EMERGENCY PREPAREDNESS

REACTOR OVERSIGHT PROCESS

PERFORMANCE INDICATORS

BASELINE INSPECTION PROCEDURES

SIGNIFICANCE DETERMINATION PROCESS

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Emergency Preparedness Specialist, NRR

REACTOR OVERSIGHT PROCESS

EMERGENCY PREPAREDNESS CORNERSTONE OBJECTIVE

"Ensure that the licensee is capable of implementing adequate measures to protect the public health and safety in the event of a radiological emergency."

REACTOR OVERSIGHT PROCESS

EMERGENCY PREPAREDNESS PERFORMANCE EXPECTATION

"Demonstrate that reasonable assurance exists that the licensee can effectively implement its emergency plan to adequately protect the public health and safety in the event of a radiological emergency."

REACTOR OVERSIGHT PROCESS

- Commission's 1986 Policy Statement on "Safety Goals for the Operations of Nuclear Power Plants"
  - EP is a defense-in-depth measure
  - EP implemented as a matter of prudence, rather than in response to a quantitative analysis of accident probabilities
- Probability of a reactor accident has no relevance in determining the significance of an EP problem
  - Emergency Plan is being implemented in response to an emergency
  - The impact of the problem is assessed against ability to protect the public health and safety

REACTOR OVERSIGHT PROCESS

2.2(a) The NRC Policy Statement on "Safety Goals for the Operations of Nuclear Power Plants," states that EP is a defense-in-depth measure. EP and many other elements of reactor safety (e.g., remote siting and containment) are implemented as a matter of prudence, rather than in response to a quantitative analysis of accident probabilities. Consequently, the probability of a reactor accident requiring implementation of a licensee's Emergency Plan has no relevance in determining the significance of an EP problem. Rather, in determining the significance of an EP problem, it is assumed that the licensee's Emergency Plan is being implemented in response to an emergency and the impact of the problem assessed against the licensee's ability to effectively implement adequate measures to protect the public health and safety.

REACTOR OVERSIGHT PROCESS

DEVELOPMENT OF EP CORNERSTONE

- Risk Inform Process to Develop EP Cornerstone
  - NRC
  - Industry Stakeholders
  - Public

REACTOR OVERSIGHT PROCESS

DEVELOPMENT OF EP CORNERSTONE

- Identify EP Risk Significant Elements to Support Cornerstone Objective

"Protect Public Health and Safety"

REACTOR OVERSIGHT PROCESS

DEVELOPMENT OF EP CORNERSTONE

"Protect Public Health and Safety"

- Provide a Protective Action Recommendation
  - Dose Assessment
    - Notification of Event
      - Classification of Event

REACTOR OVERSIGHT PROCESS

DEVELOPMENT OF EP CORNERSTONE

"Protect Public Health and Safety"

Related Planning Standards

10 CFR 50.47(b)(4)	Classification
10 CFR 50.47(b)(5)	Notification
10 CFR 50.47(b)(9)	Dose Assessment
10 CFR 50.47(b)(10)	Protective Action Recommendation

REACTOR OVERSIGHT PROCESS

EP Performance Indicators

- Drill/Exercise Performance (DEP) – 90%
  - Classification, Notification, PARs
- ERO Drill Participation – 80%
- Alert and Notification System Reliability – 94%

REACTOR OVERSIGHT PROCESS

Risk Informed Baseline Inspection Program

- Inspectable areas based on risk importance in measuring cornerstone objective
- Selection of activities in each inspectable area

REACTOR OVERSIGHT PROCESS

Risk Informed Baseline Inspection Program

- IP 71114.01 Biennial Exercise Evaluation
- IP 71114.02 Alert and Notification System
- IP 71114.03 ERO Augmentation Testing
- IP 71114.04 EAL and E-Plan Changes
- IP 71114.05 Correction of EP Weaknesses
- IP 71114.06 Drill Evaluation

REACTOR OVERSIGHT PROCESS

SIGNIFICANCE DETERMINATION PROCESS

NRC Manual Chapter 0609, Appendix B

Revised March 6, 2003

Incorporate:

- Lessons Learned
- Input from NRC inspectors
- Input from Industry Stakeholders
- Review Significance Levels and Adjust as Appropriate

