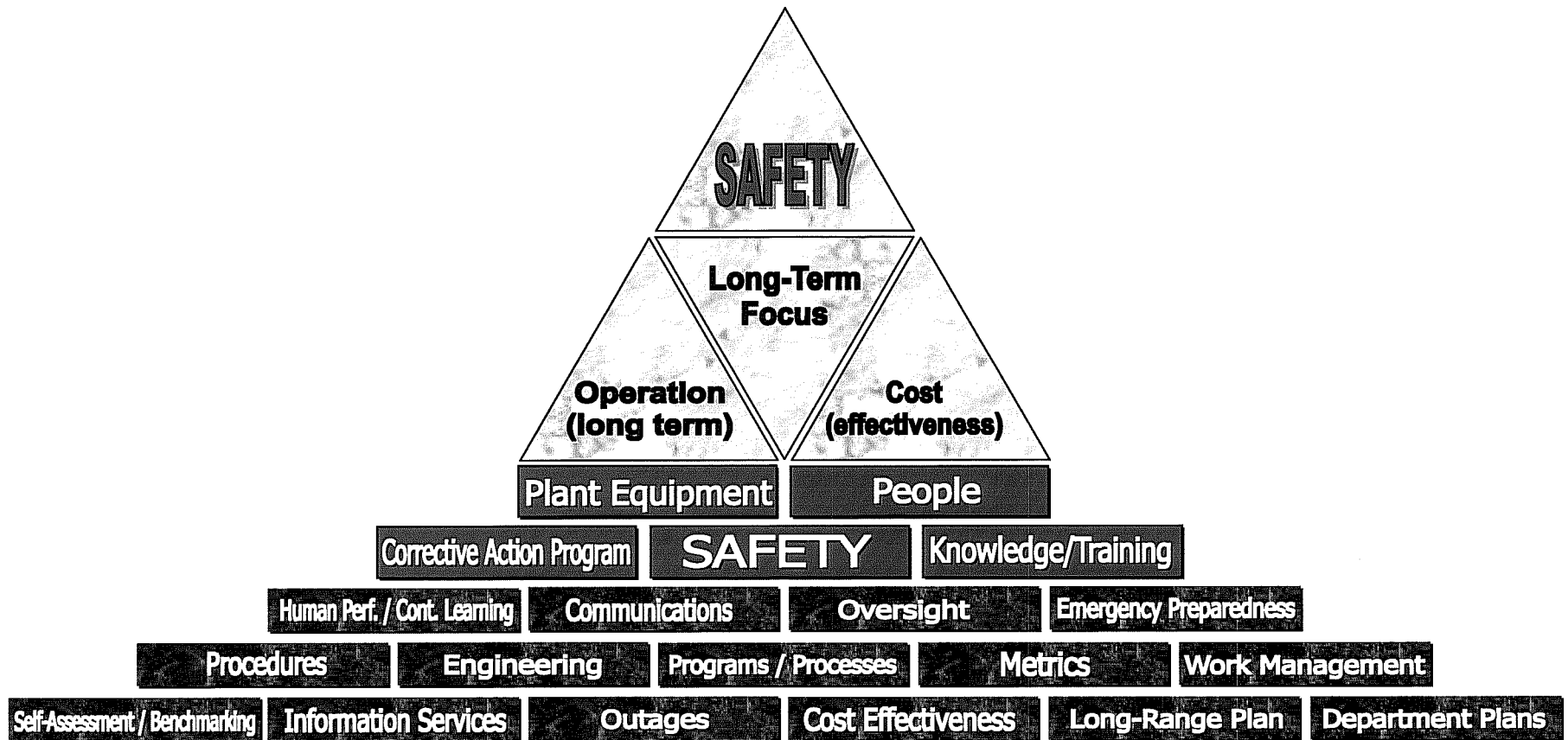


# **Site Integrated Business Plan**

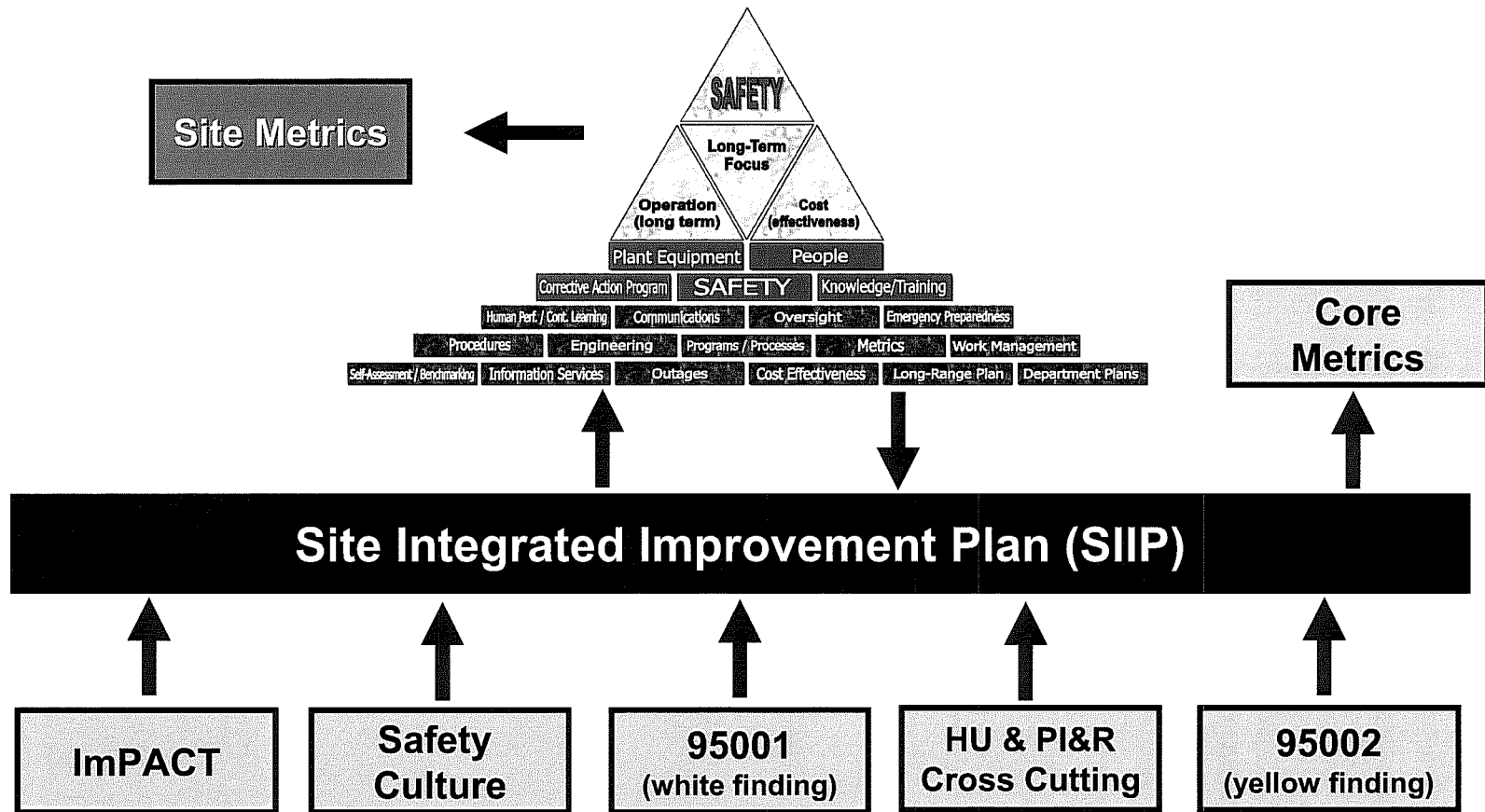
**Maria Lacal**

Director, Executive Projects &  
Plant Support

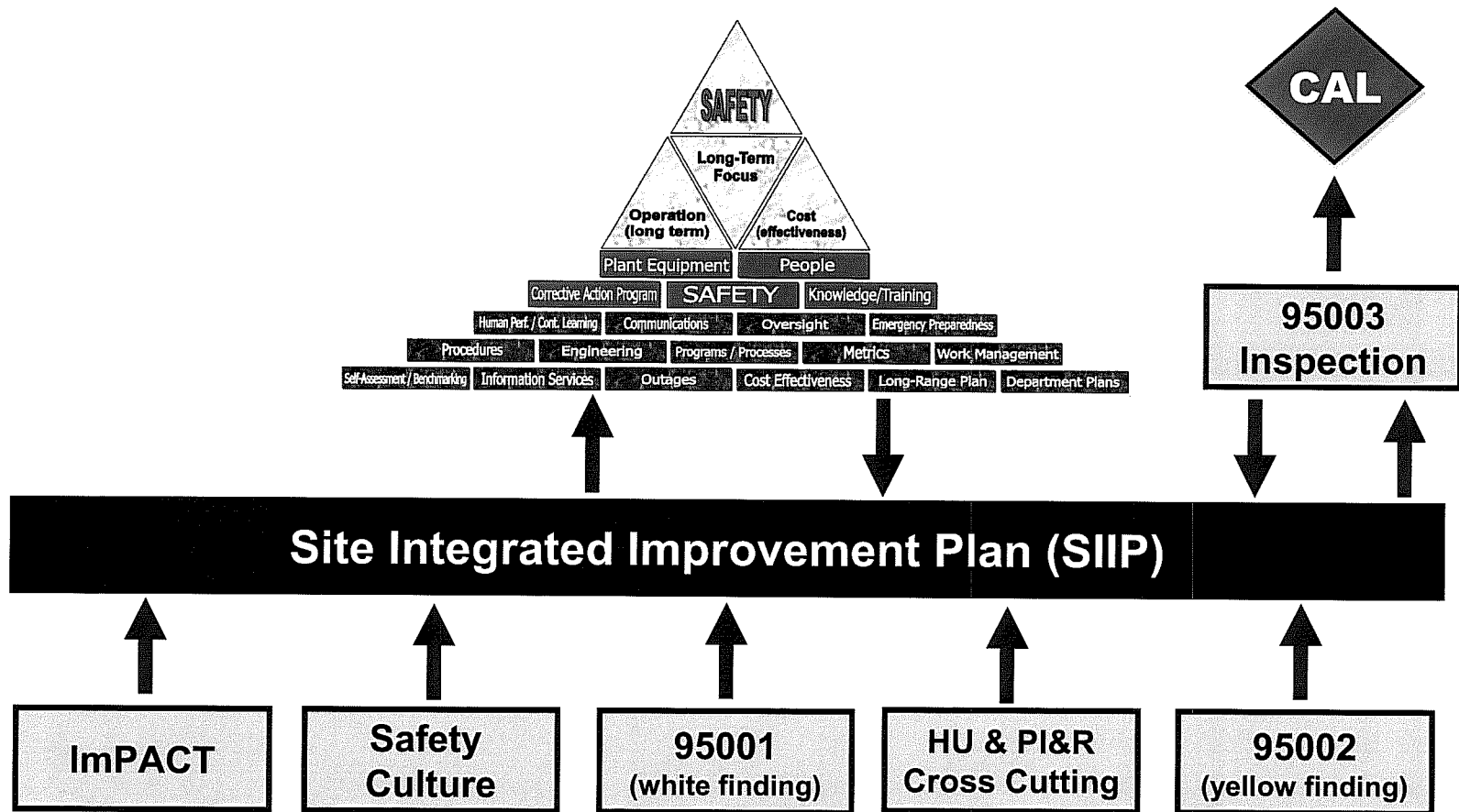
# Palo Verde Foundation



# Site Integrated Business Plan (SIBP)

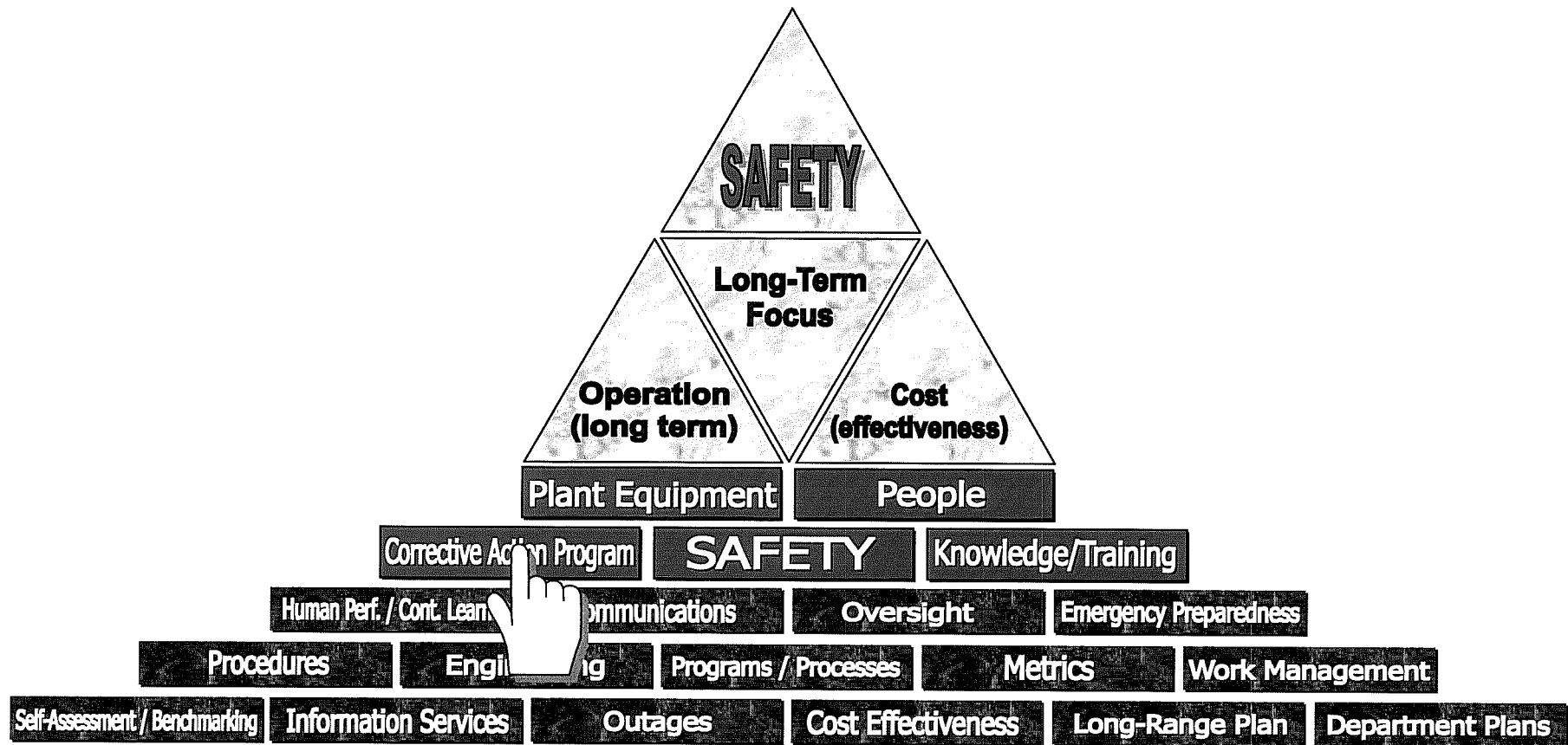


# Site Integrated Business Plan (SIBP)





# Site Integrated Business Plan (SIBP)





### Current State

The Corrective Action Program (CAP) consists of processes used to identify, evaluate, prioritize, correct, monitor effectiveness, and prevent recurrence of significant conditions adverse to quality. These programs include the Palo Verde Action Request (PVAR), Condition Report Disposition Request (CRDR), Operability Determination/Functional Assessment (OD/FA), Warehouse Deficiency Notice (WDN) processes, and the Work Control Processes (Planning, Prioritization, Scheduling, Maintenance).

Palo Verde has not consistently used the CAP as a proactive learning process. Consequently, issues are not consistently identified for effective trending and monitoring to drive proactive actions to resolve issues before they become self-revealing events. Initial condition descriptions (problem statements) are sometimes unclear when entered into the CAP. Some less-than-thorough and untimely evaluations and corrective actions have resulted in a number of self-revealing events and/or repeat problems that could have been prevented.

Behaviors with regard to quality CAP implementation have not been consistently demonstrated. The current training, tools, and procedures require improvement. Changes have been made to the Performance Indicators (PI) used to monitor the critical aspects of the CAP process and health. The use of data resulting from the revised PIs by station leaders is an area of continued focus for improved monitoring and management of the CAP.

### Goal

Station personnel use the Corrective Action Program to identify, document, evaluate, and trend problems and to develop and implement appropriate actions to correct problems. The Palo Verde management team promotes a clear vision of the corrective action process by consistently supporting and encouraging problem identification, timely and thorough evaluation of conditions, and development and implementation of effective and timely corrective actions. Effectiveness reviews, performed during and following completion of corrective actions, rigorously evaluate whether corrective actions will or have adequately resolved the condition adverse to quality.

