

# Mode 5 Safety Culture Assessment and Independent Safety Culture Survey

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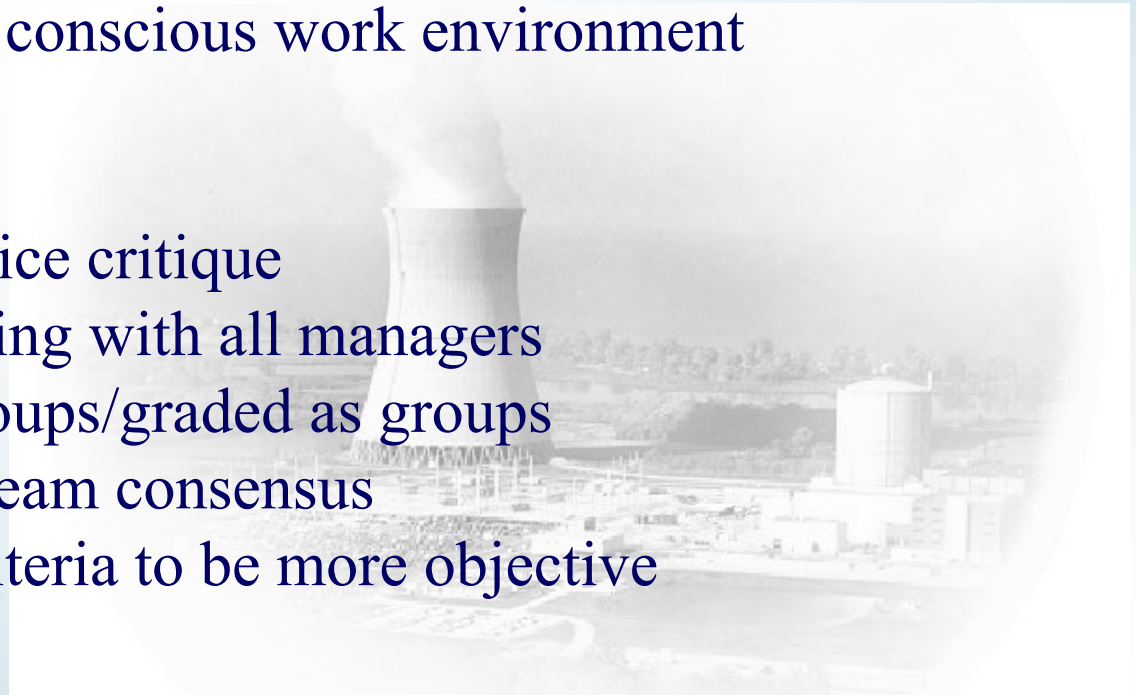
**Lew Myers**  
**Chief Operating Officer - FENOC**

# Mode 5 Safety Culture Assessment

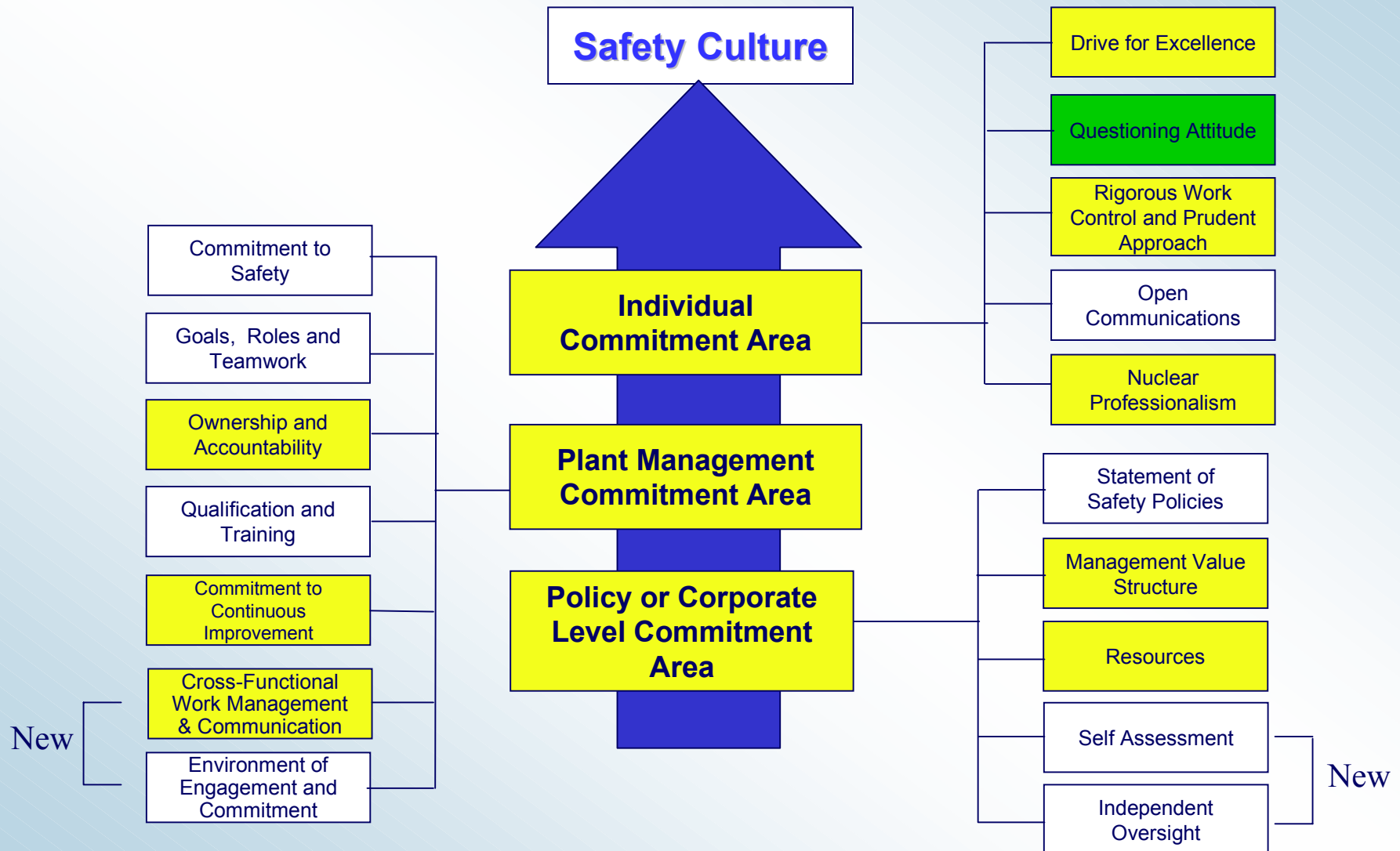
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## Desired Outcome

- **Demonstrate recent actions:**
  - Status safety culture review for Mode 5
  - Independent review correlation
  - Review safety conscious work environment survey results
- **Methodology**
  - Business practice critique
  - Two day meeting with all managers
  - Criteria for groups/graded as groups
  - Management team consensus
  - Refined the criteria to be more objective



# Mode 5 Safety Culture Assessment



# Example of Safety Culture Criteria

INDIVIDUALS' COMMITMENT AREA				
CRITERIA RELATED TO QUESTIONING ATTITUDE				
Challenges are welcomed				
ATTRIBUTE	RED	YELLOW	WHITE	GREEN
<i>Quality of pre-job briefs</i>	Management observations and QA field observations show that most pre-job briefs are not acceptable.	Management observations and QA field observations show that most pre-job briefs are acceptable.	Management observations and QA field observations show that, with some exceptions, pre-job briefs are acceptable.	Management observations and QA field observations show that pre-job briefs in general are acceptable.
<i>Percent of CRs per person per group</i>	Less than 13% of individuals wrote CRs during the past 30 days.	Between 13-15% of individuals wrote CRs during the past 30 days.	Between 15-17% of individuals wrote CRs during the past 30 days.	More than 17% of individuals wrote CRs during the past month.
<i>Number of programmatic CRs</i>	The number of programmatic CRs indicates that individuals in general are reluctant to write CRs on programmatic and management issues.	The number of programmatic CRs indicates that most individuals are willing to write CRs on programmatic and management issues.	The number of programmatic CRs indicates that a large majority of individuals are willing to write CRs on programmatic and management issues.	The number of programmatic CRs indicates that individuals in general are willing to write CRs on programmatic and management issues.
<i>Program and process error rate</i>	>0.48 program and process errors per 10,000 hours worked.	<0.48 program and process errors per 10,000 hours worked.	<0.30 program and process errors per 10,000 hours worked.	<0.27 program and process errors per 10,000 hours worked.
<i>Raising problems</i>	Management observations and NQA field observations show that most individuals are not raising problems encountered in the field.	Management observations and NQA field observations show that most individuals are raising problems encountered in the field.	Management observations and NQA field observations show that a large majority of individuals are raising problems encountered in the field.	Management observations and NQA field observations show that individuals in general are raising problems encountered in the field.

# Mode 5 Safety Culture Assessment

- **Policy or Corporate Commitment Area** **Yellow**
  - Policies on Safety Culture and Safety Conscious Work Environment clearly state that safety is a core value and are understood by the organization **White**
  - Management values are clearly reflected in the Business Plan and are understood by the organization **Yellow**
  - Resources are available or can be obtained to ensure safe, reliable operations **Yellow**
  - Self-assessment is a tool used to monitor, assess and improve our performance **White**
  - Independent Oversight is a tool used to validate acceptable performance and identify areas for improvement or corrective action **White**



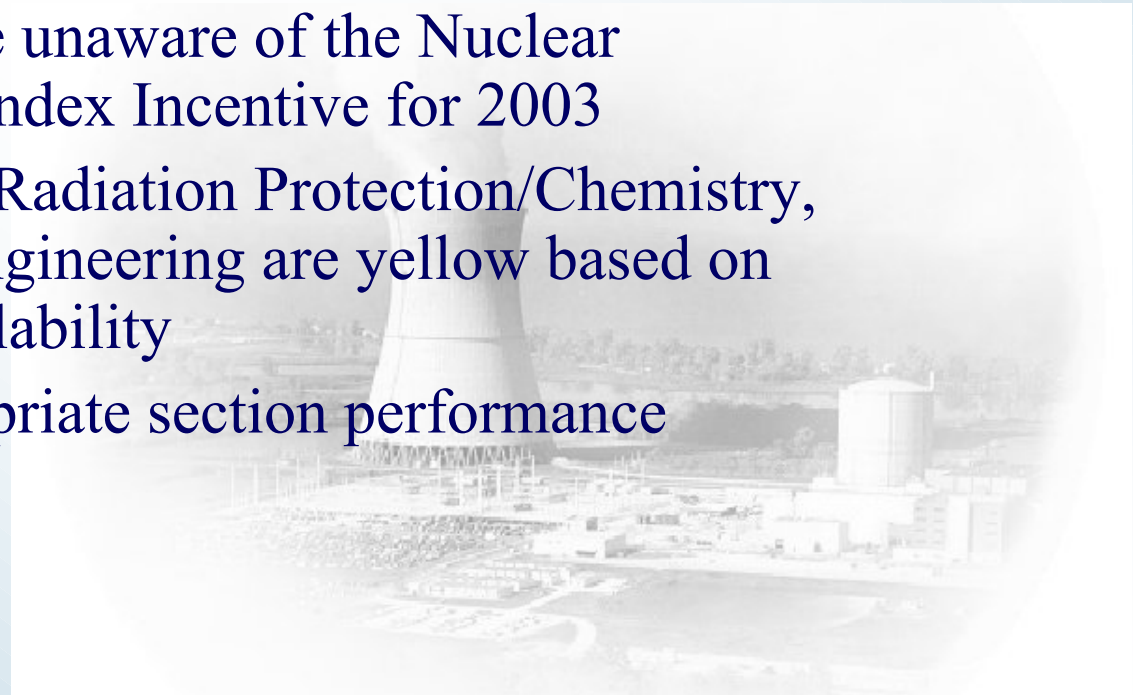
# Mode 5 Safety Culture Assessment

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## Policy or Corporate Commitment Area

- **Basis for Overall Rating of Yellow**

- The 2003 FENOC Business Plan is not approved and distributed to employees
- Employees are unaware of the Nuclear Performance Index Incentive for 2003
- Maintenance, Radiation Protection/Chemistry, and Design Engineering are yellow based on resources availability
- Lack of appropriate section performance indicators



# Mode 5 Safety Culture Assessment

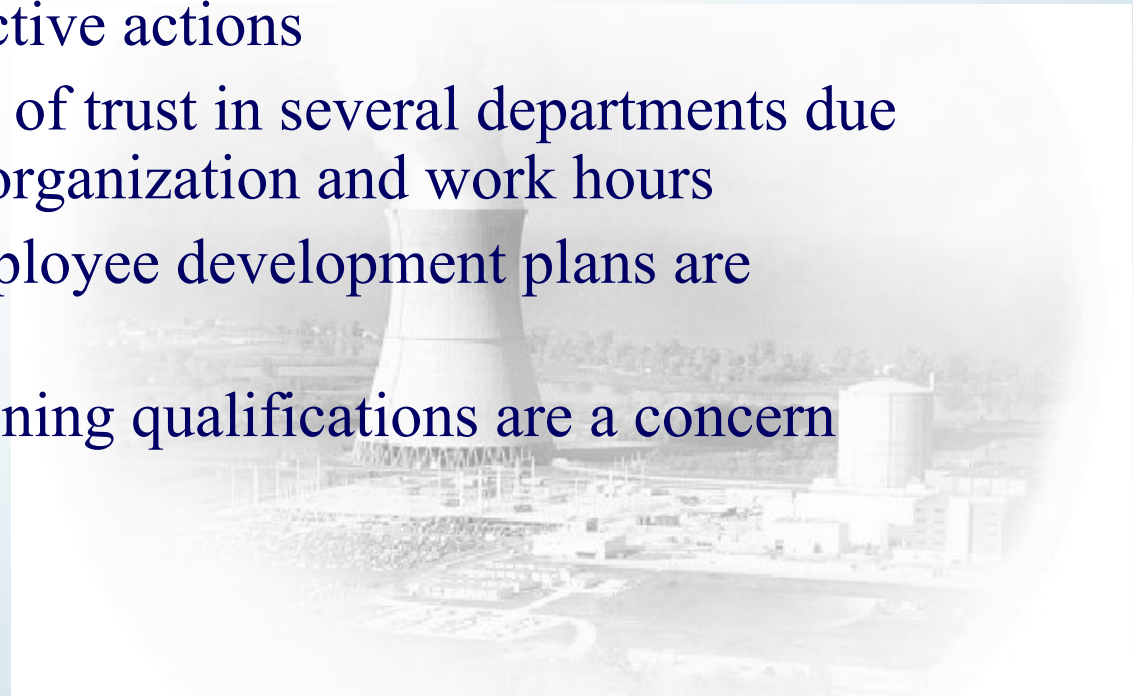
- **Plant Management Commitment Area** **Yellow**  
(improving)
  - There is visible commitment to safety: nuclear, industrial, radiological, and environmental White
  - Goals and roles are clear and teamwork is reinforced White
  - Ownership and accountability is evident Yellow
  - Training and qualification is valued White
  - Commitment to continuous improvement is evident Yellow
  - Cross-functional work management and communication Yellow
  - Creating and environment of engagement and commitment White