REACTOR OVERSIGHT PROCESS

EMERGENCY PREPAREDNESS SIGNIFICANCE DETERMINATION PROCESS

- SECTION 1 – INTRODUCTION
- SECTION 2 – DEFINITIONS AND GENERAL GUIDANCE
- SECTION 3 – ACTUAL EVENT IMPLEMENTATION PROBLEM
- SECTION 4 – FAILURE TO COMPLY
  - ✧ 16 Planning Standards of 10 CFR 50.47(b)
  - ✧ Incorporated Drill and Exercise Critique Problem into Planning Standard 50.47(b)(14)
- SECTION 5 – CORRECTIVE ACTIONS

SIGNIFICANCE DETERMINATION PROCESS

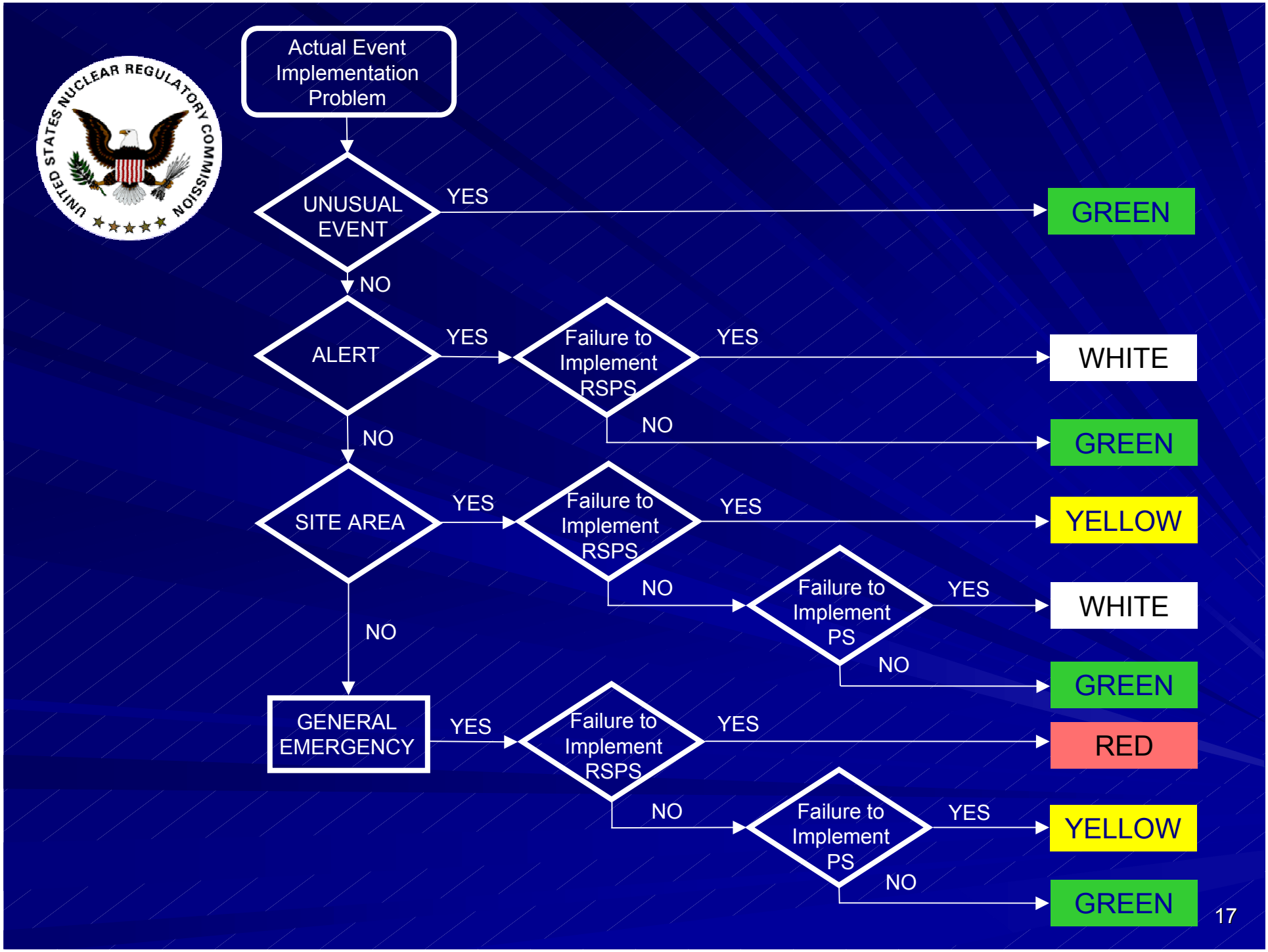
MC 0609, Appendix B

- Two distinct branches
  - Actual Event Implementation Problem
    - Performance failure precluded program implementation
  - Failure to Comply
    - Program is non-compliant with a regulatory requirement

