



Risk-Informed Safety Class (RISC)-3 Treatment of Structures, Systems and Components (SSCs)for Nuclear Power Reactors.

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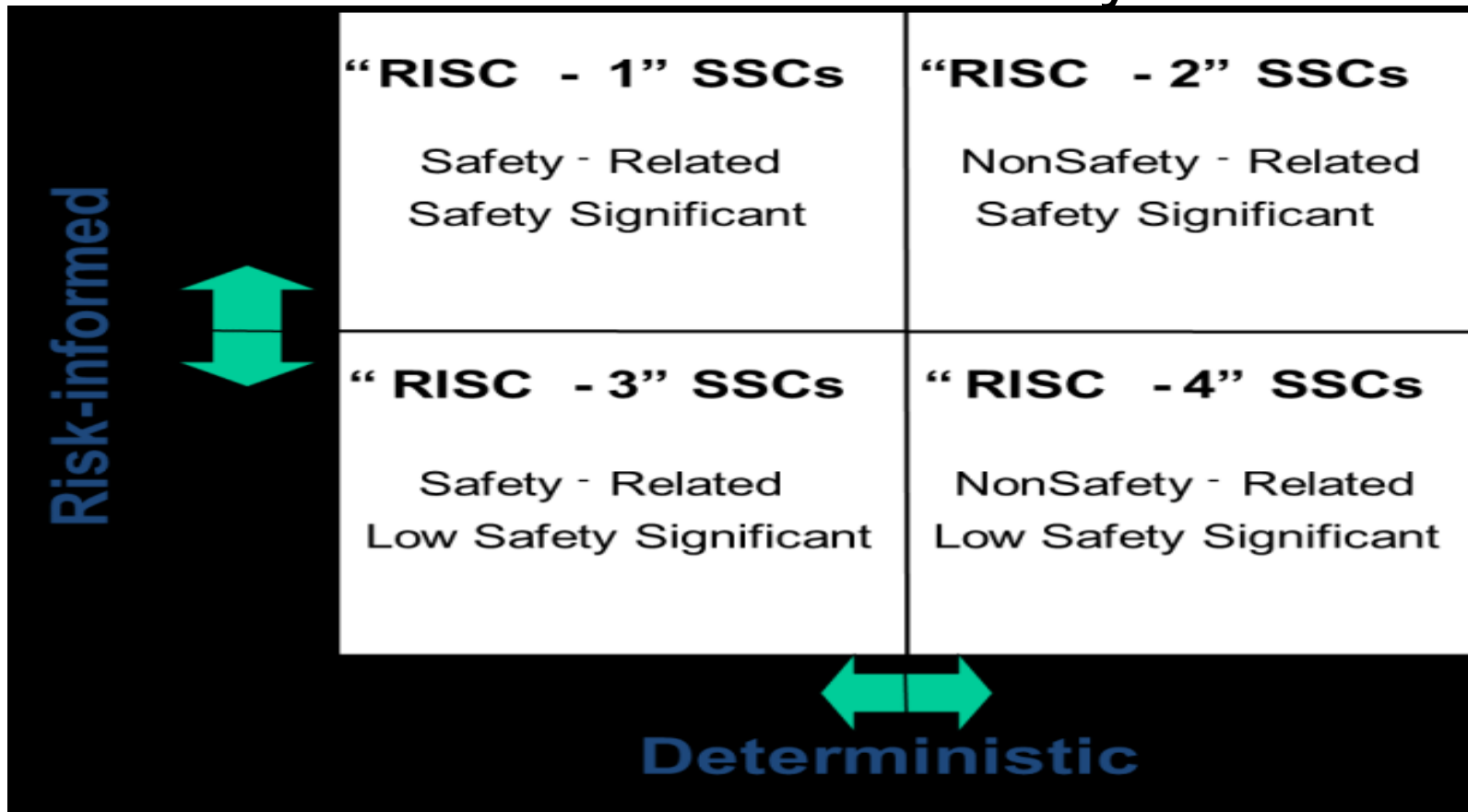
Quality Assurance and Vendor Inspection Branch