# Mode 5 Safety Culture Assessment

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## Plant Management Commitment Area

- **Basis for Overall Rating of Yellow Improving**
  - Until recently the site accepted the continual delay of corrective actions
  - Identified lack of trust in several departments due to changes in organization and work hours
  - Almost all employee development plans are overdue
  - Contractor training qualifications are a concern





# Mode 5 Safety Culture Assessment

- **Individual Commitment Area** **Yellow**
  - Drive for excellence-nuclear assets of people and plant are continuously improved to enhance margins of safety **Yellow**
  - Questioning attitude - challenges are welcomed **Green**
  - Rigorous work control and prudent approach - performing activities in a quality manner is the standard **Yellow**
  - Open communications - associates are comfortable in voicing opinions, issues and concerns **White**
  - Nuclear Professionalism - persistence and urgency in identification and resolution of problems is prevalent **Yellow**

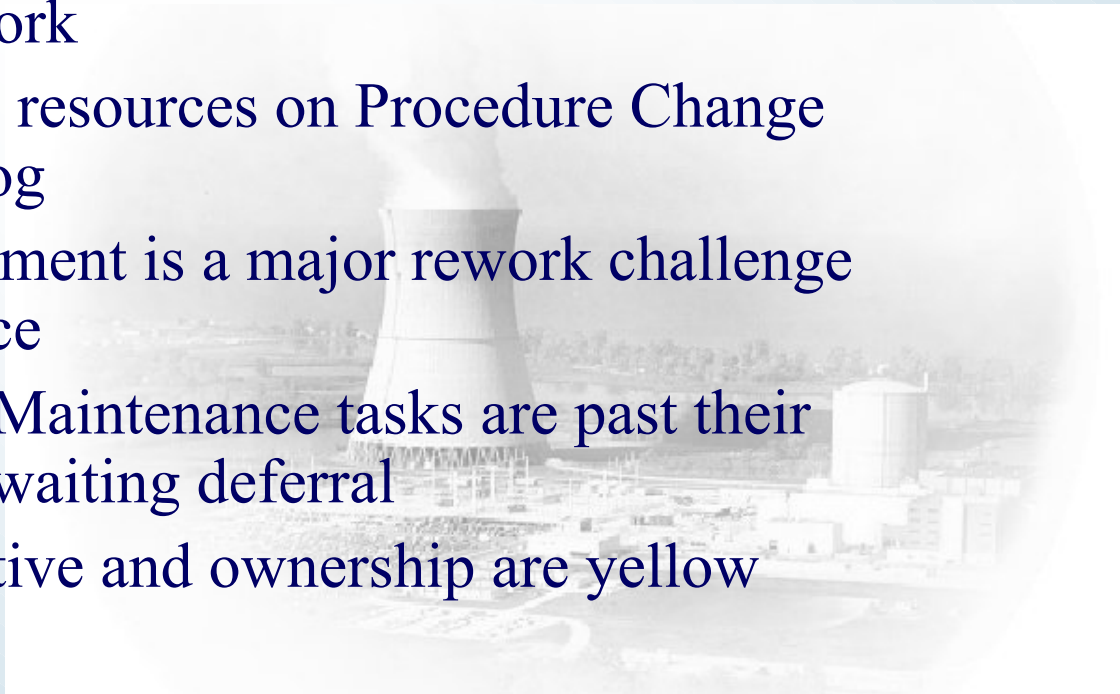
# Mode 5 Safety Culture Assessment

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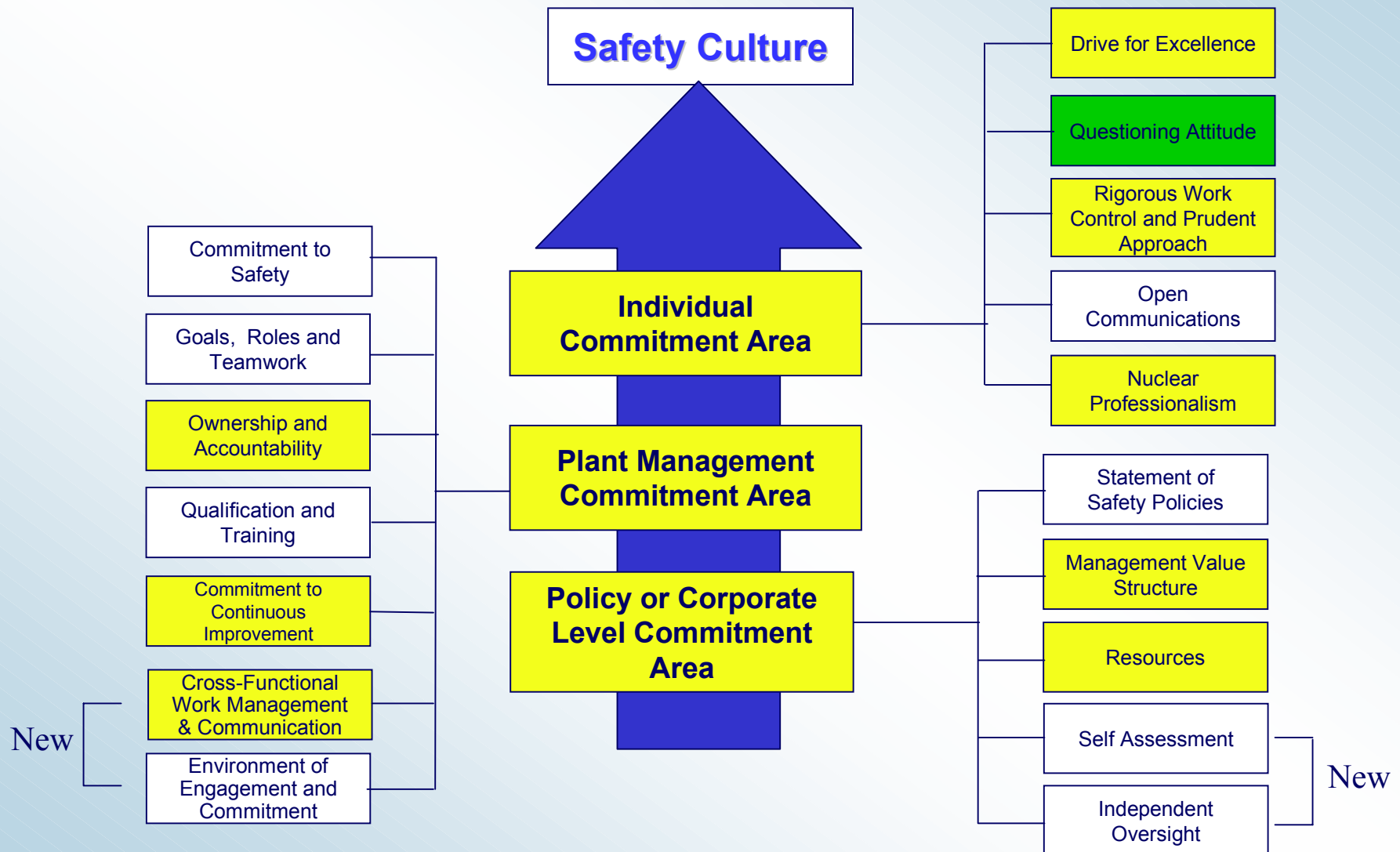
## Individual Commitment Area

- **Basis for Overall Rating of Yellow**

- Overall quality of pre-job briefs is white; green for critical evolutions, yellow for lower significance work
- We are putting resources on Procedure Change Request backlog
- Rotating equipment is a major rework challenge for Maintenance
- 72 Preventive Maintenance tasks are past their due date and awaiting deferral
- Personal initiative and ownership are yellow



# Correlation of Independent Safety Culture Assessment



# Safety Conscious Work Environment Employee Survey

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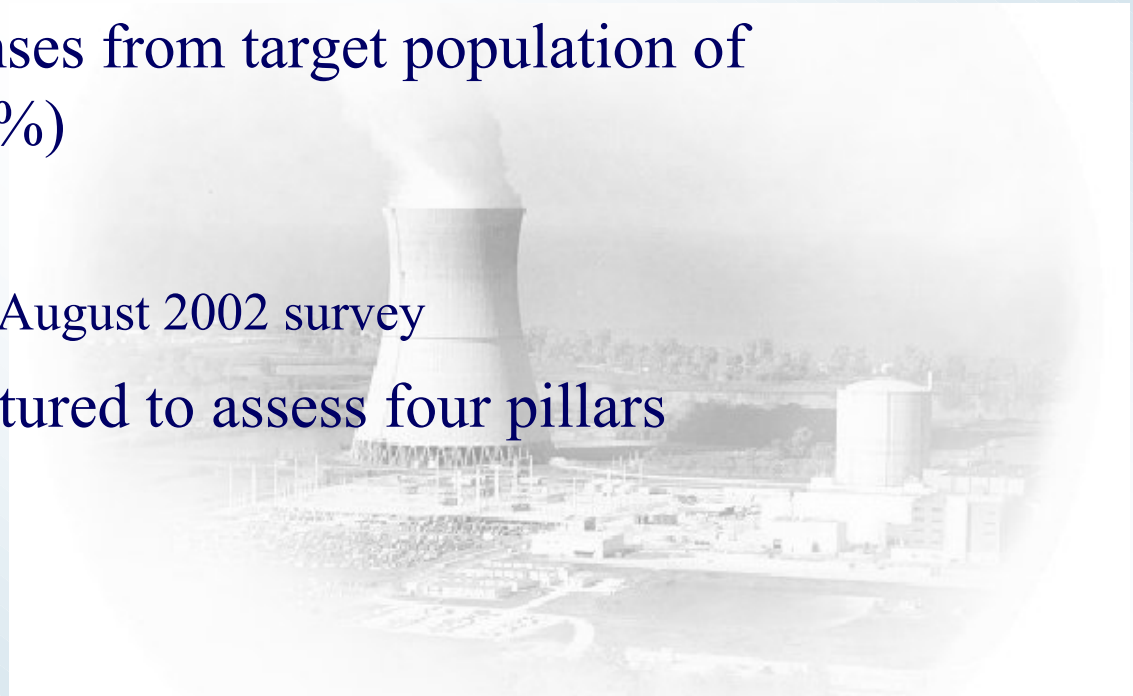
**Bill Pearce**  
Vice President - FENOC Oversight

57

# Safety Conscious Work Environment Employee Survey

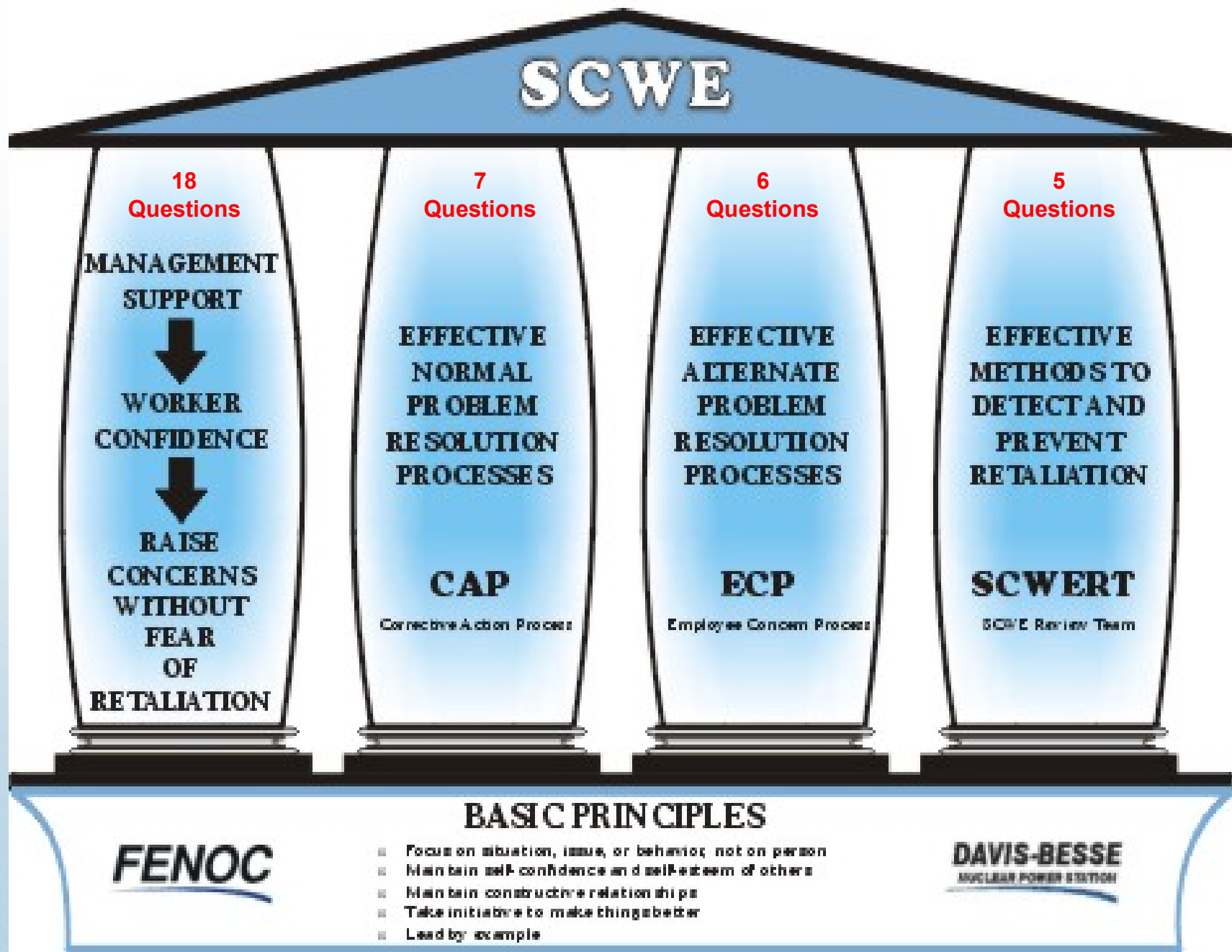
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- **Employee Survey:**
  - Conducted March 26 - 28, 2003
  - FENOC employees and contract employees
  - 1,138 responses from target population of ~1,448 (~79%)
  - 36 questions
    - 26 same as August 2002 survey
  - Survey structured to assess four pillars