SIGNIFICANCE DETERMINATION PROCESS

Actual Event Implementation Problem

- Risk inform the significance level for failure to effectively implement plan during actual declared event
- Risk significance is determined by:
  - Level of declared emergency
  - Failure associated with RSPS


Actual Event Implementation Problem
UNUSUAL EVENT
YES
GREEN
NO
ALERT
YES
Failure to Implement RSPS
YES
WHITE
NO
GREEN
NO
SITE AREA
YES
Failure to Implement RSPS
YES
YELLOW
NO
Failure to Implement PS
YES
WHITE
NO
GREEN
NO
GENERAL EMERGENCY
YES
Failure to Implement RSPS
YES
RED
NO
Failure to Implement PS
YES
YELLOW
NO
GREEN

SIGNIFICANCE DETERMINATION PROCESS

Failure to Comply

- 16 Planning Standards (PS)
- Risk Inform Planning Standard Function
  - Loss of Planning Standard Function
    - Planning Standard is not available for emergency response
  - Degraded Planning Standard Function
    - Program Element(s) are not met
    - Degraded function is still available for emergency response

SIGNIFICANCE DETERMINATION PROCESS

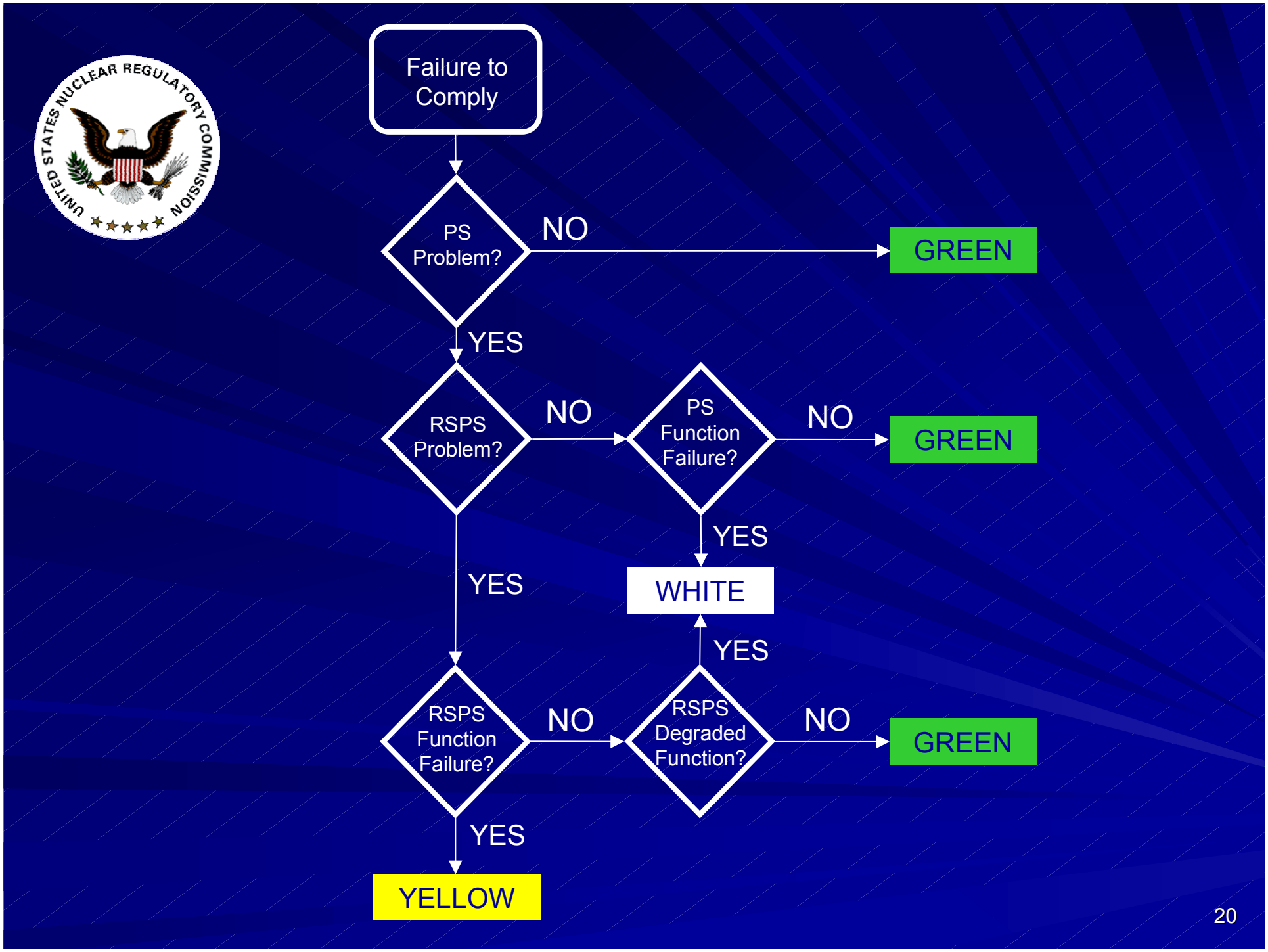
RISK SIGNIFICANT PLANNING STANDARDS (RSPS)