(IQVB)



10 CFR 50.69 RULE

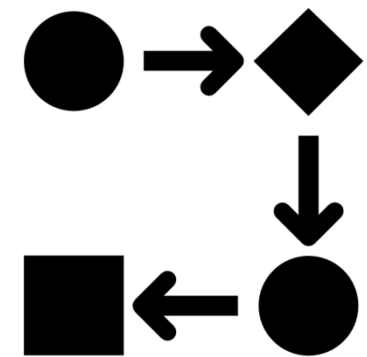
Risk-Informed Safety Class



10 CFR 50.69 RULE Categorization Process

Categorize SSCs as RISC-1, -2, -3 or -4

- 1. Consider Plant-Specific PRA**
- 2. Determine Functional Importance**
- 3. Maintain Defense-in-Depth**
- 4. Maintain Safety Margin/ Small Risk Increase**
- 5. Categorize Entire Systems**



NEI 00-04 - ML052900163

RG 1.201 – ML061090627

10 CFR 50.69 RULE Program Documentation

 **Basis for Removing Special Treatment Requirement**

 **UFSAR Update**

 **Quality Assurance Plan Update**



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Special Treatment Requirements



Regulations
specific
requirements

- ✓ QA Requirements
- ✓ Inspection
- ✓ Testing
- ✓ Condition Monitoring
- ✓ Other Elements

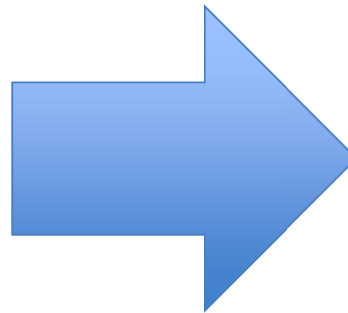
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Special Treatment Requirements

~~Specific
Special Treatment
Requirements
For RISC-3 and
RISC-4~~

Retain
Special
Treatment
Requirements
For RISC-1
and RISC-2

10 CFR 50.69 RULE Alternative Requirements



10 CFR 50.69 RULE

RISC-3 Alternative Treatments

Reasonable Confidence:

1. Inspection/Testing:

Remain Capable of Performing Safety Related Function

2. Corrective Action:

Cause Identified and Action Taken to Prevent Repetition

10 CFR 50.69 RULE

RISC-3 Alternative Treatments

**Criteria for
Reasonable Assurance**



**Special Treatments in
The Regulations**

**Criteria for
Reasonable Confidence**



Combination of:

- **Commercial Requirements**
- **Engineering Specs**
- **Processes/Procedures**
- **QA Programs**

NUREG/CR-6752: ML020330051

10 CFR 50.69 RULE

RISC-3 Alternative Treatments

An example of alternative treatment being implemented:





An ASME Code Case for replacement activities in Class 2/3 systems allows for exemption of items from meeting repair/replacement requirements for low safety significant items

10 CFR 50.69 RULE RISC-3 Alternative Treatments

In this example, an alternative treatment proposed may be the use of an alternate standard, such as B31.1, “Power Piping,” being implemented.