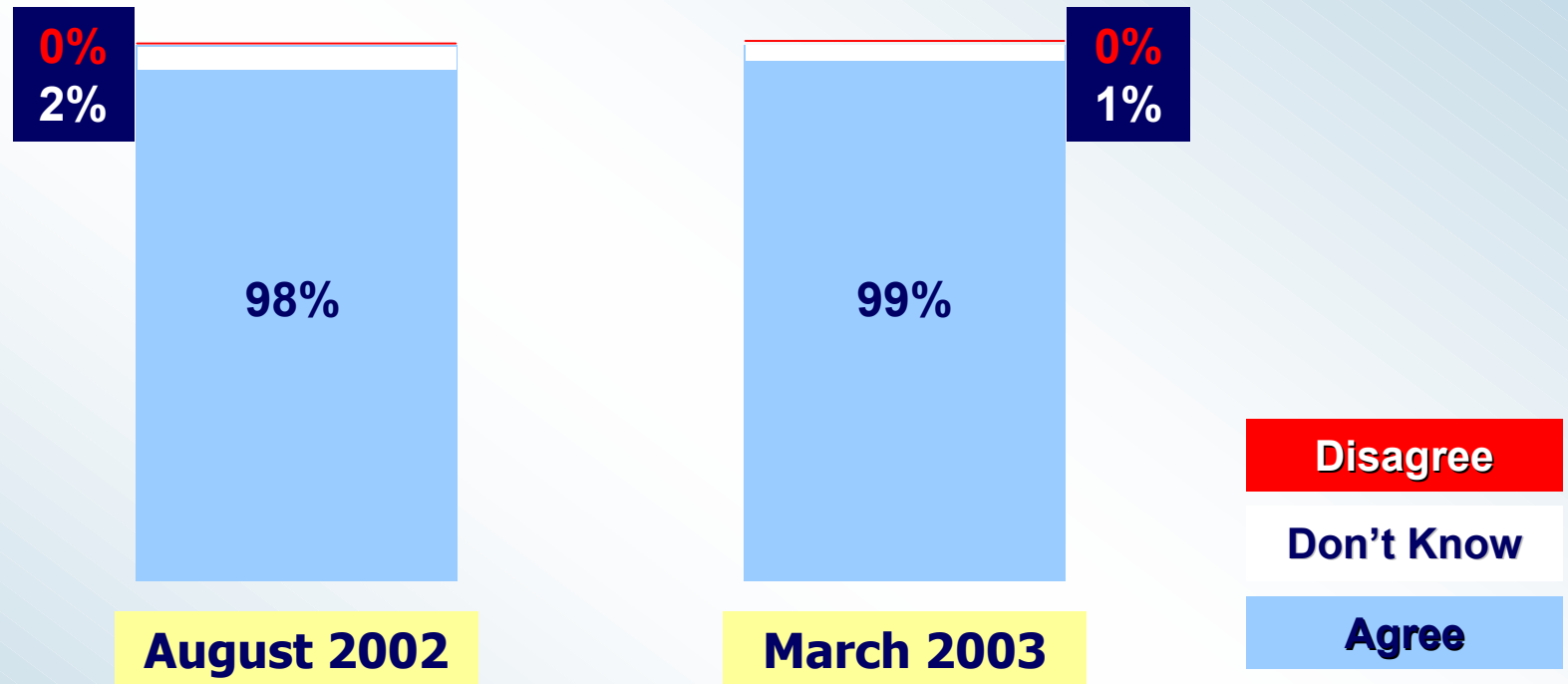


# FOUR PILLARS OF A SAFETY CONSCIOUS WORK ENVIRONMENT



# Safety Conscious Work Environment Employee Survey

## Pillar 1: Willingness to Raise Concerns



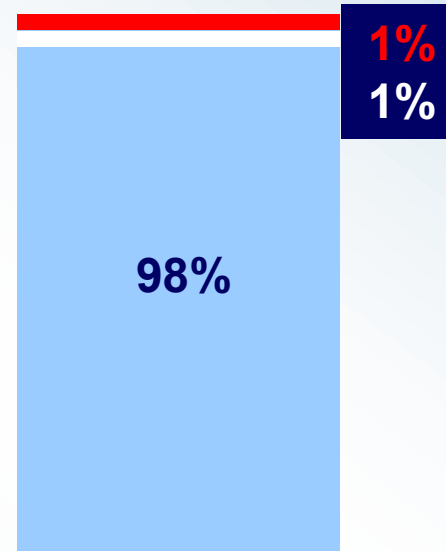
As a nuclear worker, I am responsible for identifying problems and adverse conditions.<sup>1</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 1: Willingness to Raise Concerns

Question  
Not  
Asked

August 2002

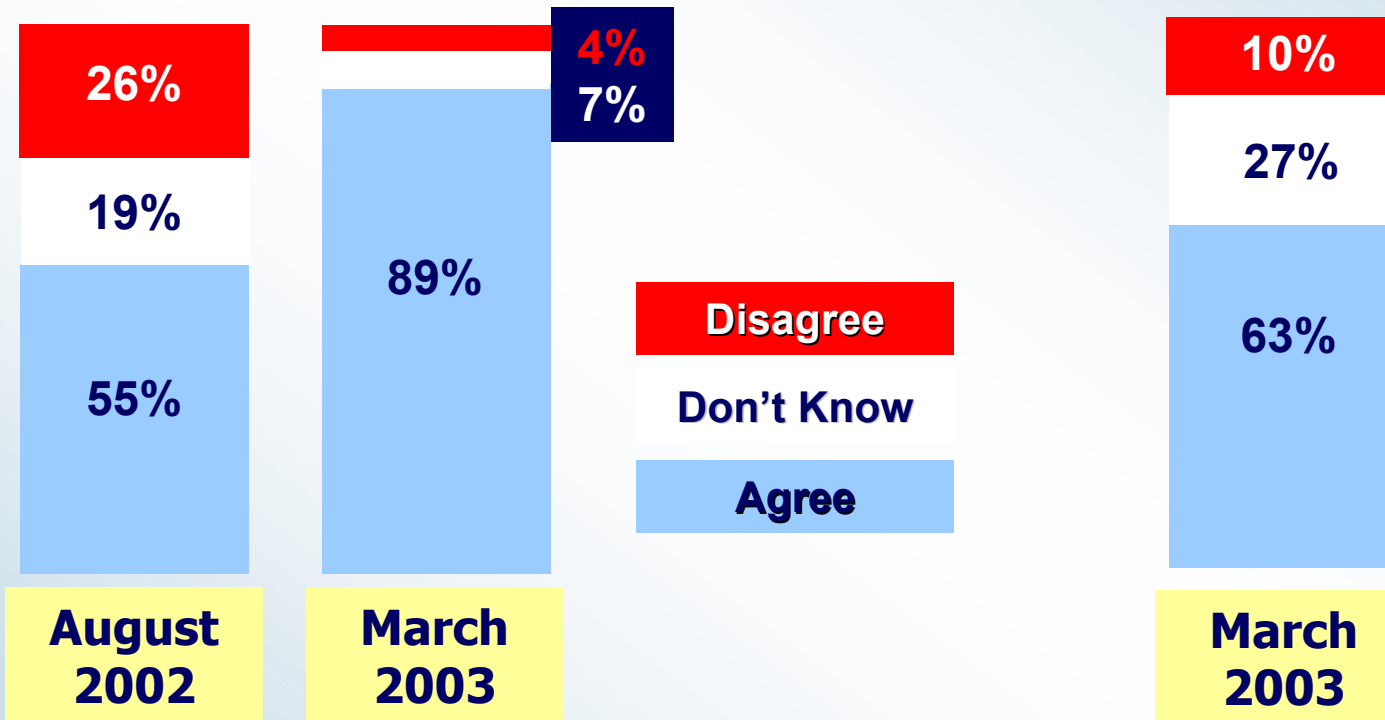


March 2003

If I had a nuclear safety or quality concern, I would raise it. <sup>3</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 1: Willingness to Raise Concerns

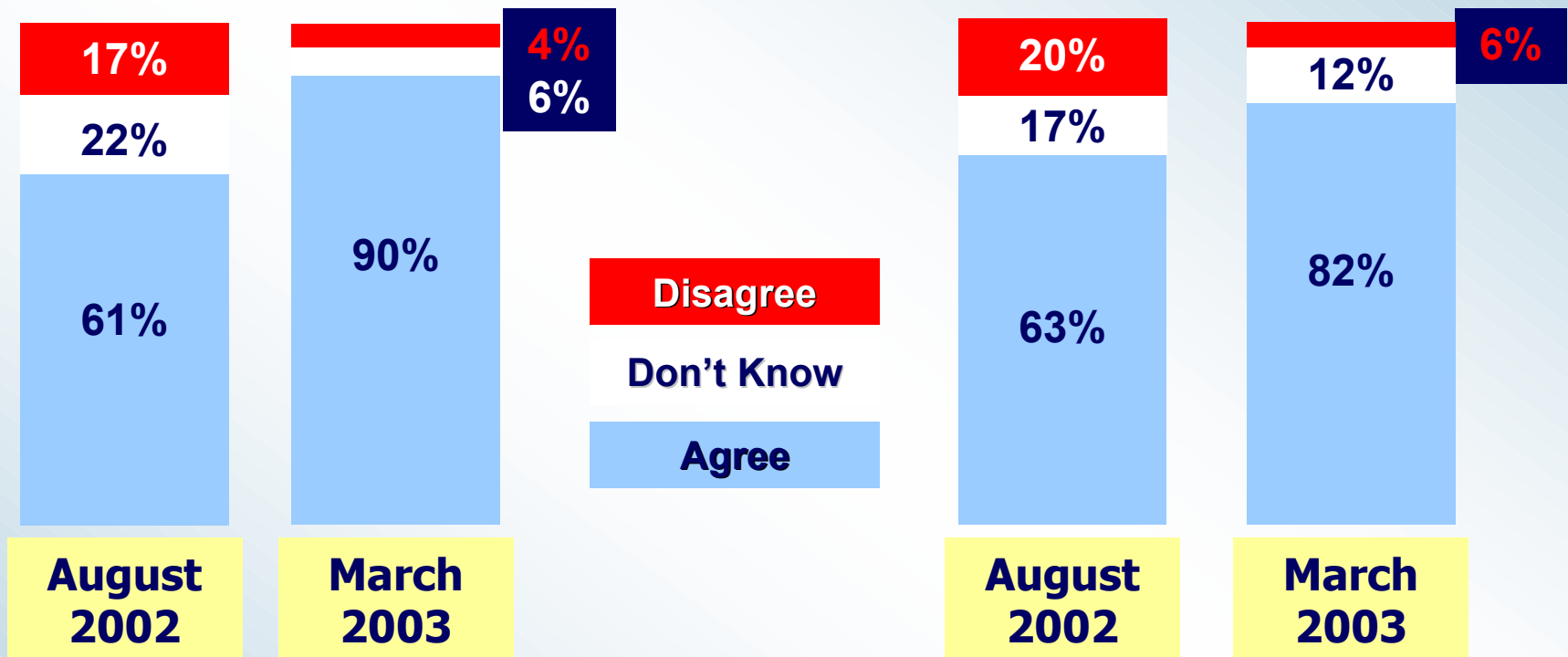


Management's expectations regarding safety and quality are clearly communicated. <sup>16</sup>

Management's expectations regarding safety and quality are reflected in performance reviews, rewards and discipline. <sup>17</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 1: Willingness to Raise Concerns



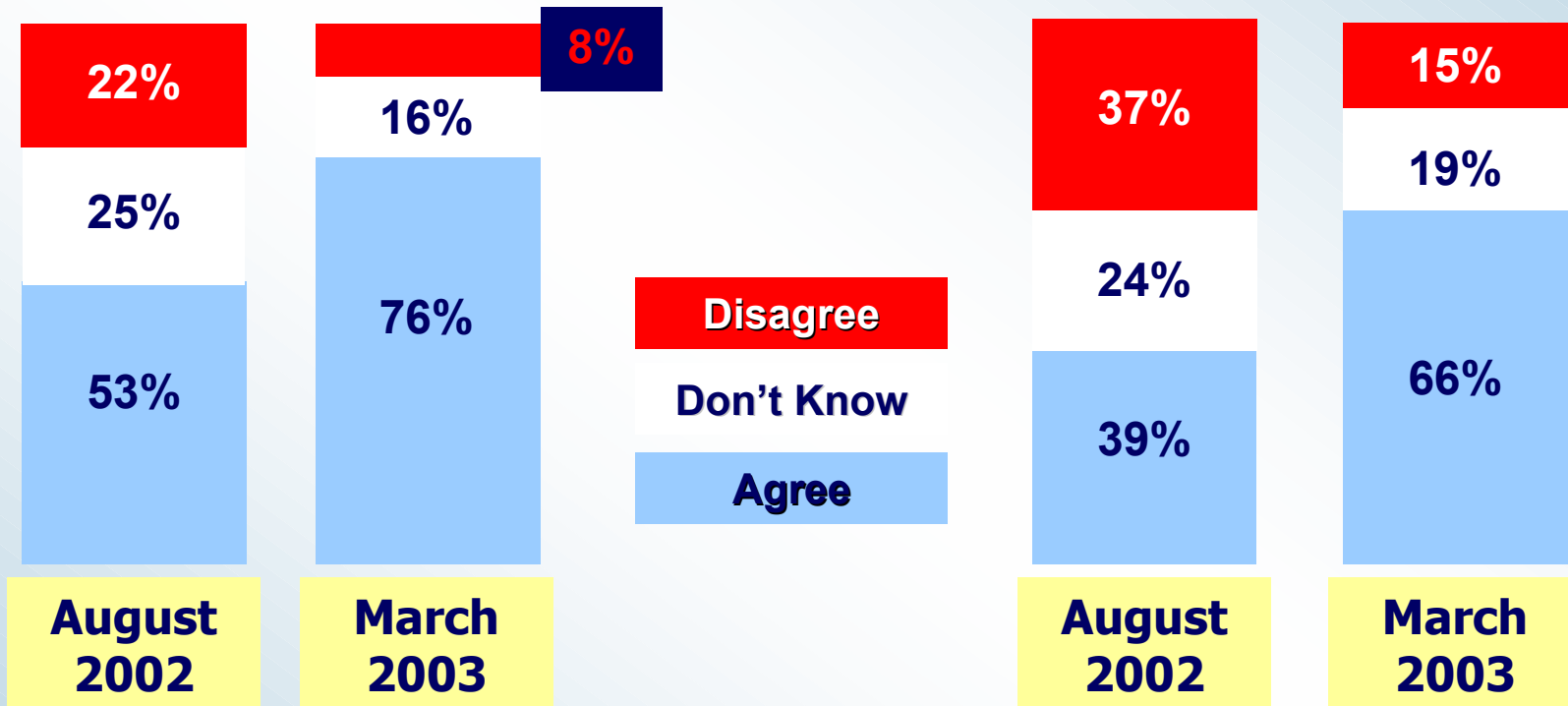
My first line supervisor/foreman addresses concerns brought to his/her attention. 8