The Corrective Action Program provides focus on and helps maintain visibility of issues to the station. Station personnel are fluent in the CAP requirements which are clearly and concisely delineated in governing procedures. Evaluations are performed in a thorough and timely manner to identify appropriate corrective actions that prevent recurrence of significant conditions. Performance indicators provide early detection of specific areas within the Corrective Action Program that are not meeting expectations and/or have a declining trend. Trending, operating experience, and self assessments and/or audits are used to identify and correct organizational and programmatic concerns before they become issues.

## Building Block 3 Corrective Action Program

PVAR # 3022602

Executive Sponsor: Dwight Mims

### Major Initiatives

#### 3.1 Evaluation Initiative

#### 3.2 Culture and Behavior Improvement Initiative

#### 3.3 Knowledge Management Initiative

#### 3.4 Process Improvement Initiative

#### 3.5 Metrics/Effectiveness Initiative

### Actions Completed Prior to 2007



### How We Measure Success

#### Metrics

- Inventory and Backlog of Condition Report Disposition Requests (CRDR) and Condition Report Action Items (CRAI)
- CRDR evaluation age
- Repeat Significant events
- CRAI closed by due date
- Inventory and Backlog of Operability Determinations (OD)
- CRDR quality
- Inventory and Backlog of Degraded/Nonconforming Conditions (DEG/NC)
- CRAI extensions (# and duration)

#### Effectiveness Reviews

- CRDR 2992761

INITIATIVE: 3.2		Culture and Behavior Improvement Initiative												
Lead:		WHEELER,DONALD J			CRDR: 3022621			Date Due:			8/8/2008			
CURRENT STATE: Palo Verde has not consistently used the CAP as a proactive learning process. Consequently, issues are not consistently identified for effective trending and monitoring to drive proactive actions to resolve issues before they become self-revealing events.														
Task #	CRAI	Description	Owner	Due Date	2007	2008	2009	2010	2011	Source	% Comp			