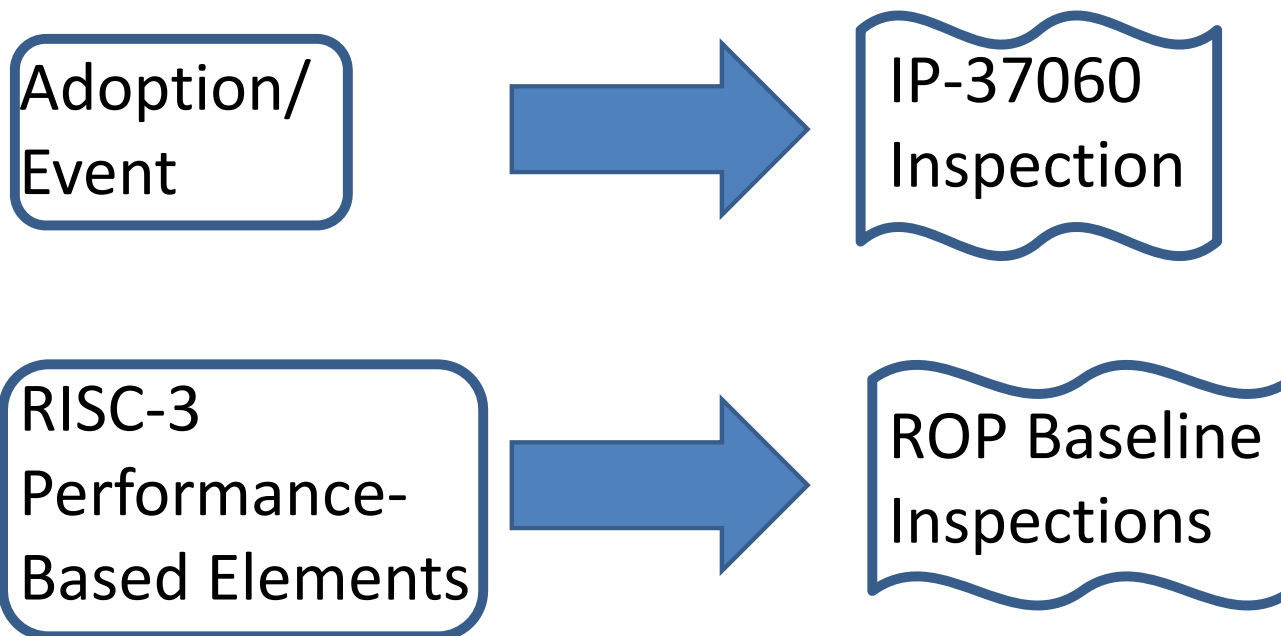
10 CFR 50.69 RULE

Reporting Requirements

-  **New RISC-1/-2 Reporting Requirements under 50.73 for Beyond Design Basis Events**
-  **Reporting Under 10 CFR Part 21, 50.55(e), and 50.72, 50.73 For RISC-1 SSCs (existing requirements)**
-  **Reporting Under 50.72 and 50.73 For RISC-2 SSCs (existing requirements)**
-  **RISC-3 and RISC-4 SSCs Excluded From Reporting Requirements**

10 CFR 50.69 INSPECTION PROCEDURES

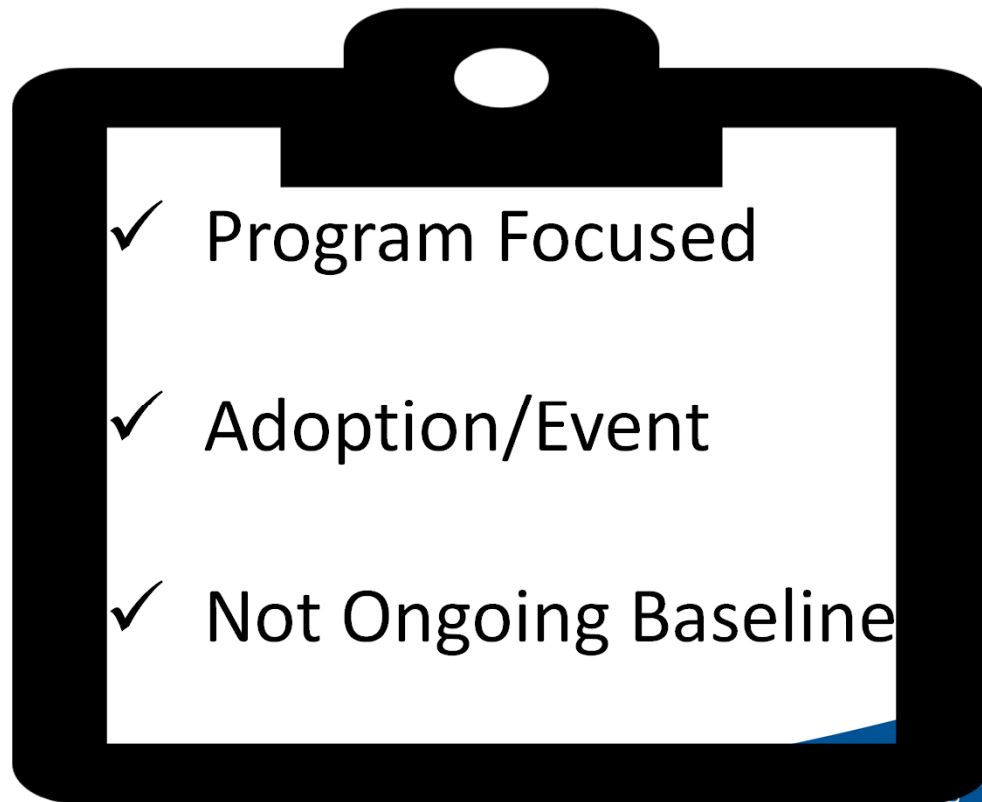
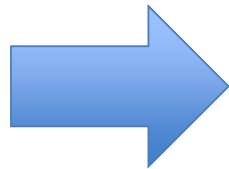
IP-37060 vs Baseline Inspections