Management is willing to listen to your problems. 13



# Safety Conscious Work Environment Employee Survey

## Pillar 1: Willingness to Raise Concerns

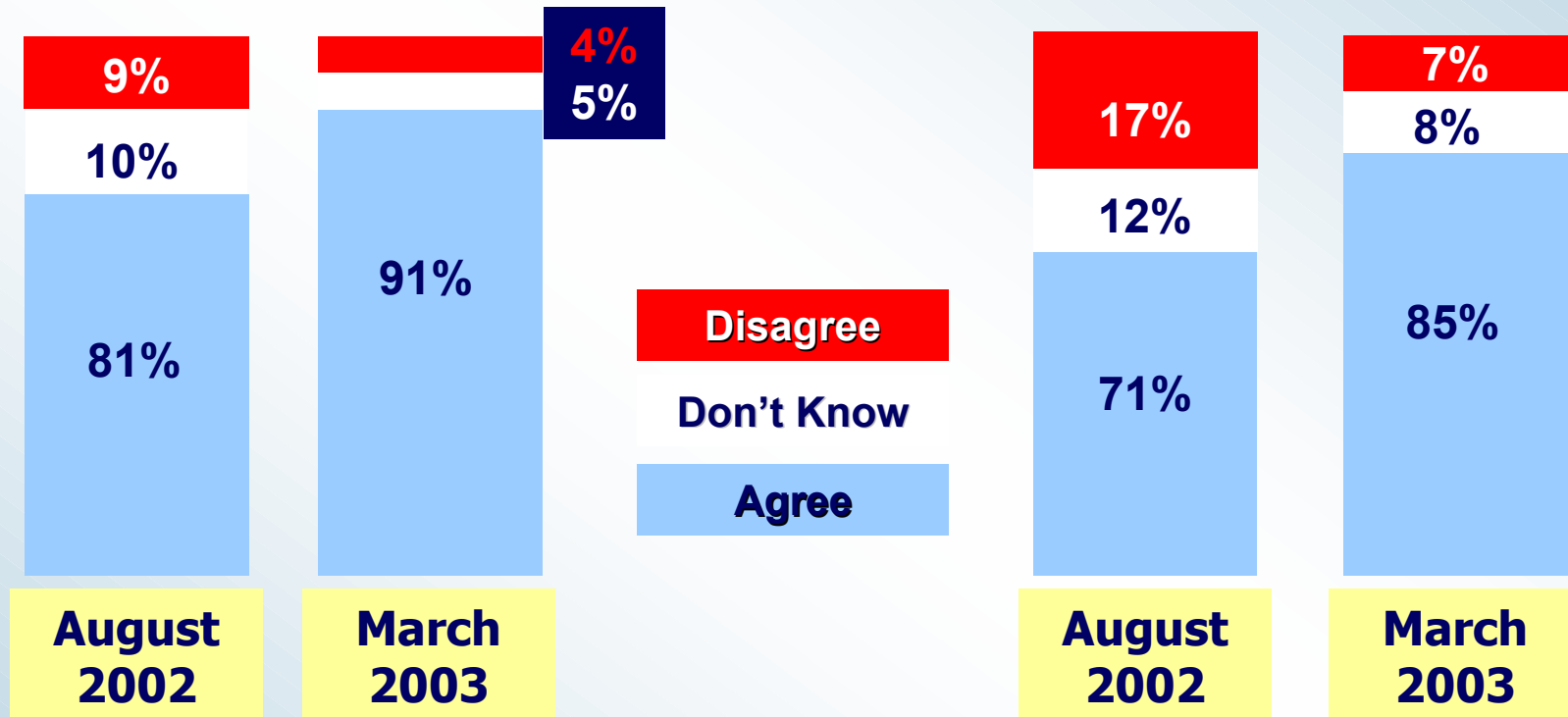


Constructive criticism is encouraged. <sup>14</sup>

I believe my management cares more about identifying and resolving nuclear safety, quality and compliance issues than cost and schedule. <sup>18</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 1: Willingness to Raise Concerns

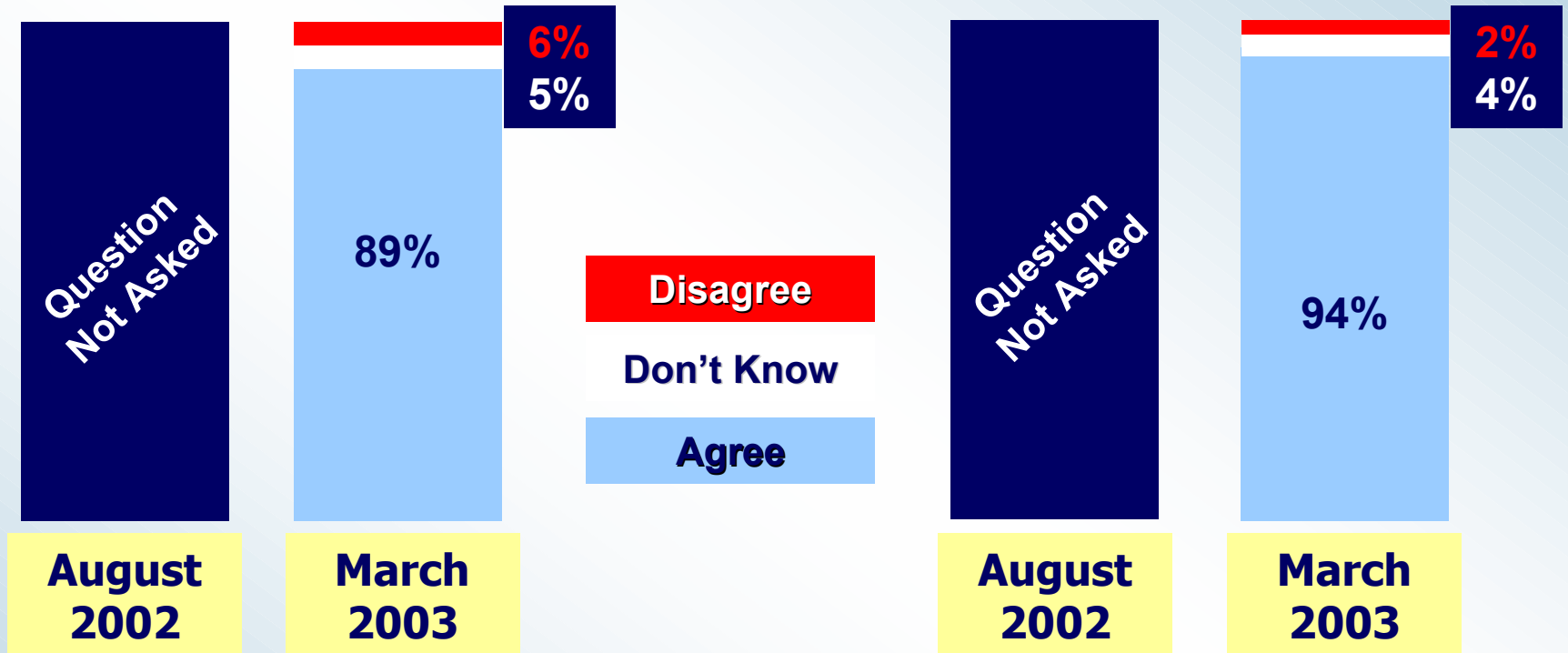


I feel free to approach management regarding any nuclear safety or quality concern <sup>5</sup>

I believe I can raise any nuclear safety or quality concern without fear of retaliation. <sup>7</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 2: Normal Problem Resolution Processes

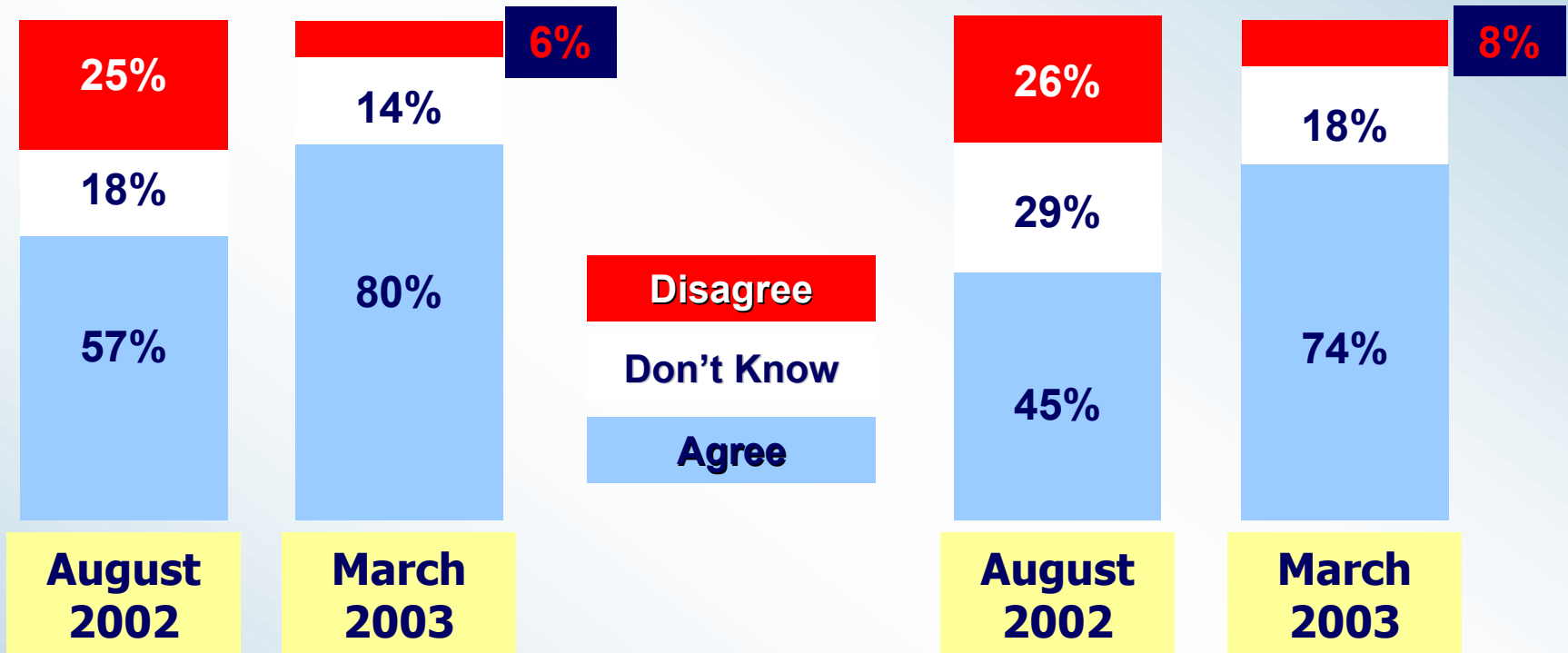


I know how to write a Condition Report and get it into the system or know who to contact to get help in initiating a Condition Report. <sup>19</sup>

If I identified a potential nuclear safety or nuclear quality issue I would ensure that a Condition Report was written to address the issue. <sup>20</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 2: Normal Problem Resolution Processes

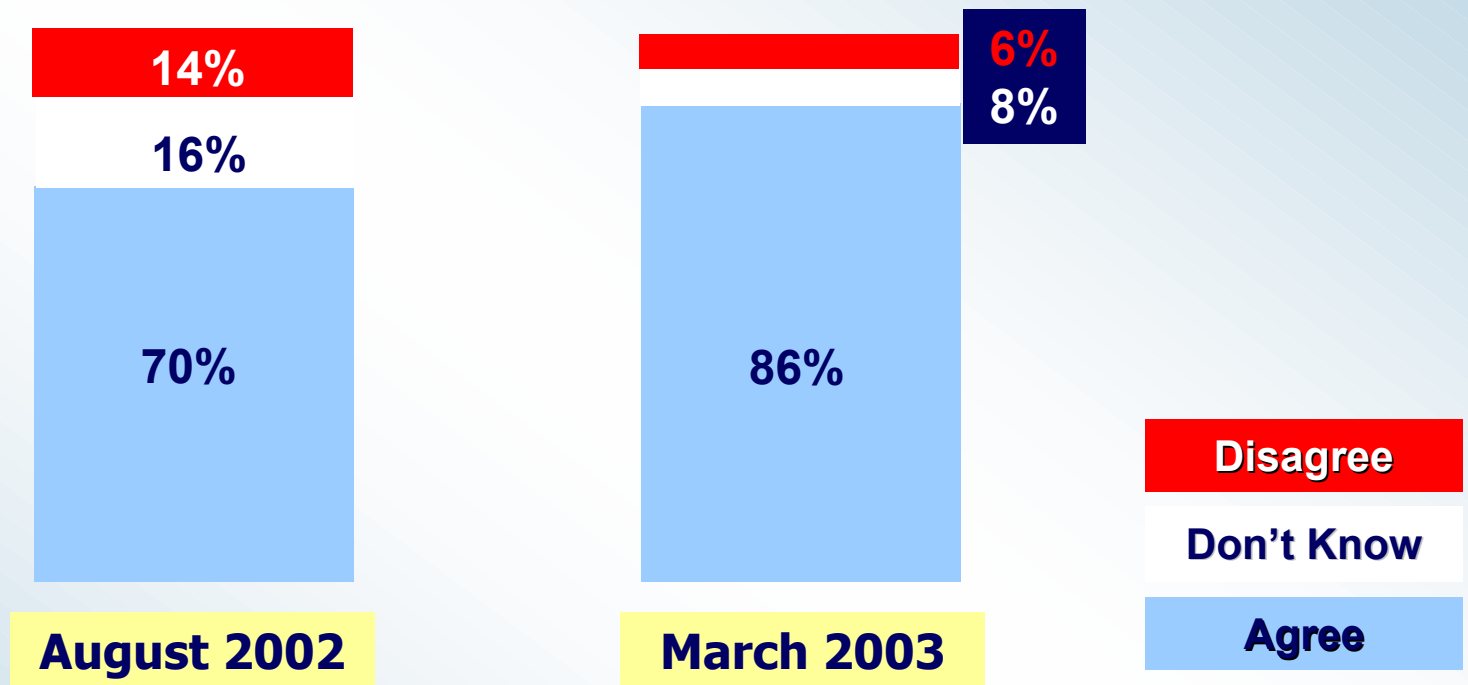


Identification of potential nuclear safety/nuclear quality issues through the Condition Report process is effective in our organization. <sup>21</sup>

Resolution of potential nuclear safety and nuclear quality issues, including root cause and broader implications, through the Condition Report process is effective in our organization. <sup>23</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 2: Normal Problem Resolution Processes