4.4 Emergency Action Level Classification Scheme

4.5 Prompt notification of offsite officials and public

4.9 Dose assessment capabilities

4.10 Range of protective actions


Failure to Comply
PS Problem?
NO
GREEN
YES
RSPS Problem?
NO
PS Function Failure?
NO
GREEN
YES
YES
WHITE
YES
RSPS Function Failure?
NO
RSPS Degraded Function?
NO
GREEN
YES
YELLOW

Reactor Oversight Program

- **Two Yellow Findings**
  - 1 – Inadequate root cause evaluation of Yellow ANS PI and failure to maintain and test system
  - 1 – 10 CFR 50.47(b)(10), range of protective actions did not include the public within the licensee's Owner Controlled Area (OCA)
- **Twenty-one White Findings/Violations**
  - 5 – 10 CFR 50.47(b)(2), on-shift staffing, untimely ERO augmentation and untimely facility activation
  - 1 – 10 CFR 50.47(b)(4), untimely Alert declaration
  - 6 – 10 CFR 50.47(b)(5), untimely offsite notifications, ANS issues
  - 2 – 10 CFR 50.47(b)(7), improper dissemination of information, lack of public information in OCA
  - 1 – 10 CFR 50.47(b)(8), degraded onsite public address system
  - 1 – 10 CFR 50.47(b)(10), untimely accountability
  - 5 – 10 CFR 50.47(b)(14), licensee's critique failed to identify risk-significant planning standard weaknesses and licensee failed to correct risk-significant planning standard weaknesses

Reactor Oversight Program

21 White findings

- 8 White Findings (>1/3) at 3 Sites that had 95003 inspections
  - Indian Point (3) — 10 CFR 50.47(b)(2), (7), (10)
  - Cooper (4) — 10 CFR 50.47(b)(2), (5), (14), (14)
  - Point Beach (1) — 10 CFR 50.47(b)(14)

- 13 Remaining White Findings
  - Beaver Valley (2) — 10 CFR 50.47(b)(2), (5)
  - Peach Bottom (3) — 10 CFR 50.47(b)(4), (8), (14)

Reactor Oversight Program

- **One Yellow Performance Indicator (PI)**
  - Alert and Notification System (ANS), reliability < 90%
    - Kewaunee
- **Six White Performance Indicators (PIs)**
  - 2 – Drill and Exercise Performance (DEP) < 90%
    - Clinton, Palisades
  - 1 – ERO Participation < 80%
    - Point Beach
  - 3 – Alert and Notification System (ANS), reliability < 90%
    - Point Beach, Peach Bottom, Ginna

Reactor Oversight Program

Improving Trend in Performance Indicators

2000	4 Thresholds crossed
2001	1 Threshold crossed
2002	1 Threshold crossed (1st Qtr)
2003	None

REACTOR OVERSIGHT PROCESS

4.4 Emergency Action Level Classification Scheme

RSPS FUNCTION:

Standard scheme of emergency classification and action levels is in use.