10 CFR 50.69 INSPECTION PROCEDURES

IP-37060 Implementation Inspection

IP-37060



10 CFR 50.69 INSPECTION PROCEDURES

IP-37060 Implementation Inspection

The inspection will focus on two questions:

1. Did the site follow the requirements outlined in the license amendment and associated license conditions?
 - Changes used PRA insights
 - Boundaries correct
 - Changes were based upon as-built and maintained plant
2. Are alternative treatment requirements implemented?
 - System testing and maintenance performed as scheduled?
 - Are the changes being monitored to assess effectiveness?
 - Do the alternative treatment requirements provide reasonable confidence RISC-3 SSCs will perform their safety-related functions?



10 CFR 50.69 INSPECTION PROCEDURES

IP-37060 Implementation Inspection



Verification of Program Aspects:

- **Verify the licensee has implemented the license amendment in accordance with the associated safety evaluation:**
 - License conditions were implemented
 - Site procedures reflect approved categorization process
 - **Sensitivity studies ensured proper categorization of RISC-3 components**

10 CFR 50.69 INSPECTION PROCEDURES

IP-37060 Implementation Inspection

Verification of Program Aspects:

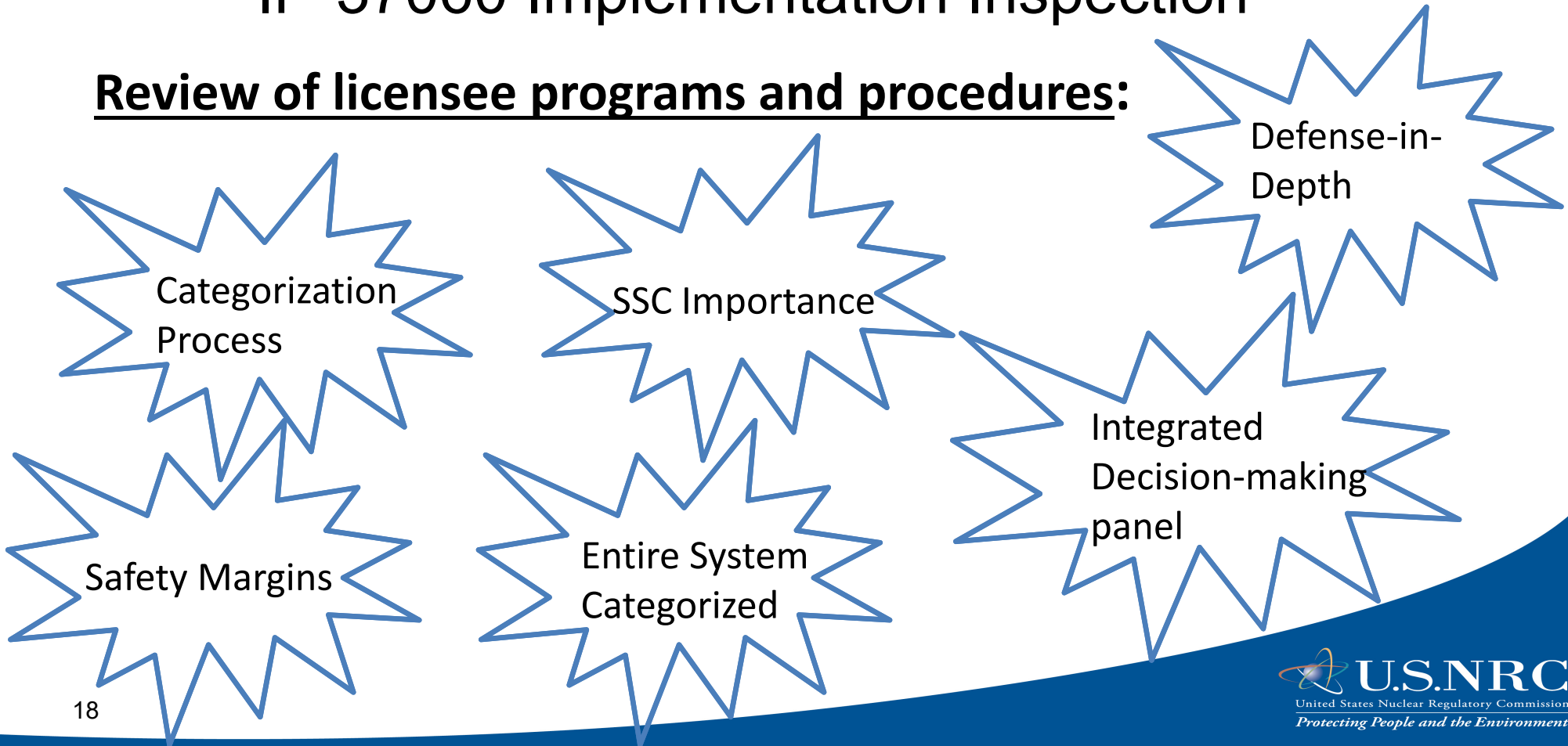
- **Verify programs in place for RISC-3 components:**



10 CFR 50.69 INSPECTION PROCEDURES

IP-37060 Implementation Inspection

Review of licensee programs and procedures:



10 CFR 50.69 INSPECTION PROCEDURES

IP-37060 Implementation Inspection

RISC-3 Inspection Items:

Reasonable
Confidence

Extent of
Condition





Part 50
Appendix A

Degradation of
Multiple RISC-3
SSCs

Inspection
Testing
Corrective Action

10 CFR 50.69 INSPECTION PROCEDURES IP-37060 Implementation Inspection

Resource Documents:

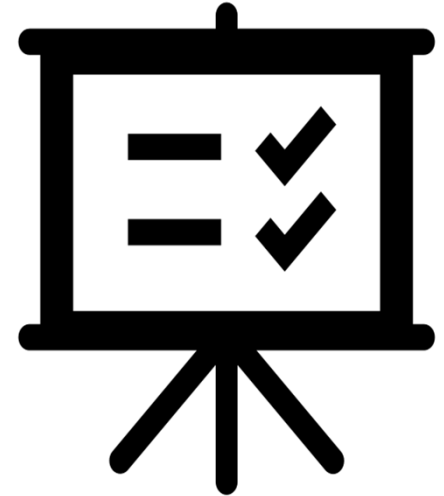
-  **NEI 00-04 - (ADAMS Accession No. ML052900163)**
-  **RG 1.201 - (ADAMS Accession No. ML052900163)**
-  **ASME OM Code, Part 49**
-  **NUREG/CR-6752 - (ADAMS Accession No. ML020330051)**