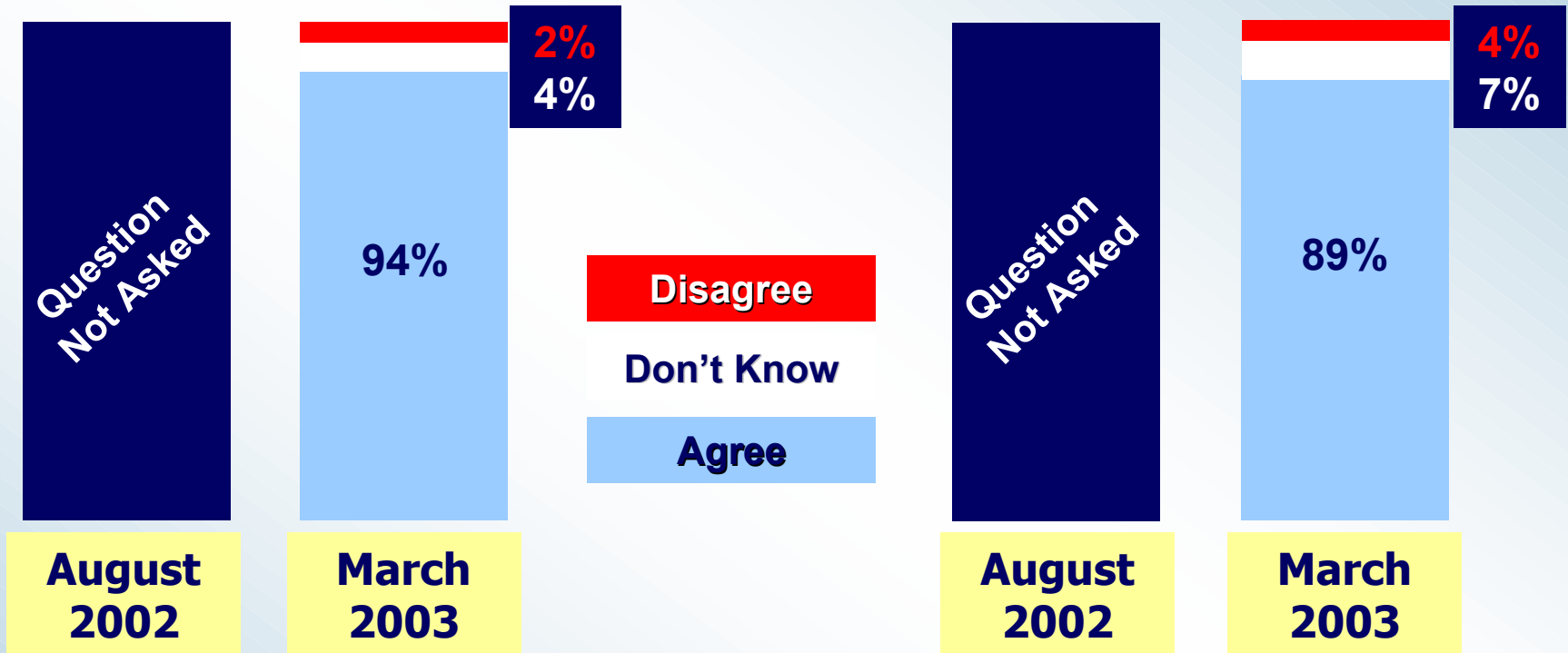


I feel free to raise nuclear safety/nuclear quality concerns through the Condition Report process without fear of reprisal. <sup>25</sup>



# Safety Conscious Work Environment Employee Survey

## Pillar 3: Employee Concerns Program

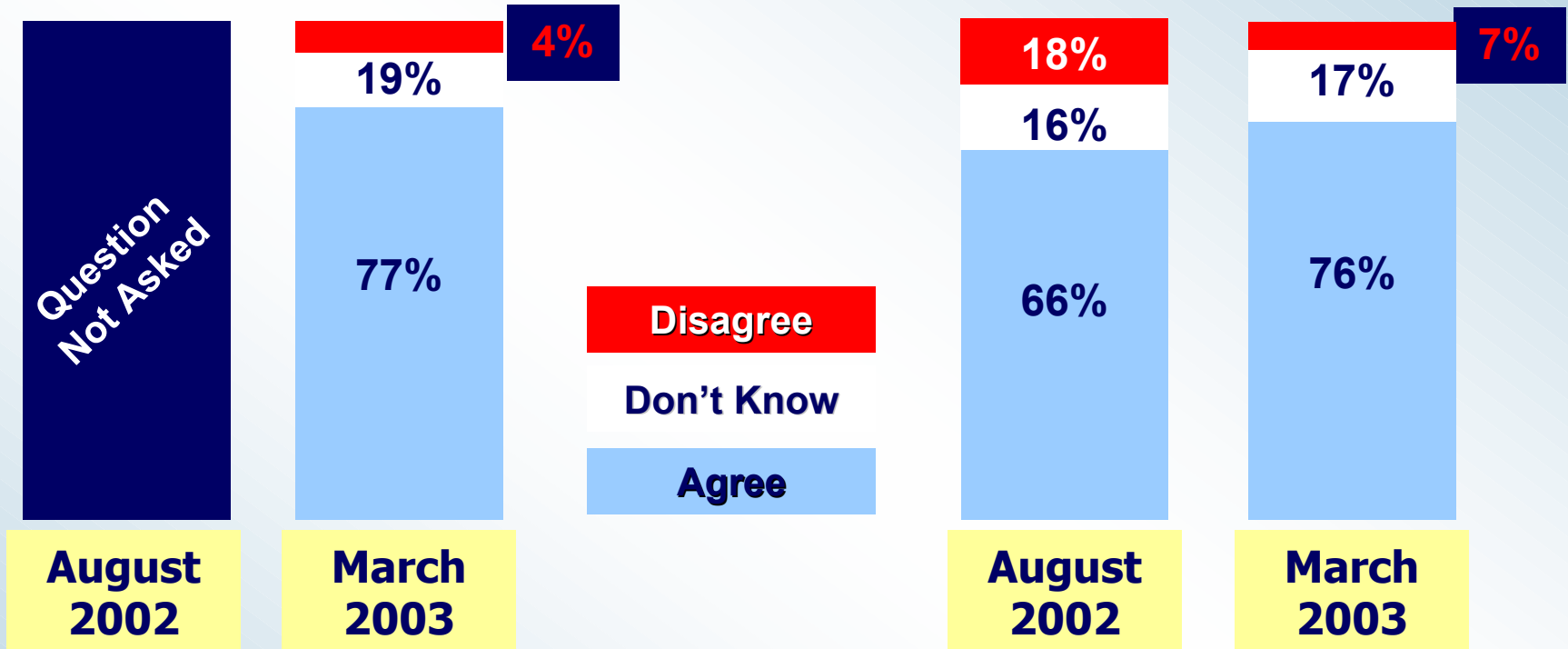


I am aware of the Employee Concerns Program and its purpose.<sup>26</sup>

If I had a nuclear safety or quality concern I would raise it through the Employee Concerns Program if I was uncomfortable raising the concern through my chain of command or in a Condition Report.<sup>27</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 3: Employee Concerns Program

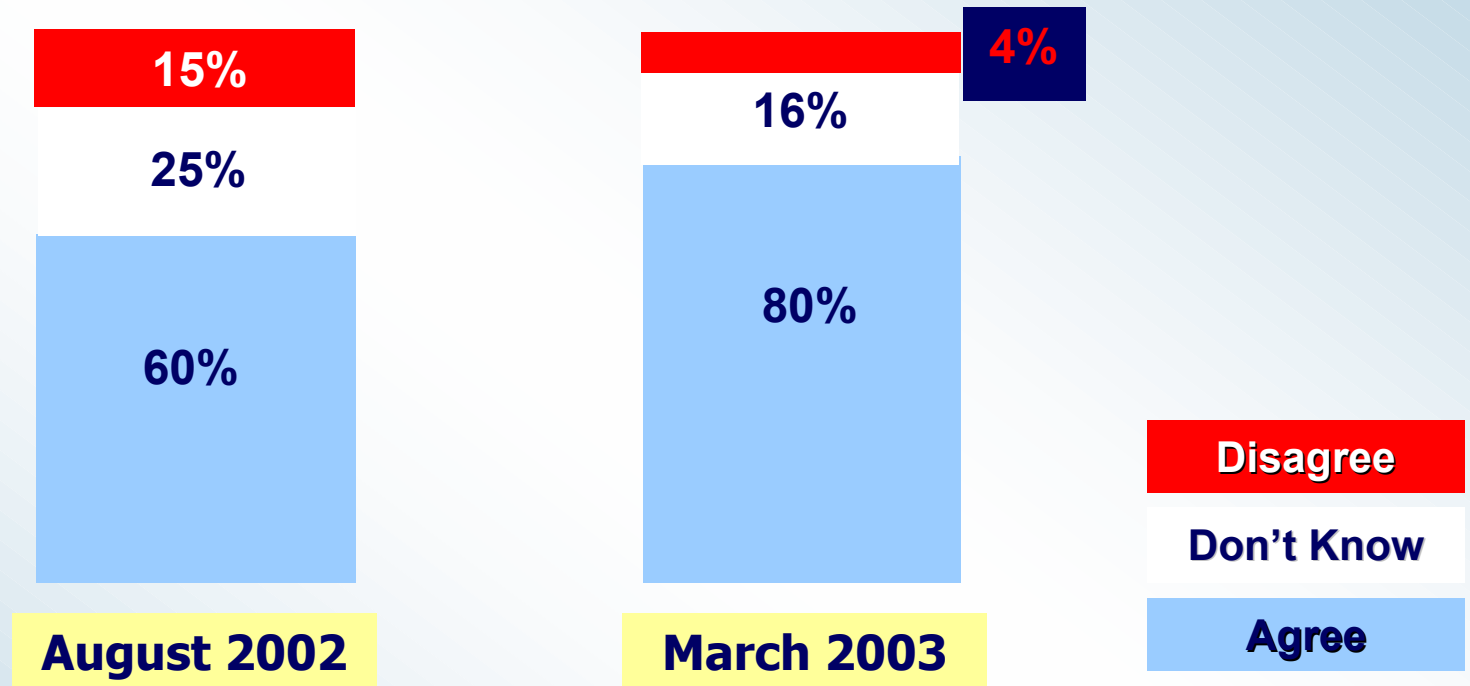


I believe issues reported through the Employee Concerns Program will be thoroughly investigated and objectively dispositioned.<sup>28</sup>

I believe that the Employee Concerns Program will keep my identity confidential at my request.<sup>31</sup>

# Safety Conscious Work Environment Employee Survey

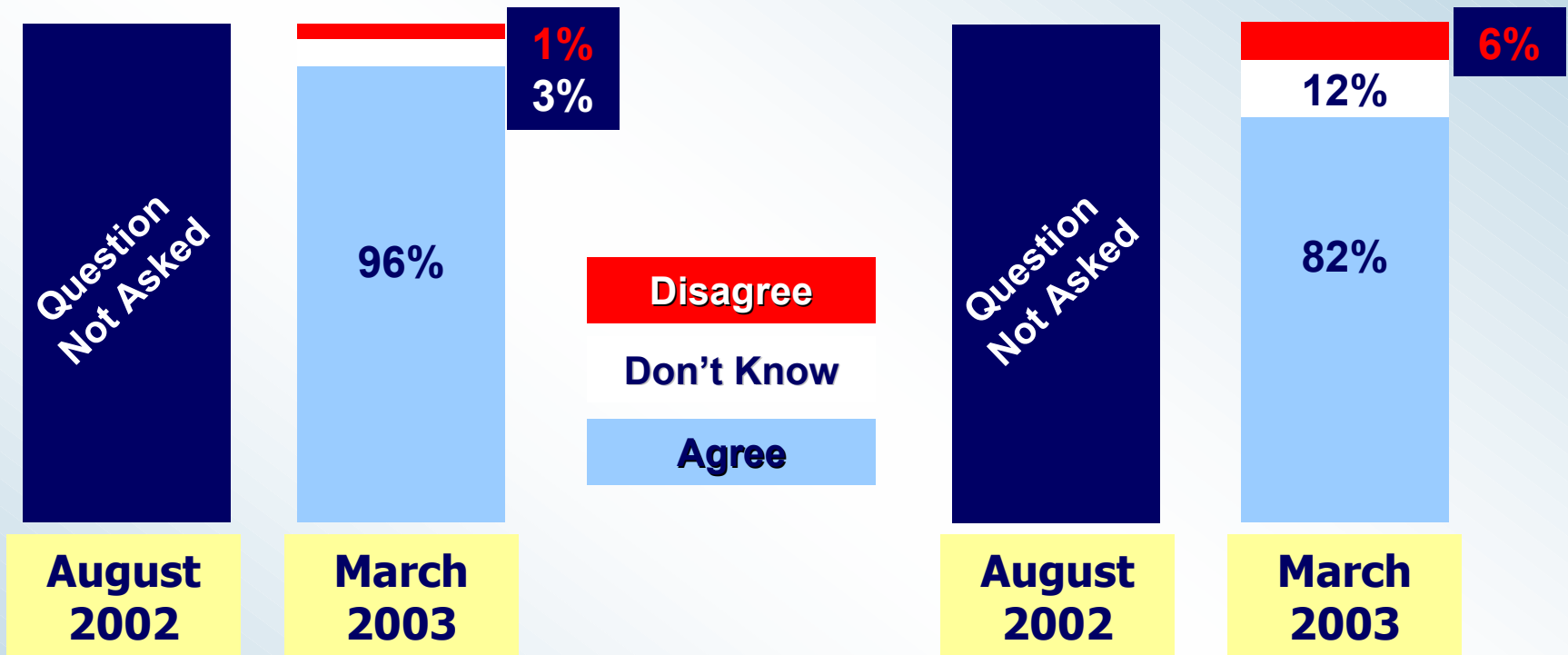
## Pillar 3: Employee Concerns Program



I believe that upper management supports the Employee Concerns Program.<sup>29</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 4: Detect and Prevent Retaliation

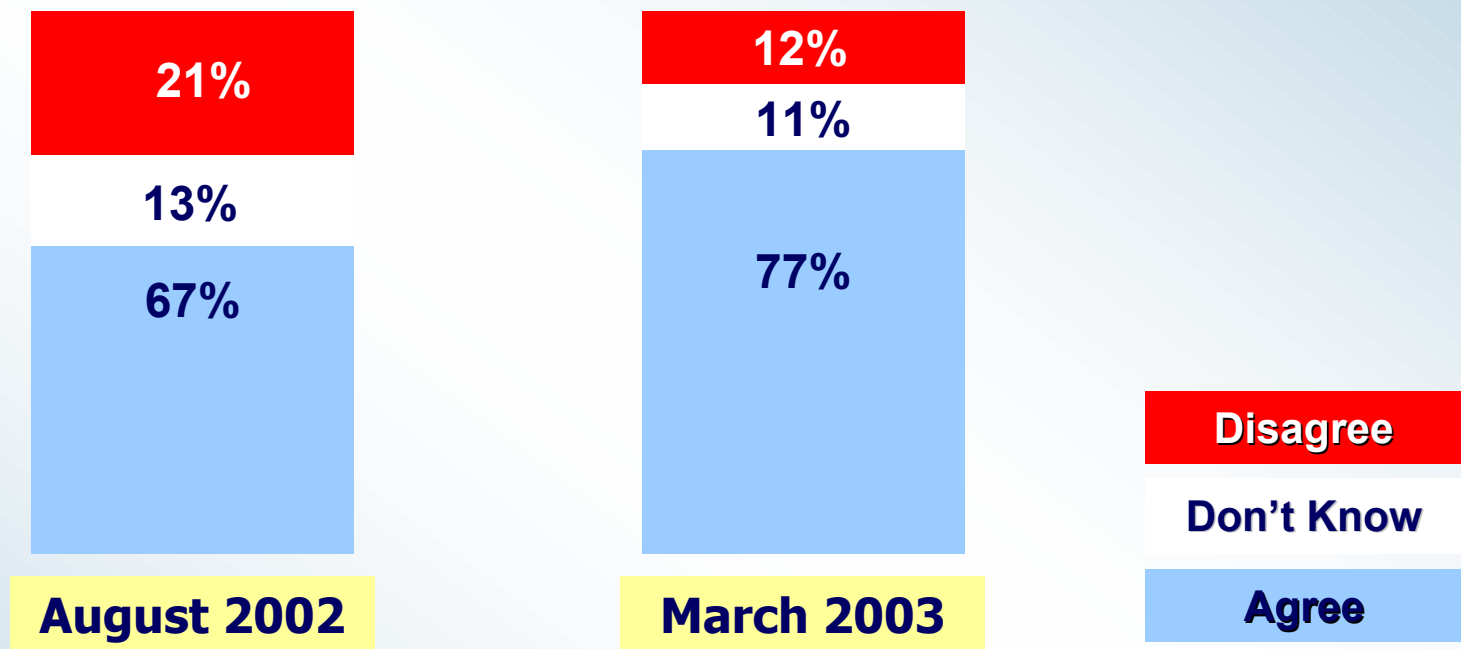


I am aware of the FENOC Safety Conscious Work Environment Policy.<sup>32</sup>

I am aware of the Safety Conscious Work Environment Review Team and its purpose.<sup>34</sup>