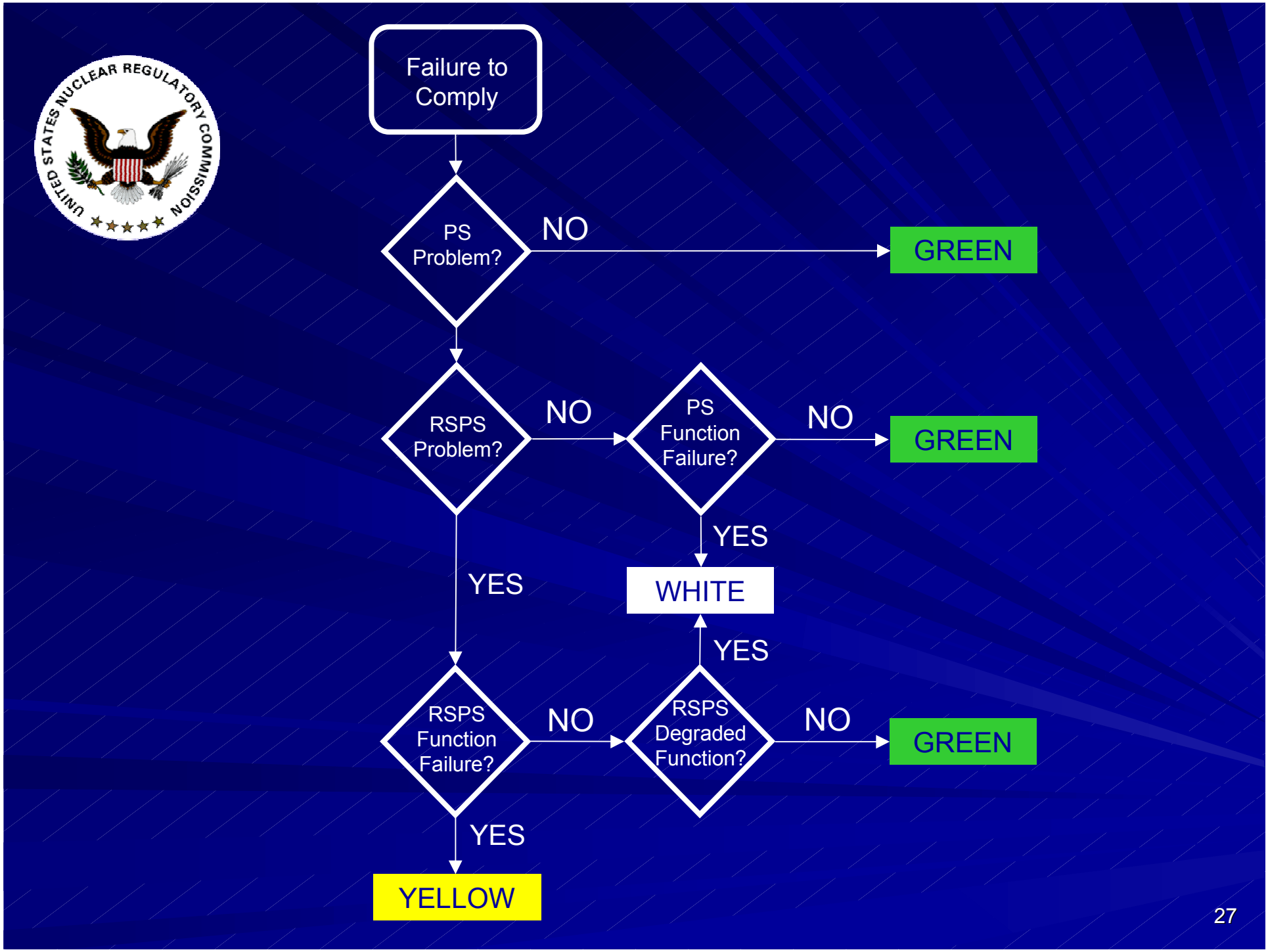
As endorsed by Section 2.2(e), an EAL change that results in a Decrease in Effectiveness (DIE), without prior NRC approval is to be evaluated in accordance with NUREG 1600 (traditional enforcement).