3.2.5	Major Task	Improve quality and consistency of root and apparent cause evaluations through the development of a consistent oversight process using CARB, Performance Improvement Department and Nuclear Assurance Department. Reference CRDRs 3004975, 2993246, 3023548.												
3.2.5.a	3047257	- Determine/define roles and responsibilities of oversight functions (e.g. PID, CARB, and NAD).	WHEELER,DONALD J								100%			
3.2.5.b	3047258	- Develop and implement a methodology for resolving differences between oversight group conclusions (e.g. compliance versus continuous learning).	WHEELER,DONALD J	12/28/2007										
3.2.5.c	3047259	- Implement root and apparent cause review checklists to be used by PID, CARB, and NAD. Checklists should be compliance based, yet allow for identification of areas for improvement.	WHEELER,DONALD J	2/1/2008						X-PI&R				
3.2.5.d	3032400	- NAD to implement use of the Significant CRDR Root Cause evaluation grade sheet and provide to the CAP for tracking and trending. Reference CRDR 3018463.	DUTTON,EDWIN C	1/31/2008										
3.2.5.e	3032402	- Develop and implement Root Cause review and quality grading training for CARB and NAD. Reference CRDR 3018463.	HENRY,DOUGLAS C	11/30/2007						X-PI&R				
3.2.5.f	3047260	- Provide a briefing at the Leadership Alignment Meeting on quality checklists and how oversight groups will provide oversight and resolve differences between them.	WHEELER,DONALD J	2/1/2008										
3.2.5.g	3047261	- Implement a process for periodic review of CARB scorecard results and provision of roll-up score card results to the management team, training department, PID, root and apparent cause investigators, oversight groups, and Advocates.	WHEELER,DONALD J	3/28/2008										
3.2.6	Major Task	Conduct senior management review "CAP Day" of oldest corrective action documents (CRDRs, OPWCs and CMWCs). Incorporate periodic reviews into 90DP-01P10.												
3.2.6.a	3047262	- Develop methodology for conducting CAP Day – data sorts, participants, expectations, and schedule – and establish CAP Day Coordinator function.	WHEELER,DONALD J	9/14/2007										
3.2.6.b	3047266	- Evaluate incorporation of periodic review "CAP Day" process into 90DP-01P10 or other station document. Revise applicable station document, as necessary.	HENRY,DOUGLAS C	11/30/2007										
3.2.7	Major Task	Provide feedback to senior management on casual analysis quality.												