# Safety Conscious Work Environment Employee Survey

## Pillar 4: Detect and Prevent Retaliation

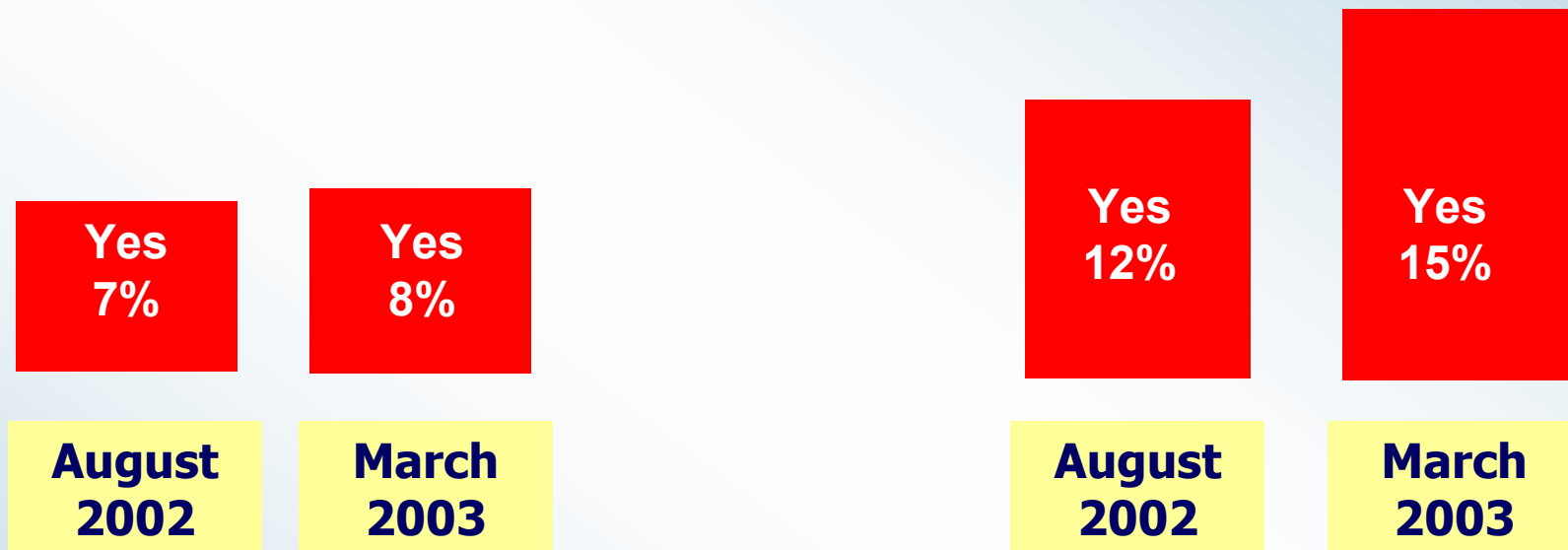


I believe my work environment is free of harassment, intimidation, retaliation and discrimination (HIRD).<sup>11</sup>



# Safety Conscious Work Environment Employee Survey

## Pillar 4: Detect and Prevent Retaliation



Within the last six months, I have been subjected to HIRD for raising nuclear safety, quality or compliance concerns while working at Davis-Besse.<sup>35</sup>

I am aware of instances that occurred within the last six months in which workers in my work group have been subjected to HIRD for raising nuclear safety, quality or compliance concerns while working at Davis-Besse.<sup>36</sup>

74

# Safety Conscious Work Environment Employee Survey

## Pillar 4: Detect and Prevent Retaliation



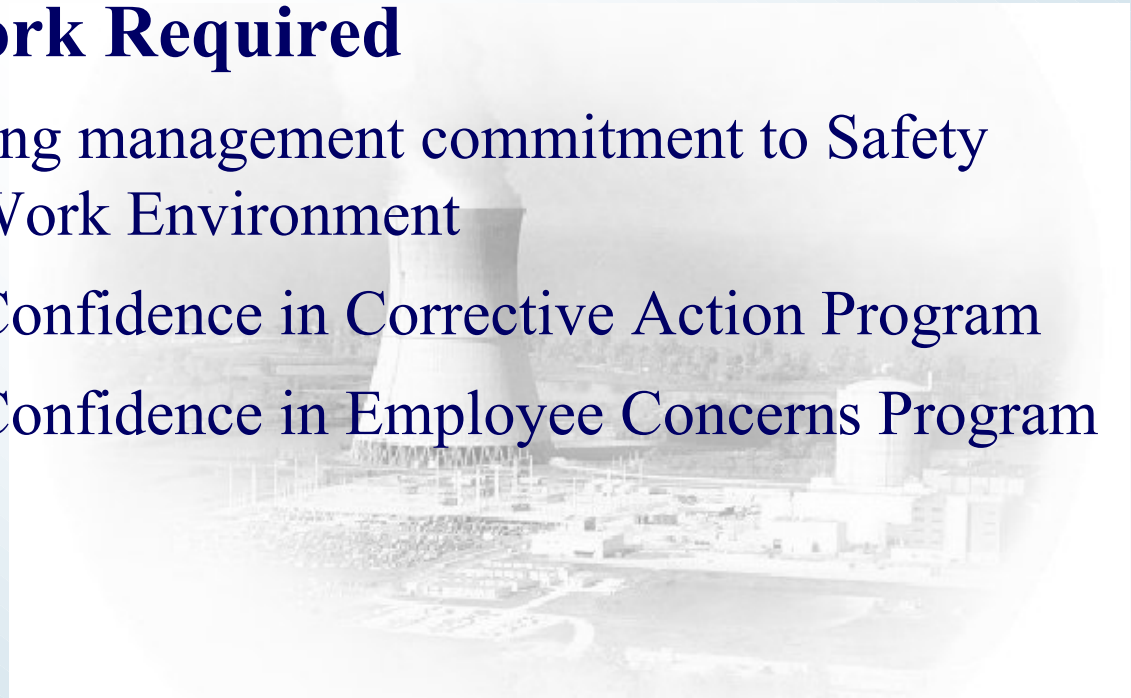
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# Safety Conscious Work Environment Employee Survey

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- **Results Show Improvement from August 2002 Survey**
  - Significant improvement on 24 of 26 questions
- **Additional Work Required**
  - Demonstrating management commitment to Safety Conscious Work Environment
  - Improving Confidence in Corrective Action Program
  - Improving Confidence in Employee Concerns Program



# Milestone Progress/Bulk Work

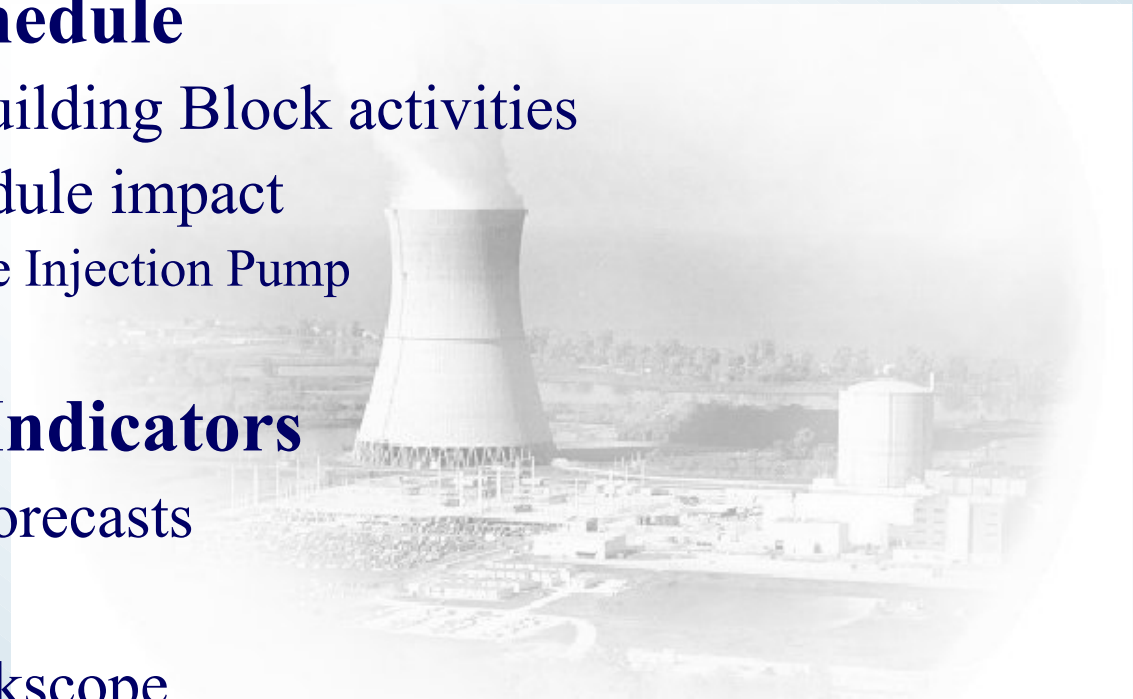
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**Mike Stevens**  
**Director - Maintenance**

# Restart Progress

- **Major Milestones**
  - Making progress
  - Preparing for Mode 4 and Mode 3 pressure test
- **Integrated Schedule**
  - Includes all Building Block activities
  - Potential schedule impact
    - High Pressure Injection Pump
    - Bulk Work
- **Performance Indicators**
  - Schedule vs. forecasts
  - Bulk work
  - Emergent workscope



# Integrated Schedule

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- **Making Progress**

- Completed Reactor Coolant System Valve Maintenance
- Restored Containment Air Cooler #2 and #3
- Completed Reactor Coolant Pump Maintenance
- Completed Emergency Sump installation
- Decay Heat Valve Tank Modification near completion
- Filled Reactor Coolant System
- Completed FLUS Installation
- Completed Containment Pressure Test (ILRT)