10 CFR 50.69 INSPECTION PROCEDURES

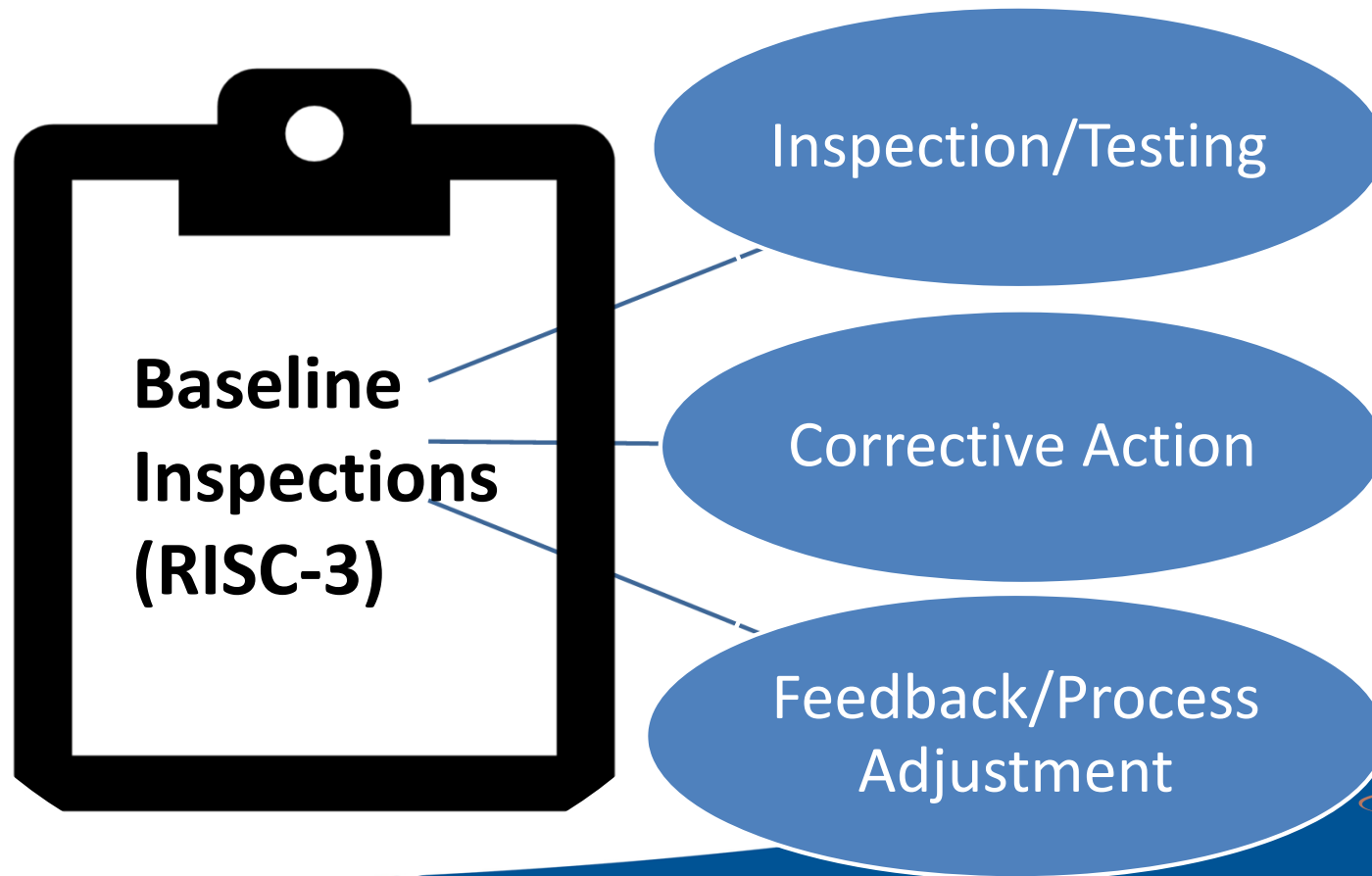
IP-37060 Implementation Inspection

Points to Emphasize:

- RISC-3 Alternative Treatment Justifications
 - ❖ Reasonable confidence to perform safety function
 - ❖ May need to retain some code/inspection requirements



10 CFR 50.69 Baseline Inspection Procedures



10 CFR 50.69 Baseline Inspection Procedures

- IP 71111.12 “Maintenance Effectiveness”
- IP 71111.18 “Plant Modifications”
- IP 71111.22 “Surveillance Testing”
- IP 7153 “Followup of Events and Notices of Enforcement Discretion”