FIND FUNCTIONS		FILTER and SORT FUNCTIONS				RECORD FUNCTIONS				CLOSE FORM	
TASK: 3.2.5.c	OWNER1: WHEELER, DONALD J	ALL ITEMS	OPEN ITEMS	OVERDUE	UNASSIGNED	NEW	FIRST	LAST	SAVE	DELETE	Click to Sort By Due Date
OWNER2:	OWNEA2:					WORD SEARCH					

Task: 3.2.5	TaskOrder: 03.02.05	Brief: Improve quality and consistency of root and apparent cause evaluations	Due:	Start:	Major Task ? <input checked="" type="checkbox"/>
Owner1:	CRAI: Desc: Improve quality and consistency of root and apparent cause evaluations through the development of a consistent oversight process using CARB, Performance Improvement Department and Nuclear Assurance Department. Reference CRDRs 3004975, 2963246, 3023548.	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Task: 3.2.5.a	TaskOrder: 03.02.05.a	Brief: Determine/define roles and responsibilities of oversight functions	Due: 8/31/2007	Start:	Major Task ? <input type="checkbox"/>
Owner1: WHEELER, DONALD J	CRAI: Desc: Determine/define roles and responsibilities of oversight functions (e.g. PID, CARB, and NAD).	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp: 100	Comp Date:	Sources	Preds

Task: 3.2.5.b	TaskOrder: 03.02.05.b	Brief: Develop and implement a methodology for resolving compliance versus continuous learning.	Due:	Start:	Major Task ? <input type="checkbox"/>
Owner1: WHEELER, DONALD J	CRAI: Desc: Develop and implement a methodology for resolving compliance versus continuous learning.	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Task: 3.2.5.c	TaskOrder: 03.02.05.c	Brief: Implement root and apparent cause review checklist	Due:	Start:	Major Task ? <input type="checkbox"/>
Owner1: WHEELER, DONALD J	CRAI: Desc: Implement root and apparent cause review checklist compliance based, yet allow for identification of areas.	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Task: 3.2.5.d	TaskOrder: 03.02.05.d	Brief: NAD to implement use of the Significant CRDR Root	Due:	Start:	Major Task ? <input type="checkbox"/>
Owner1: DUTTON, EDWIN C	CRAI: Desc: NAD to implement use of the Significant CRDR Root tracking and trending. Reference CRDR 3018463.	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Task: 3.2.5.e	TaskOrder: 03.02.05.e	Brief: Develop and implement Root Cause review and qu.	Due:	Start:	Major Task ? <input type="checkbox"/>
Owner1: HENRY, DOUGLAS C	CRAI: Desc: Develop and implement Root Cause review and qu.	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Task: 3.2.5.f	TaskOrder: 03.02.05.f	Brief: Provide a briefing at the Leadership Alignment Meeting on quality ch	Due:	Start:	Major Task ? <input type="checkbox"/>
Owner1: WHEELER, DONALD J	CRAI: Desc: Provide a briefing at the Leadership Alignment Meeting on quality ch	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Task: 3.2.5.g	TaskOrder: 03.02.05.g	Brief: Implement a periodic review of CARB scorecard results to provide feedback	Due: 3/20/2008	Start:	Major Task ? <input type="checkbox"/>
Owner1: WHEELER, DONALD J	CRAI: Desc: Implement a process for periodic review of CARB scorecard results and provision of roll-up score card results to the management team, training department, PID, root and apparent cause investigators, oversight groups, and Advocates.	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Task: 3.2.6	TaskOrder: 03.02.06	Brief: Conduct senior management review "CAP Day" of oldest corrective action doc	Due:	Start:	Major Task ? <input checked="" type="checkbox"/>
Owner1:	CRAI: Desc: Conduct senior management review "CAP Day" of oldest corrective action documents (CRDRs, DFWOs and CMWOs). Incorporate periodic reviews into 90DP-DIP10.	Finish:	Major Task #	Major Task	
Owner2:	Ref:	% Comp:	Comp Date:	Sources	Preds

Record: 14 of 244 of 1469

Form View

FLTR

NJM

ALL ITEMS | OPEN ITEMS | OVERDUE | UNASSIGNED | NEW | FIRST | LAST | SAVE | DELETE | EDIT

Click to Sort by Due Date

WORK START

Roots (insurance liability and consequences of root and apparent cause evaluations)

Due:

START:

Major Task & Review Task

Revis:

Description: Review root and apparent cause of root and apparent cause evaluations

Revis:

Comp Dates:

Ref:

Review root and apparent cause of root and apparent cause evaluations

Comp Dates:

Summary

Priority

### Task Source(s)

Save Record

Delete Record

Close Form

Task Number:

3.2.5.c

Implement root and apparent cause review checklists to be used

Source:

X-PI&R

X-PI&R

SIIP

\* Task Number:

95001

95001

Source:

95002

95002

95003

95003

CAL

Confirmatory Action Letter

DES CTRL/C

Design Control / Configuration Management

E PLAN

Emergency Preparedness

ENG PROG

Engineering Programs

ER

Equipment Reliability

ETR

Engineering Technical Rigor

HP/IS

Human Performance-Industrial Safety

ImPACT

ImPACT

IMPO-ATV

(Training Accreditation)

IMPO-PE

(Plant Evaluation)

MG PLT WK

Managing Plant Work Loads

NRC

(Non-SIIP NRC Commitments / Actions

OF

Operational Focus - CPI / CEI

OR

Organizational Effectiveness

PIR

Performance Improvement/P&IR

PROC/WIS

Procedures / Work Instructions Quality

Safety Cult

Safety Culture

T&Q

Training and Qualifications

X-HU

X-HU

X-PI&R

X-PI&R

# Graded Approach to SIBP/SIIP Action Closure

**Category A**  
Significant Adverse to Quality  
CAL Actions  
(SIIP) CAPR  
Management Judgment

**Category B**  
Adverse to Quality  
ImPACT (non-CAL) Actions  
(SIBP/SIIP) Priority 3 CRAI  
Management Judgment

**Category C**  
Enhancements/Continuous Learning  
(SIBP) Priority 4 CRAIs  
Management Judgment

Standard CRDR/  
CRAI Closure Process

Standard CRDR/  
CRAI Closure Process

Standard CRDR/  
CRAI Closure Process

Initiative lead concurs  
action ready for CRB

Initiative lead concurs  
action ready for CRB

SIBP Closure  
Review

Closure  
Review Board

Closure  
Review Board

Independent Reviews

Independent Reviews

- Product Review Team
- CARB 100% review
- NAD 100% review
- Monthly MRM and OSRC updates