- **Next Milestone**

- Mode 4 and Mode 3 Pressure Test

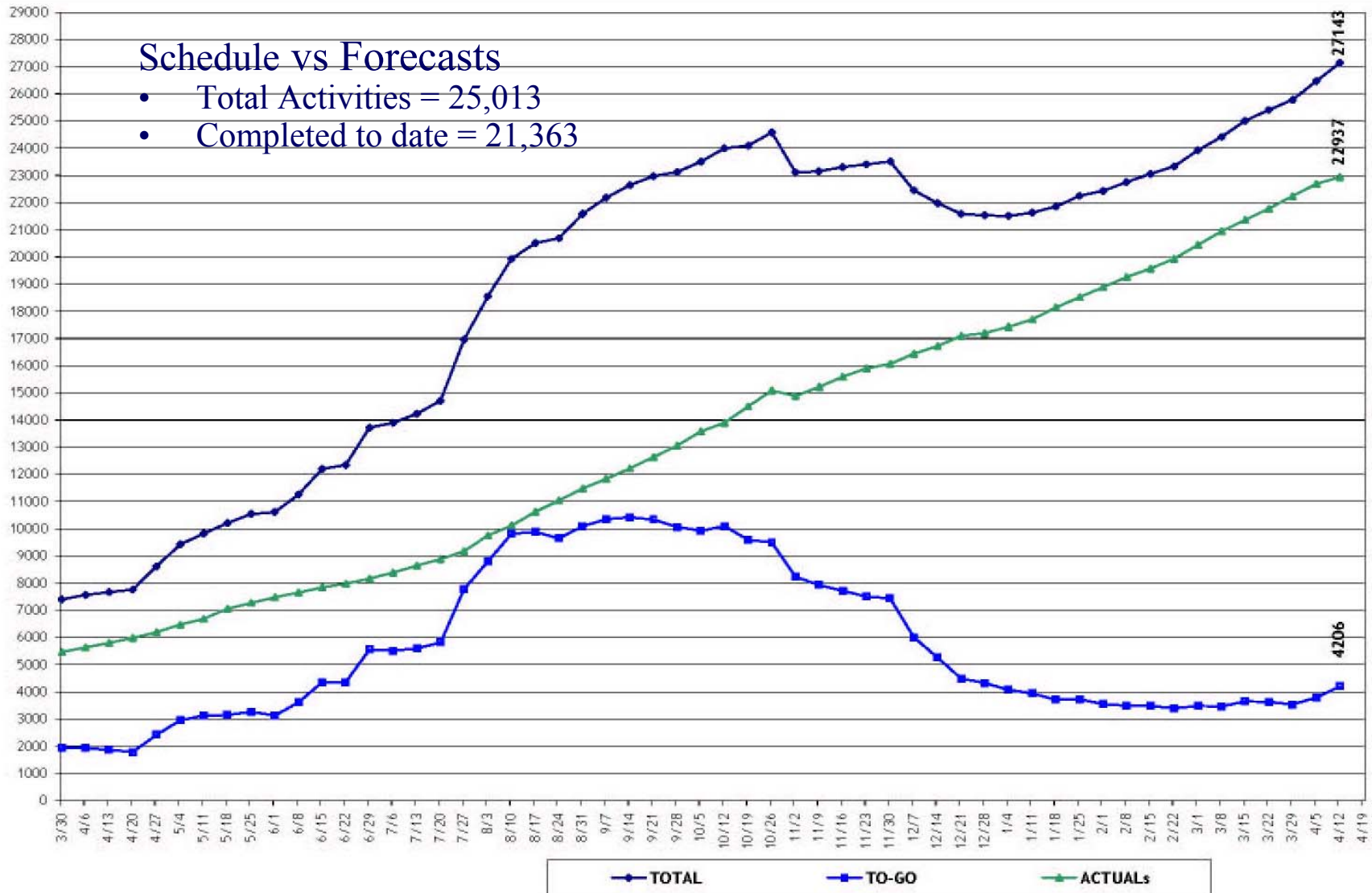
79



## DAVIS-BESSE NUCLEAR POWER STATION TOTAL RESTART Activities

### Schedule vs Forecasts

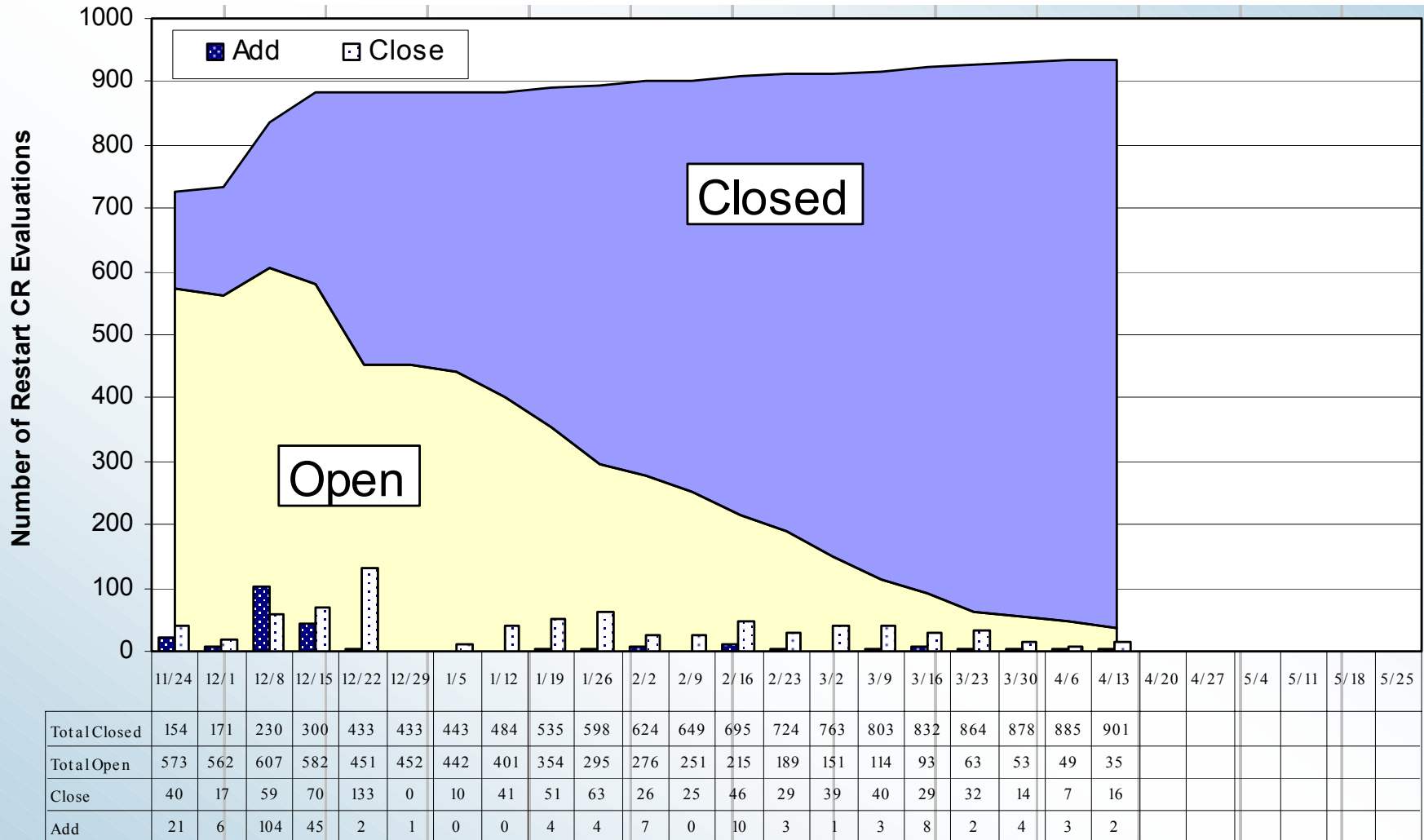
- Total Activities = 25,013
- Completed to date = 21,363



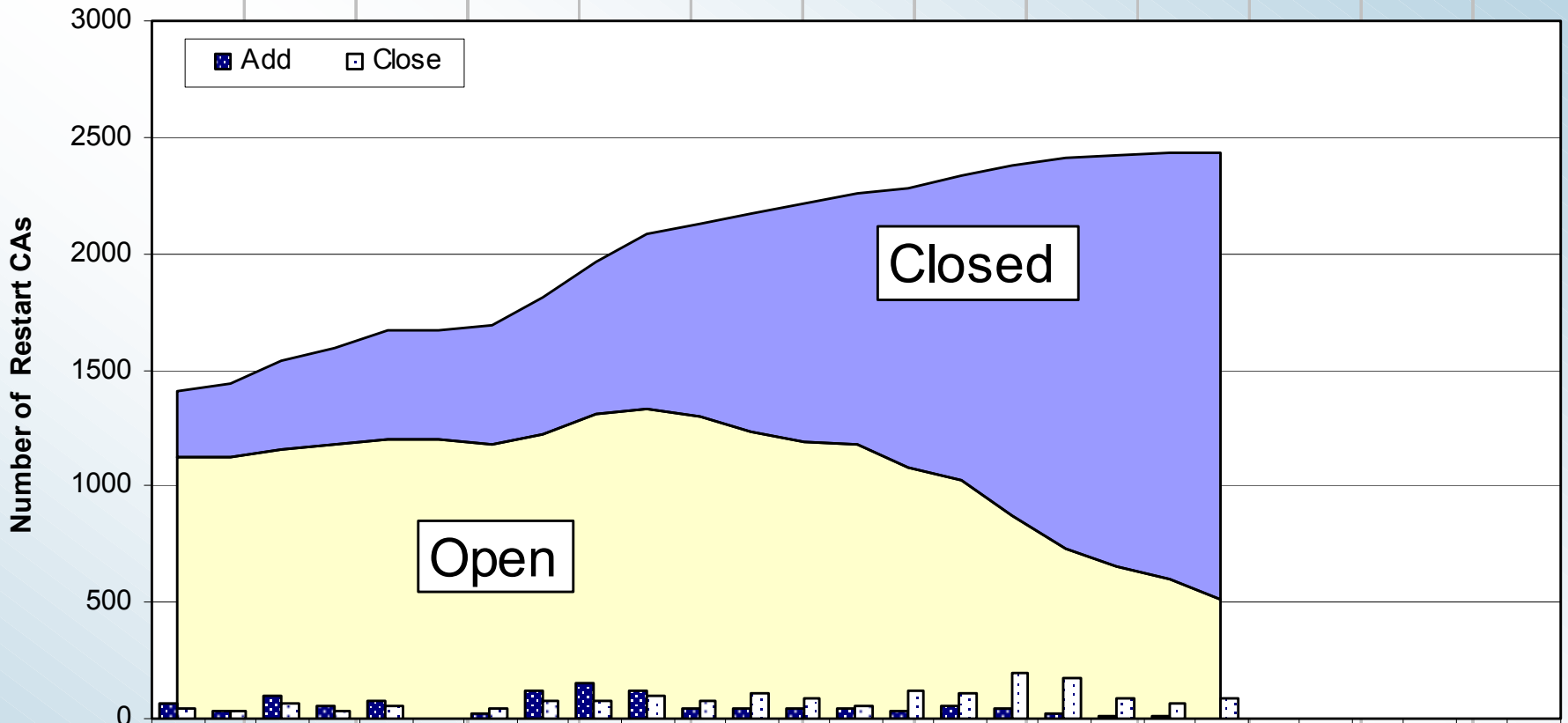


# CONTAINMENT HEALTH ASSURANCE

## CONTAINMENT HEALTH RESTART CR EVALUATIONS



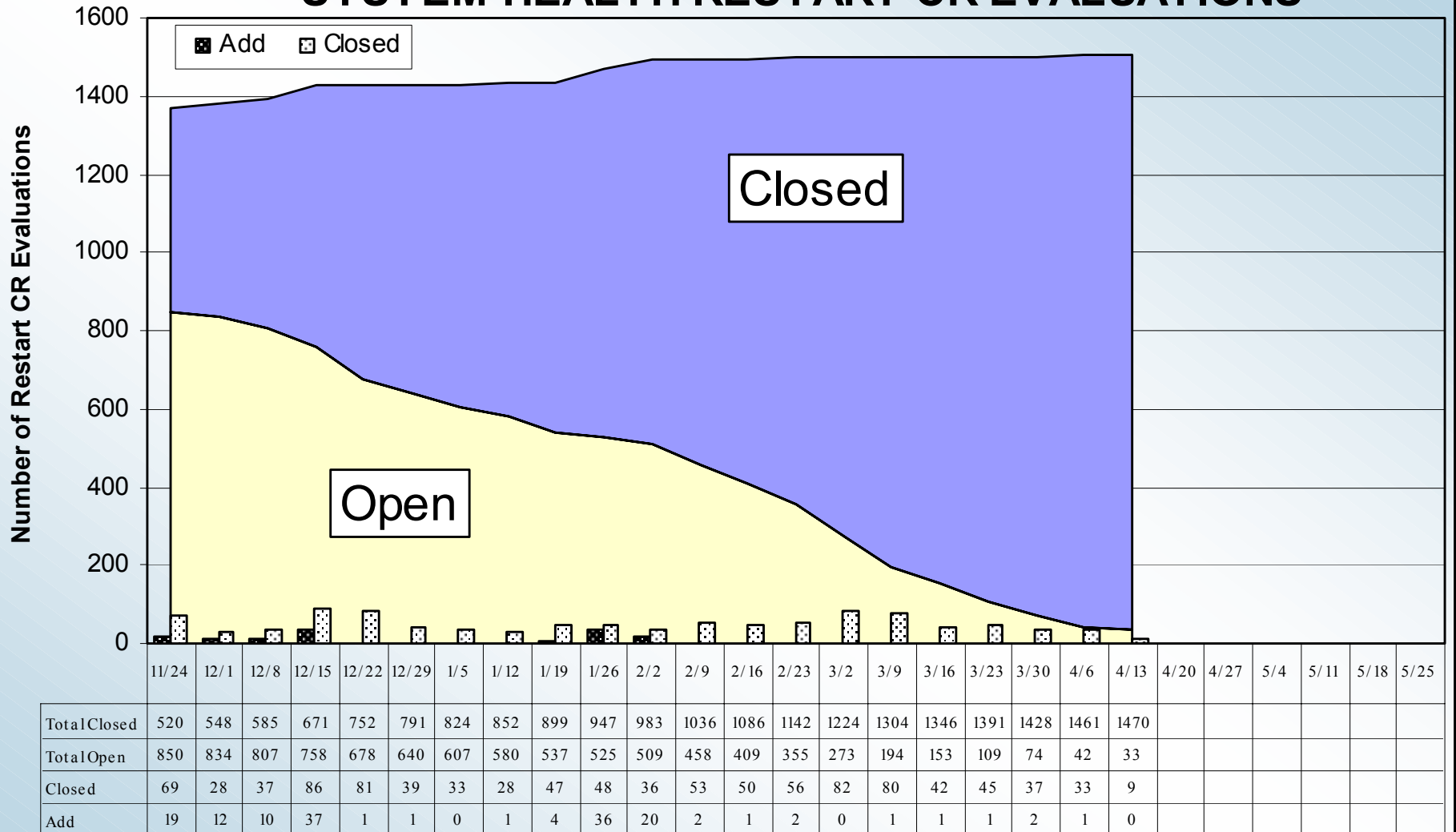
# CONTAINMENT HEALTH ASSURANCE CONTAINMENT HEALTH RESTART CAs



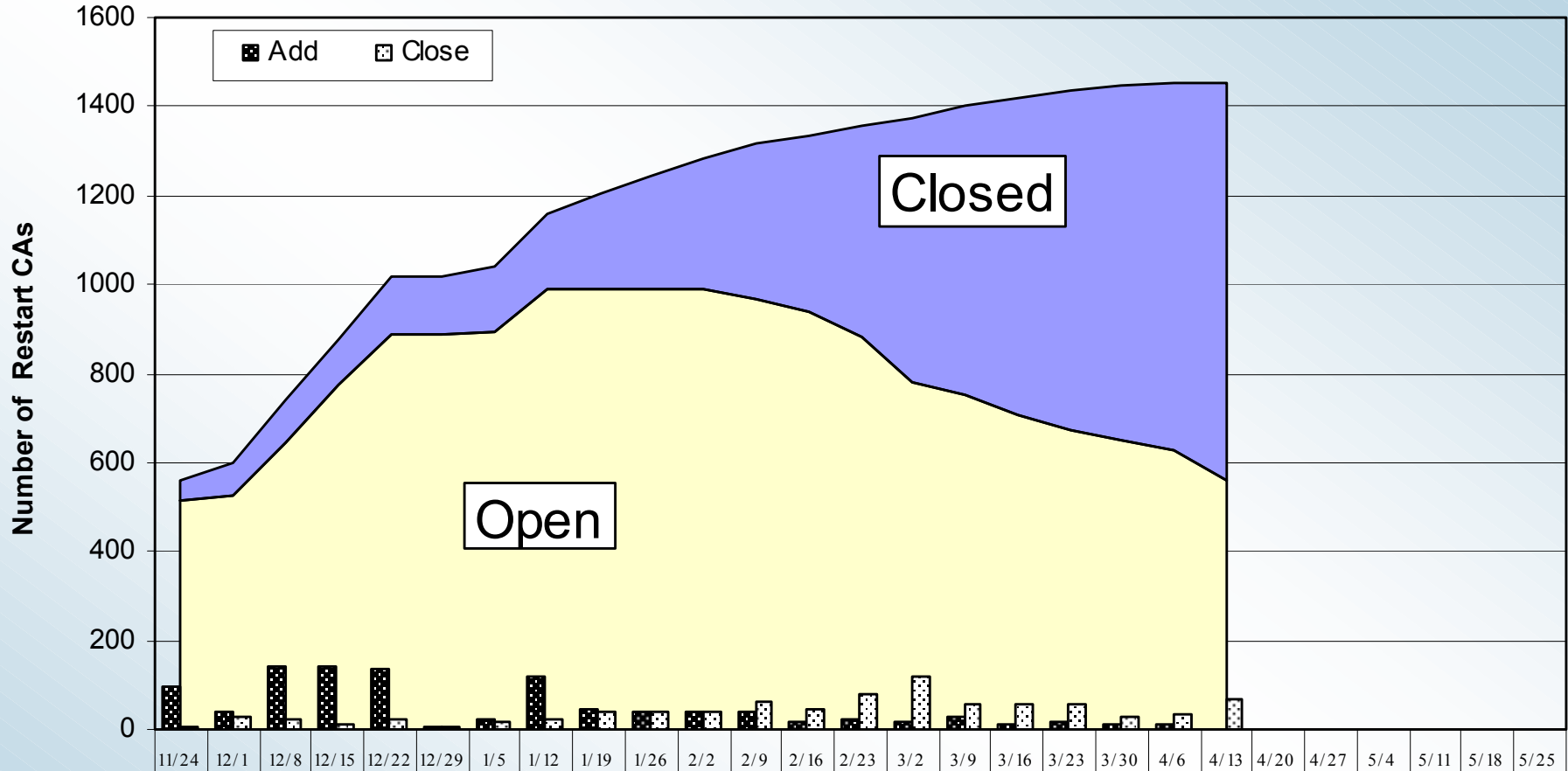
	11/24	12/1	12/8	12/15	12/22	12/29	1/5	1/12	1/19	1/26	2/2	2/9	2/16	2/23	3/2	3/9	3/16	3/23	3/30	4/6	4/13	4/20	4/27	5/4	5/11	5/18	5/25
Total Closed	276	312	381	418	468	469	511	587	658	752	833	946	1029	1081	1201	1314	1510	1680	1765	1831	1923						
Total Open	1127	1129	1160	1177	1204	1203	1182	1226	1311	1335	1299	1229	1187	1174	1083	1026	870	726	655	600	511						
Close	40	36	69	37	50	1	42	76	71	94	81	113	83	52	120	113	196	170	85	66	92						
Add	62	38	100	54	77	0	21	120	156	118	45	43	41	39	29	56	40	26	14	11	3						