REACTOR OVERSIGHT PROCESS

4.4 Emergency Action Level Classification Scheme

Examples of Findings:

- The EAL classification process would not declare “an event”.
- Changes to facility procedures, systems, or equipment creates a condition such that an existing EAL would not be declared.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GREEN
RSPS Problem?
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PS Function Failure?
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GREEN
YES
YES
WHITE
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RSPS Function Failure?
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RSPS Degraded Function?
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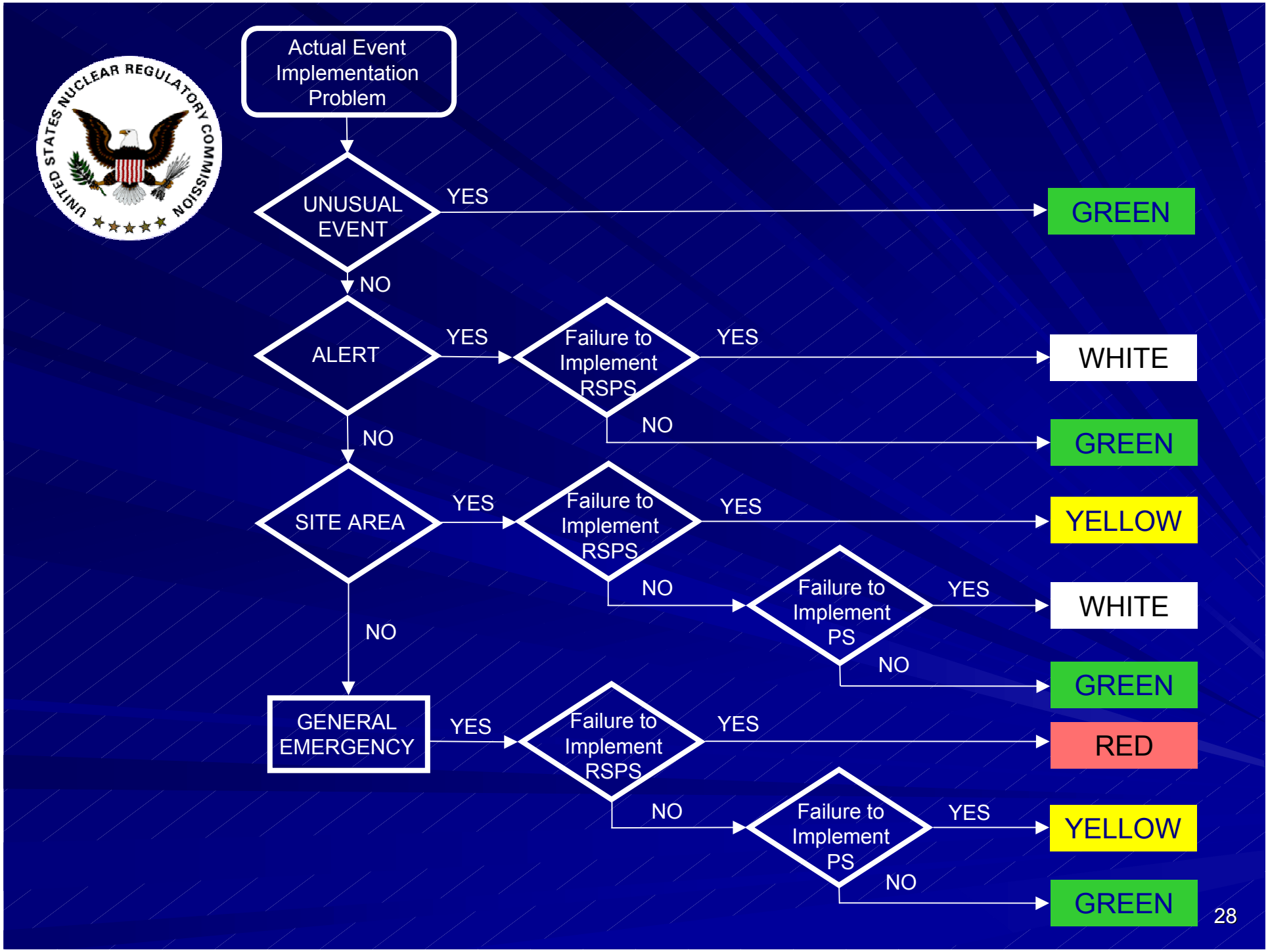
GREEN
YES
YELLOW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