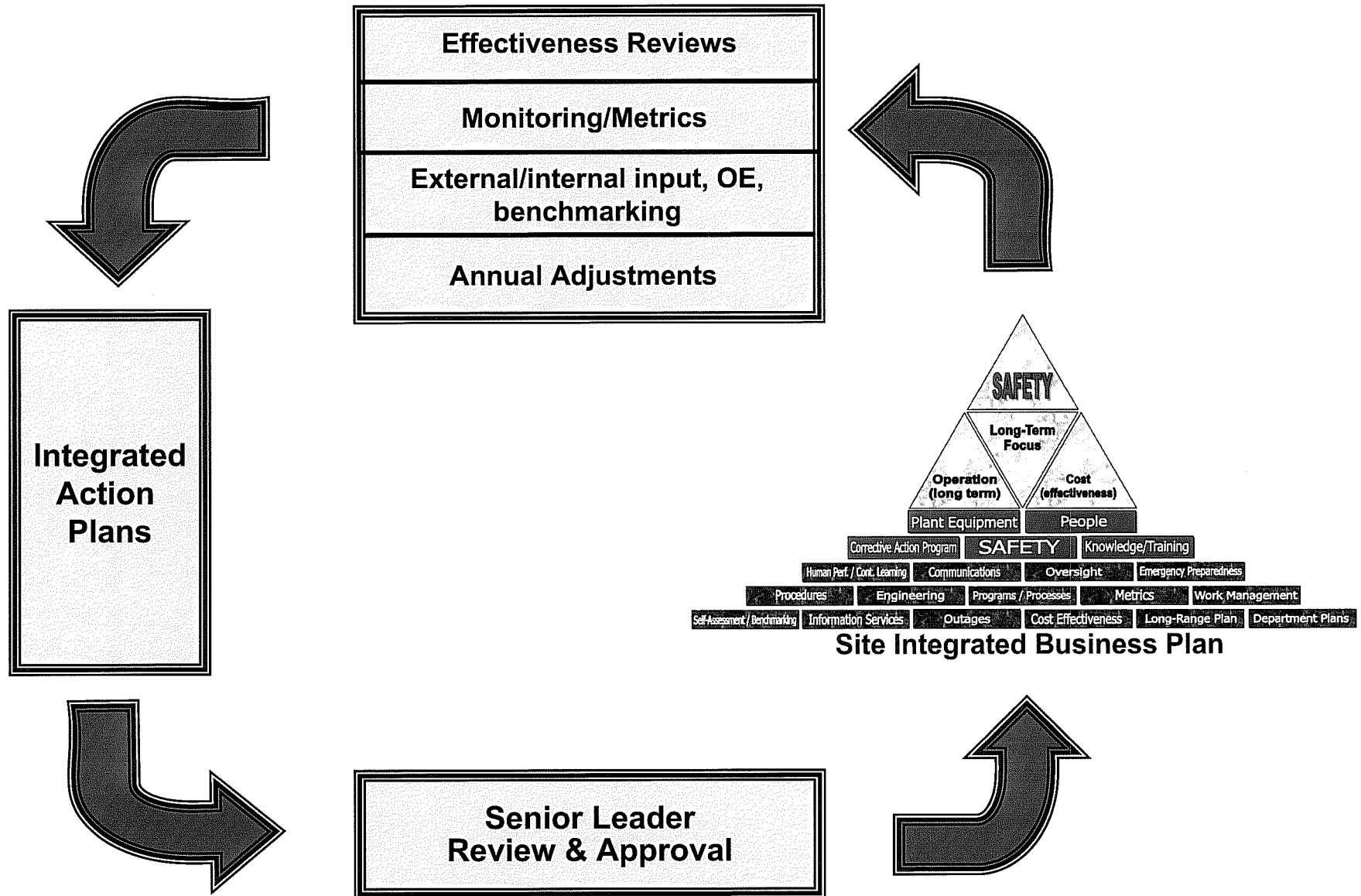
Independent Reviews

- NAD/PID selective review
- Monthly MRM and OSRC updates

- Initiative Lead review
- Quarterly MRM and OSRC updates



# Integrated Plans For Continuous Improvement





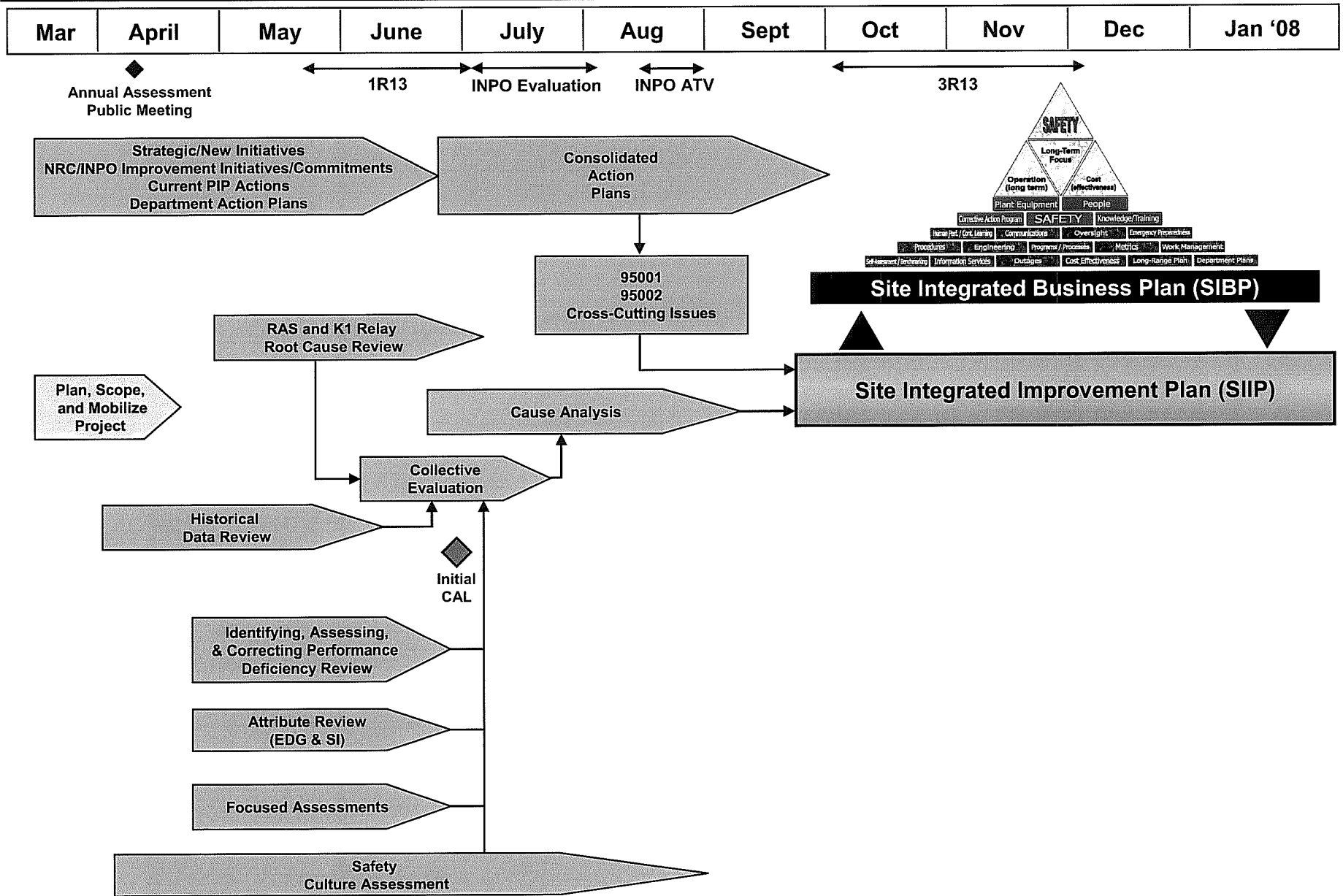