# SYSTEM HEALTH ASSURANCE

## SYSTEM HEALTH RESTART CR EVALUATIONS



# SYSTEM HEALTH ASSURANCE SYSTEM HEALTH RESTART CAs



	11/24	12/1	12/8	12/15	12/22	12/29	1/5	1/12	1/19	1/26	2/2	2/9	2/16	2/23	3/2	3/9	3/16	3/23	3/30	4/6	4/13	4/20	4/27	5/4	5/11	5/18	5/25
TotalClosed	42	70	91	103	125	131	147	170	212	251	290	354	399	476	594	650	709	766	792	826	894						
TotalOpen	516	528	647	775	890	889	894	988	991	992	991	966	937	880	781	753	708	670	653	629	561						
Close	7	28	21	12	22	6	16	23	42	39	39	64	45	77	118	56	59	57	26	34	68						
Add	97	40	140	140	137	5	21	117	45	40	38	39	16	20	19	28	14	19	9	10	0						

# OPERATIONAL READINESS

## ON-LINE CORRECTIVE MAINTENANCE BACKLOG



# Summary

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- Making Progress
- Moving Toward Restart
  - High Pressure Injection (HPI) Pump
  - Electrical distribution
  - Readiness meetings
  - Mode 4 pressure test mid to late May
  - Startup approximately one month later
  - Working options to resolve HPI Pump within this timeframe



# Restart Action Performance

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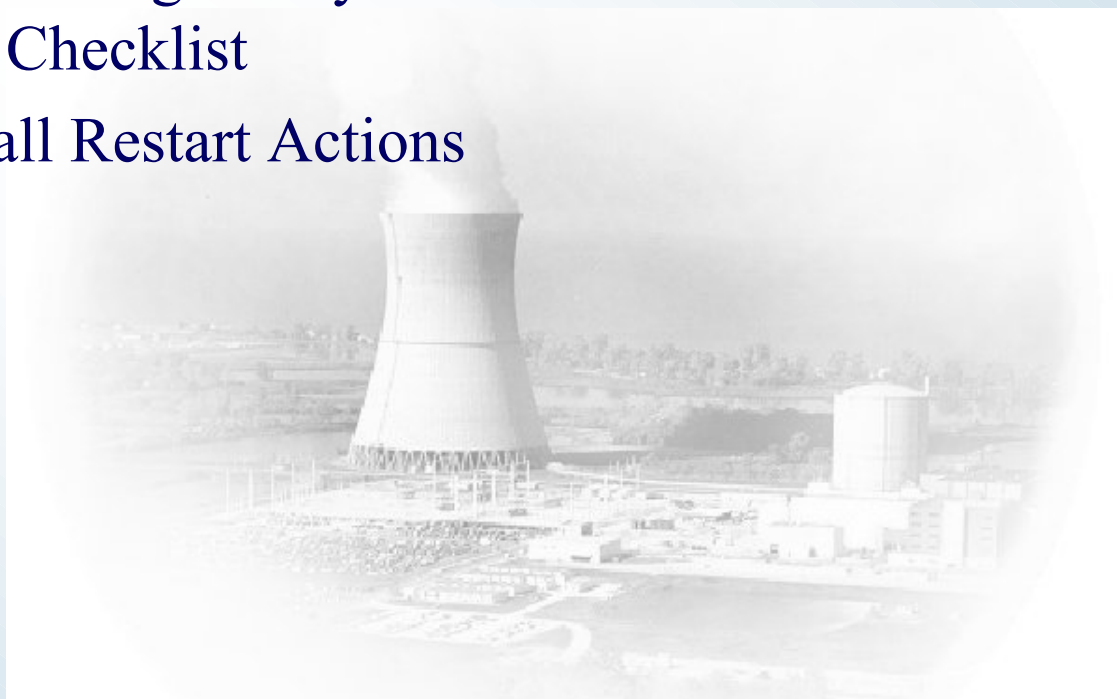
## Clark Price Owner - Restart Action Plan



# Restart Action Performance





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- **Measuring Our Progress**
  - Nuclear Regulatory Commission 0350 Checklist
  - Overall Restart Actions



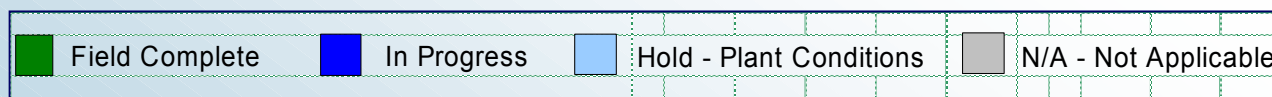
# Restart Action Performance

Item No.	0350 Item Description	Discovery	Implementation
<b>1</b>	<b>Adequacy of Root Cause</b>		
a	Penetration cracking and Reactor Pressure Vessel corrosion	Technical Root Cause 02-0891	
b	Organizational, Programmatic and Human Performance Issues	90	
<b>2</b>	<b>Adequacy of Safety Significant Structures, Systems and Components</b>		
a	Reactor Pressure Vessel Head Replacement		97
b	Containment Vessel Restoration following RPV Head Replacement		99
c	Structures, Systems and Components Inside Containment	100	86
c.1	Containment Emergency Sump	100	98
d	EOC of Boric Acid in Systems Outside of Containment	100	83

 Field Complete	 In Progress	 Hold - Plant Conditions	 N/A - Not Applicable
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
# Restart Action Performance

Item No.	0350 Item Description	Discovery	Implementation
3	Adequacy of Safety Significant Programs		
a	Corrective Action Program	100	100
b	Operating Experience Program	100	100
c.1	Quality Audits	100	95
c.2	Self-Assessments of Programs		100
d	Boric Acid Corrosion Management Program	100	100
e	Reactor Coolant System Unidentified Leakage Monitoring Program		75
f	In-Service Inspection Program	100	100
g	Modification Program	100	100
h	Radiation Protection Program	100	85
i	Completeness & Accuracy of Required Records & Submittals to NRC		60

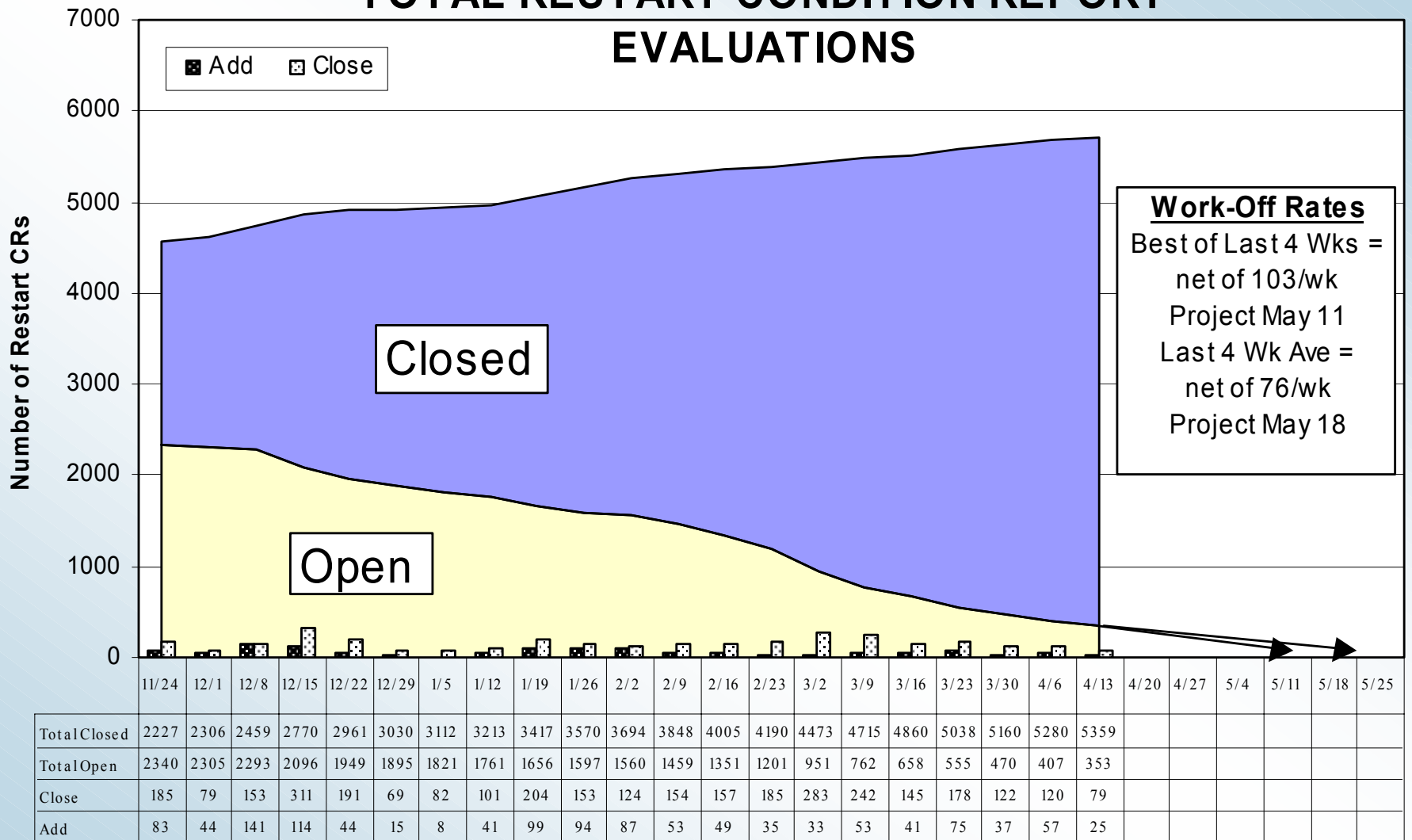


# Restart Action Performance

Item No.	0350 Item Description	Discovery	Implementation
4 a-b	Adequacy of Organizational Effectiveness & Human Performance		85
5	Readiness for Restart		
a	Review of Licensee's Restart Action Plan		
b	Systems Readiness for Restart	100	79
b.1	Design Calculation Resolution	100	Included in 5b
c	Operations Readiness for Restart		Restart Readiness Reviews
d	Test Program Development and Implementation		66
6 a-f	Licensing Issue Resolution		100
7 a	Confirmatory Action Letter Resolution		CAL Resolution & Restart Report

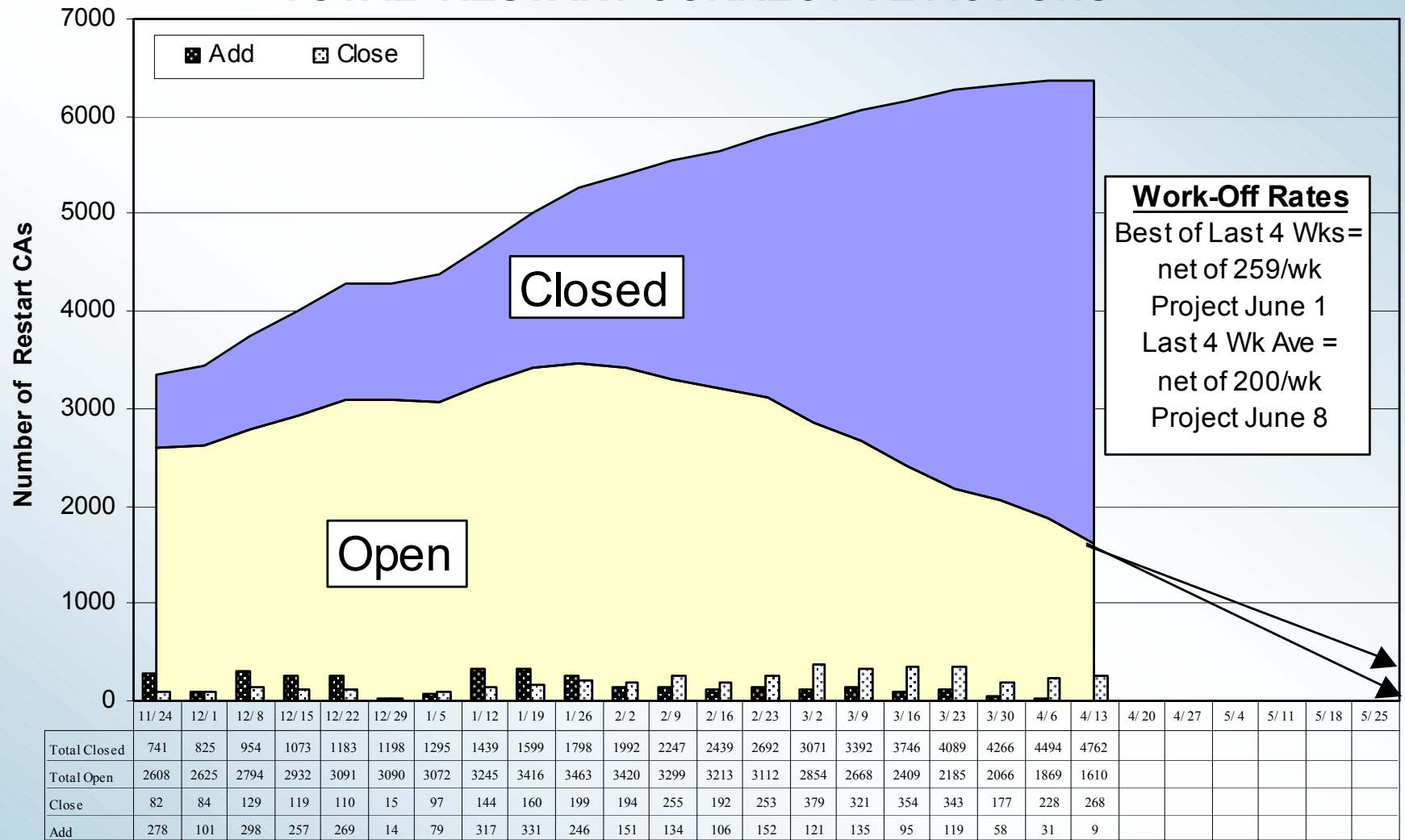
 Field Complete	 In Progress	 Hold - Plant Conditions	 N/A - Not Applicable
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# RESTART ACTION PLAN TOTAL RESTART CONDITION REPORT EVALUATIONS



# RESTART ACTION PLAN

## TOTAL RESTART CORRECTIVE ACTIONS



# Closing Comments

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**Lew Myers**  
**Chief Operating Officer - FENOC**