# **ImPACT Project & Safety Culture**

**Dwight Mims**

Vice President, Regulatory Affairs  
& Plant Improvement

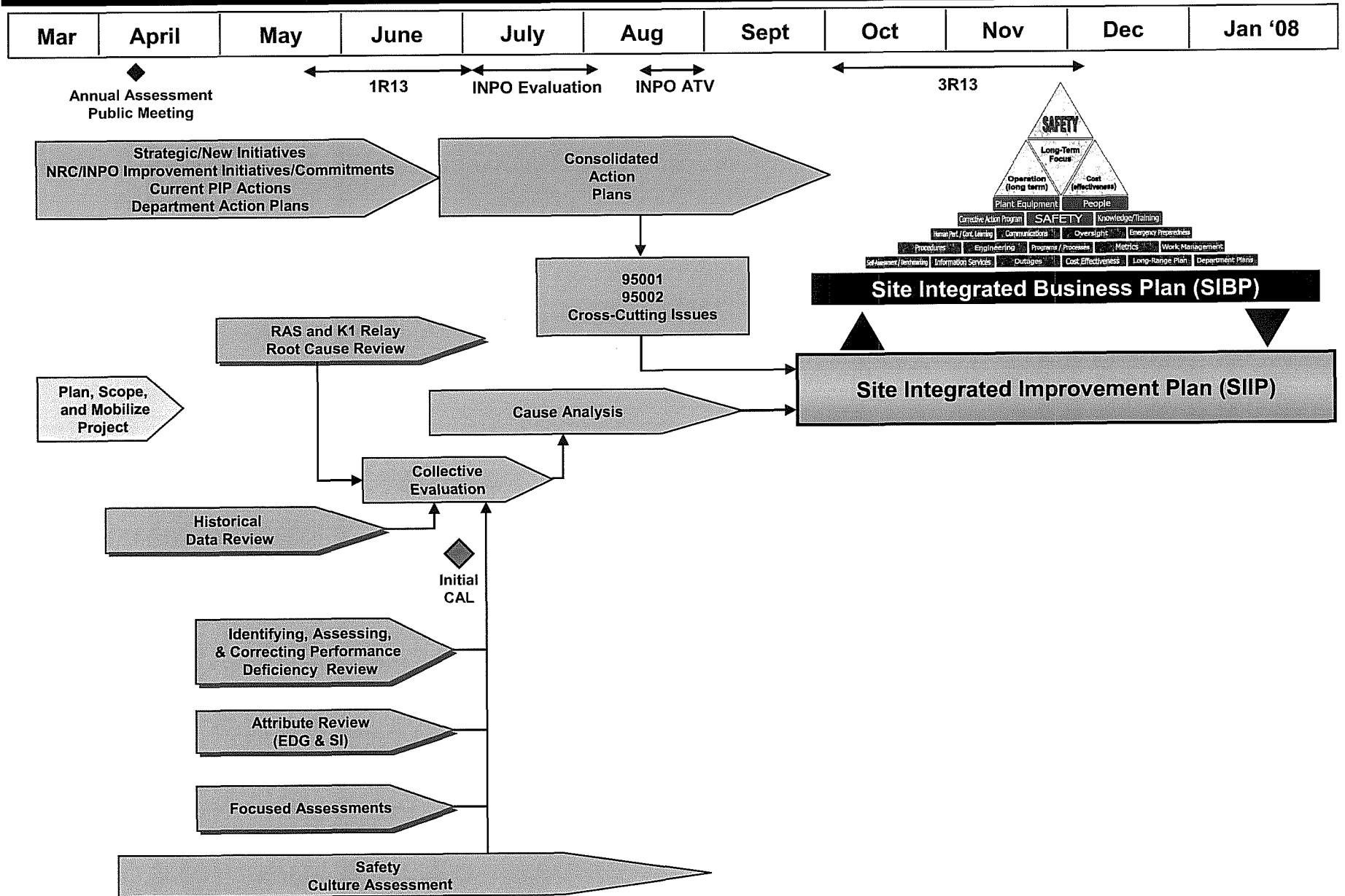


# Improving Palo Verde for the Long Term



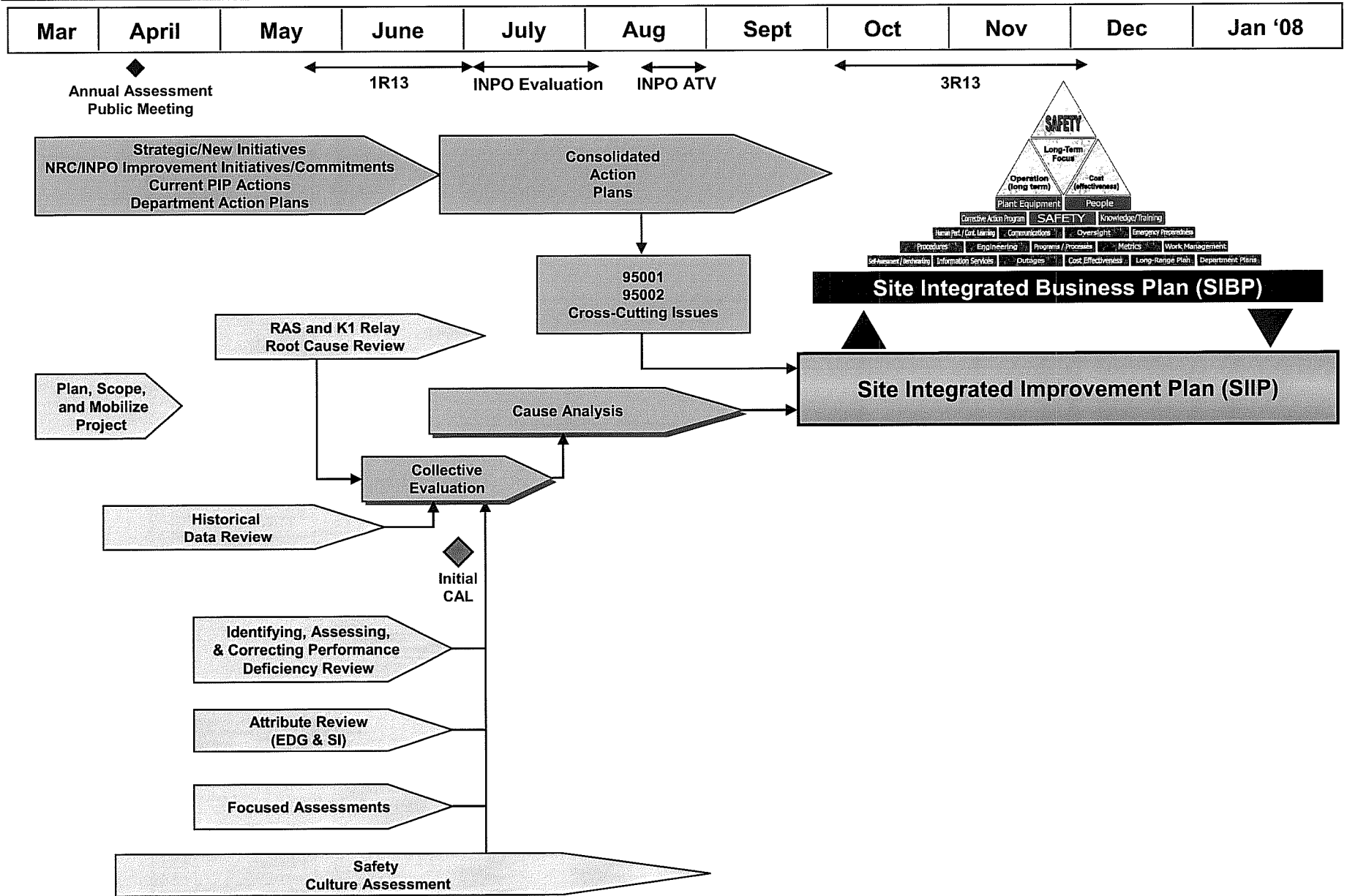
**NOTE:** This approximates the timetable for the ImPACT Project — see project schedule for detail.

# Improving Palo Verde for the Long Term



**NOTE:** This approximates the timetable for the ImPACT Project — see project schedule for detail.

# Improving Palo Verde for the Long Term



**NOTE:** This approximates the timetable for the ImPACT Project — see project schedule for detail.



# Root Cause Teams

## ■ What's Different...

- ☐ Just-In-Time Training for leads
- ☐ Approximately 40% external membership, 60% internal
- ☐ Industry experts coach and mentor teams
- ☐ Routine alignment & integration meetings
- ☐ Investigation Directors & Root Cause Leads provide fresh perspective
- ☐ Shift Manager input



# ImPACT Cause Analysis

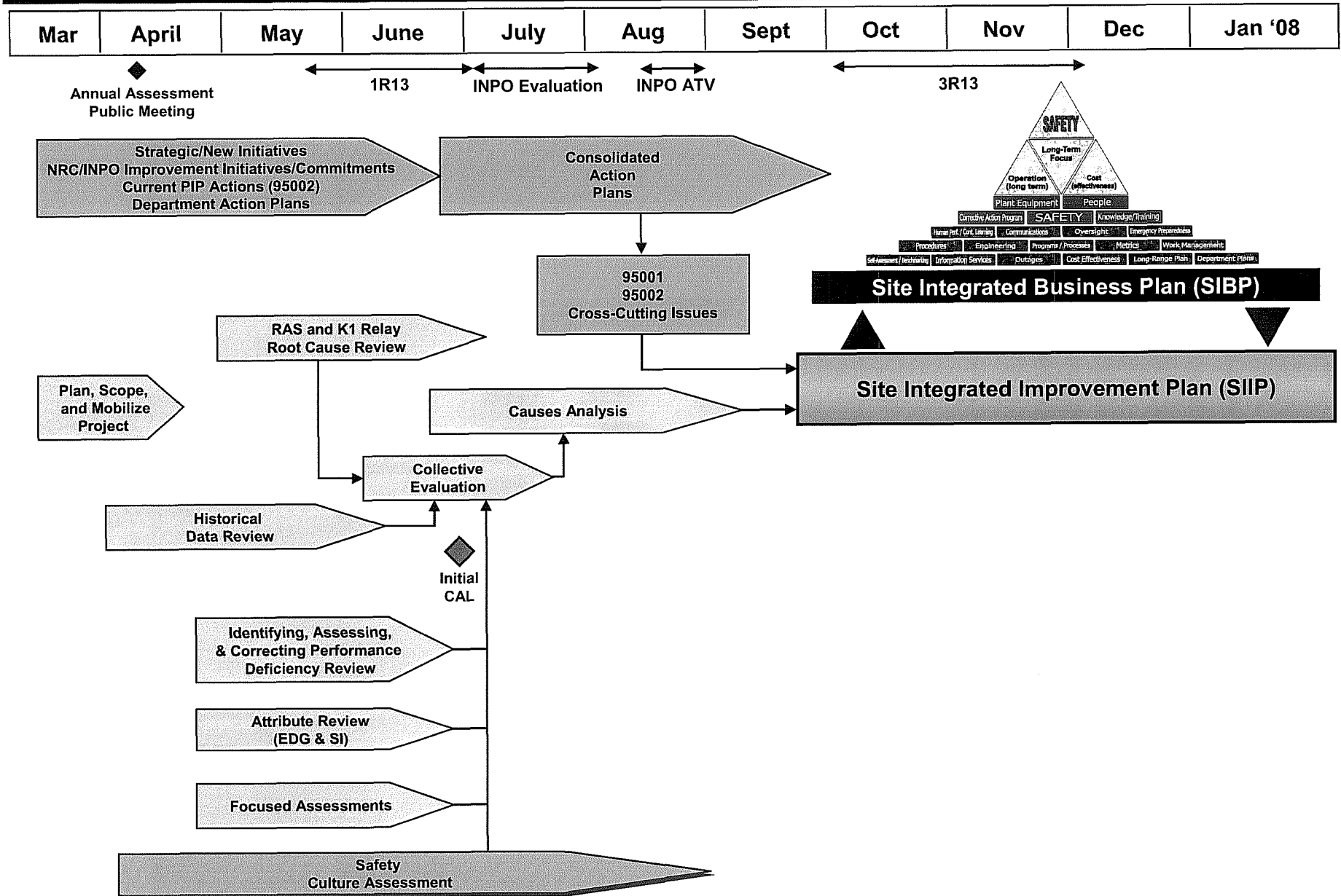
	<b>Topical Area</b>	<b>Sponsor</b>
1	Organizational Effectiveness	Bob Bement
2	Operational Focus	Bob Bement
3	Emergency Preparedness	Dwight Mims
4	Engineering Programs	John Hesser
5	Design Control / Configuration Management	John Hesser
6	Engineering Technical Rigor	John Hesser
7	Equipment Reliability	Mike Perito
8	Procedures / Work Instructions	Terry Radtke
9	Human Performance – Industrial Safety	Bob Bement
10	Performance Improvement	Dwight Mims
11	Managing Plant Work Loads	Bob Bement
12	Training & Qualification	Bob Bement



# **Actions Initiated / In Progress**

- **Managed Inventory / Backlogs**
- **Emergency Preparedness**
- **Oversight Improvements**
- **Staffing Upgrades**
- **Operational Focus Emphasis**
- **Employee Engagement**
- **CDBR Adjustments**
- **Engineering Improvement Plan**

# Improving Palo Verde for the Long Term



**NOTE:** This approximates the timetable for the ImPACT Project — see project schedule for detail.



# **Assessment Elements**

## **■ Two Complementary Safety Culture Assessments:**

- ☐ SYNERGY survey

  - 80% participation

  - 54% provided write-in comments

- ☐ Independent Safety Culture Performance Evaluation Team (ISCPET)

## **■ Organizational and Topical Interviews**

## **■ Behavior Observations**

## **■ Document Reviews**





# **Assessment Results**

- **Eleven organizations identified as requiring further attention**
  - ☐ Interviews provided further insights with no evidence of unwillingness to raise safety concerns
  - ☐ Common themes – Training & Qualifications, Staffing Resources, Compensation
- **Trend questions to assess current momentum in overall Nuclear Safety Culture indicate recent improvement**
- **Valuable insights provided by write-in comments**



# Findings & Conclusions

## ■ Nuclear Safety Culture

- ☐ Improve the corrective action process
- ☐ Address staffing & funding resource issues
- ☐ Emphasize Standards, Leadership Alignment & Performance Accountability
- ☐ Focus on operational nuclear safety practices
- ☐ Improve effectiveness of independent oversight, internal assessment & benchmarking
- ☐ Reinforce safety-conscious work environment expectations



# **Findings & Conclusions**

## **■ General Culture & Work Environment**

- ☐ Improve effectiveness in planning & implementing change
- ☐ Improve work management & other processes
- ☐ Engage the workforce

## **■ Organizational Initiatives**

- ☐ Address opportunities in the organizations identified



# Findings & Conclusions

## ■ Positive Observations

- ☐ Environment exists that promotes the free flow of information
- ☐ Workforce understands their responsibility & will pursue potential nuclear safety issues
- ☐ Corporate and site senior leadership communicating right safety message
- ☐ Policies and programs place priority on nuclear safety
- ☐ Alternative means for raising concerns generally function well and are trusted
- ☐ Importance being placed on improving nuclear safety performance



# **Status / Update**

- Final reports issued by independent teams
- Areas for improvement mapped into cause analysis
- Delta & collective analysis of Nuclear Safety Culture Assessment results
- Communication of Assessment results
- Safety Culture Team
- Formal action plan development
  - ☐ Tracking, monitoring & traceability
  - ☐ On-going assessment & effectiveness plan
- Incorporation of actions into the SIIP or other area as appropriate



# **Actions Initiated / In Progress**

## **■ Nuclear Safety Culture**

- ☐ Ongoing Leadership alignment meetings
- ☐ Anonymous Palo Verde Action Requests (PVAR)
- ☐ External & internal organizational Safety-Conscious Work Environment assessments
- ☐ Plant status, safety & safety culture discussion at start of all meetings
- ☐ Frontline employee safety culture behavior sessions
- ☐ Weekly Vice President streaming videos
- ☐ Spray Pond Case Study Training

## **■ Organizational Initiatives**

- ☐ Leadership and organizational changes
- ☐ Leadership development initiatives



# **Cross-Cutting Issues**

**George Andrews**

Director, Performance Improvement



# Background

## ■ NRC Cross-cutting issues

- ☐ Problem Identification & Resolution (PI&R):  
March 2005
- ☐ Human Performance: March 2005





# Background

## ■ PI&R Issues

- ☐ Failure to identify degraded conditions
- ☐ Inadequate operability determinations
- ☐ Timeliness of corrective actions
- ☐ Engineering quality
  - Operability determinations
  - Evaluation completeness
  - Extent of condition



# Background

## ■ Human Performance Issues

- ☐ Ineffective decision-making
  - Assumptions
  - Communication of decisions
- ☐ Inadequate resources
  - Procedure quality
- ☐ Ineffective work practices
  - Failure to follow procedures
  - Human error prevention techniques



# Background

## ■ Initial Causal Analysis

### ☐ PI&R Cause Analysis

- Accountability

- Standards

### ☐ Human Performance Cause Analysis

- Ownership

- Leadership

- Standards



# Background

## ■ PI&R Re-Evaluation

- ☐ Effectiveness Review
- ☐ Root Cause Evaluation
  - Behavior and Culture
  - Knowledge and Skills
  - Process
- ☐ Benchmarking



# Causes & Actions

## ■ PI&R Behavior and Culture

- ☐ Established dedicated Action Request Review Committee – “ARRC”
- ☐ Refocus Performance Advocates
- ☐ Corrective Action Review Board – “CARB”
- ☐ Performance Improvement Closure Reviews
- ☐ Offsite Safety Review Committee



# Causes & Actions

## ■ PI&R Knowledge and Skills

- ☐ Root Cause Investigator Just-In-Time Training
- ☐ Apparent Cause Training
- ☐ CARB Training
- ☐ Corrective Action “Fundamentals” Training
- ☐ Root Cause Initial & Continuing Training



# Causes & Actions

## ■ PI&R Process

- ☐ Palo Verde Action Request process – “PVAR”
- ☐ Map & Understand
- ☐ Trend Program



# Measuring Results

## ■ PI&R Metrics

- ☐ Corrective Action quality & timeliness
- ☐ Degraded/Non-conforming condition resolution
- ☐ Operability Determination quality





# **PI&R Current Status**

- **Mapped previous actions**
- **Evaluated action effectiveness**
- **Completed root cause analysis**
- **Integrated action plan into the SIIP**
- **Performance is improving**
- **Focus areas for further improvement**



# Background

## ■ Human Performance Re-Evaluation

- ☐ Effectiveness Review

- ☐ Cause validation

  - Behavior and Culture

  - Knowledge and Skills

  - Process

- ☐ Benchmarking



# Causes & Actions

## ■ Human Performance Behavior and Culture

- ☐ Manager of the Day Program
- ☐ Outage “Focus” Team
- ☐ Observation Program
- ☐ Clock Reset Program
- ☐ Coach-the-Coach Training
- ☐ Train-the-Trainer



# Causes & Actions

## ■ Human Performance Knowledge and Skills

- ☐ Issue Fundamentals booklet — clear standards and expectations
- ☐ Human Performance training with mock-ups
- ☐ Develop Department Performance Advocates
- ☐ Issue Outage Operating Experience handbook



# Causes & Actions

## ■ Human Performance Process

### ☐ Operational Decision-Making Issues (ODMIs)

- Assess Safety, Risk, Safety Culture, Technical Competence, Skeptic Role
- Responsible personnel identified
- Trigger points for further action
- Documentation/distribution of decision basis

### ☐ Procedure Quality

- Address inventory of procedure change requests
- Establish integrated site process for procedures
- Update administrative control program to optimize effectiveness
- Develop work flow for procedure feedback and tracking



# Measuring Results

## ■ Human Performance Metrics

- ☐ Observation Rate is increasing
- ☐ Site-wide training is ongoing
- ☐ Error Rate is decreasing



# **Human Performance Current Status**

- **Mapped previous actions**
- **Validated Root Cause Analysis**
- **Evaluated Action effectiveness**
- **Action Plan incorporated into SIIP**
- **Performance is improving**
- **Focus areas for further improvement**



# Conclusions

**Randy Edington**

Senior Vice President - Nuclear  
& Chief Nuclear Officer





# **In Conclusion...**

- **What's Different?**

- **Sustainability**

- **Current State**



# Questions