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DATE OF MEETING

**04/24/2001**

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Docket Number(s)	<b>05000498, 05000499</b>
Plant/Facility Name	<b>South Texas Project, Units 1 and 2</b>
TAC Number(s) (if available)	<b>MA6057, MA6058</b>
Reference Meeting Notice	<b>2001-0335</b>
Purpose of Meeting (copy from meeting notice)	<b>To provide STPNOC with the opportunity to discuss issues related to the risk-informed multipart exemption request to the special treatment requirements in 10CFR Parts 21, 50, and 100 w</b>

NAME OF PERSON WHO ISSUED MEETING NOTICE

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TITLE

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**PDIV-1**

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**APRIL 24, 2001, RILP MEETING  
STPNOC EXEMPTION REQUEST**

**PURPOSE:**

**To Resolve the Remaining Issues in Support of Finalizing NRC's Review of STPNOC's Exemption Requests From the Special Treatment Requirements of 10 CFR Parts 21, 50, & 100**

**TOPICS FOR DISCUSSION:**

**1. Categorization**

- a. Level of Detail in FSAR on Categorization
- b. Open Item 3.5: Categorization of Passive Pressure Boundary Function
- c. Open Item 3.4: Defense-in-Depth Considering Containment Integrity (discuss if necessary)

**2. Treatment (Safety-Related LSS/NRS SSCs)**

- a. Level of Detail in FSAR on Treatment
- b. Procurement Requirements (seismic & EQ)
- c. Inspections, Tests, and Surveillance Requirements
- d. Maintenance Requirements (designed life)
- e. Management & Oversight Requirements (M&TE)
- f. Statements of Purpose for LSS/NRS Safety-Related SSCs' Treatment Elements
- g. Open Items 10.1 and 10.2 Resolution (discuss if necessary)

**3. Oversight of Treatment Implementation**

**4. Schedule for Remaining Activities**



## **Level of Detail in FSAR**

### **STPNOC Comments on Level of Detail in Proposed FSAR**

- Detail on Treatment Substantially More than Needed to Support a Programmatic Description of What the Elements are that Support STPNOC's Determination that LSS/NRS SSCs will be Capable of Performing Functions
- Could Reduce Level of Detail in FSAR on Categorization

### **Staff Response:**

- Level of Detail in FSAR on Treatment is the Level that is Necessary for the Staff to Find that Elements Could be Effectively Implemented in Support of Granting Exemptions.
- Details on Categorization are Necessary to Support Staff Finding that Categorization Process is Robust and Sufficient to Support Granting Exemptions.
- FSAR is the Licensing Basis Upon Which the Exemptions are Based.



## **Categorization**

- ✓ **The Cornerstone of NRC's Ability to Risk-Inform the Special Treatment Requirements of 10 CFR Parts 21, 50, and 100, Under Option 2 Is a Robust Categorization Process**
  - ▶ **Plant-specific PRA Based Methodology in Combination with an Expert Panel Based Methodology Provides Foundation for Robust Categorization Process**
  - ▶ **Balances Prevention of Core Damage, Prevention of Containment Failure/Bypass, and Mitigation of the Consequences of Offsite Releases**
  - ▶ **Preserves System Redundancy, Independence, and Diversity Commensurate with Expected Frequency of Challenges, Consequences of SSC Failure, and Associated Uncertainties in Determining Parameters**
  - ▶ **Does Not Over-Rely on Programmatic Activities and Operator Actions to Compensate for Plant Design**
  - ▶ **Takes into Account Common-Cause Failure**
  
- ✓ **Under Option 2 it is expected that SSCs will remain capable of performing their safety-related functions under design basis conditions with the reliability and availability upon which the categorization of the SSC is based**



## **Open Item 3.5**

### **Staff Position on Categorization of Passive Pressure Boundary Function**

- ★ **STPNOC Exemption Categorization Process Does Not Adequately Address Risk of Passive Pressure Boundary Function**
- ★ **STPNOC Appears to Consider the Consequence of Pressure Boundary Function is Negligible Due to Low Probability of Failure**

### **ASME Class 1 & 2**

- ✓ **Application of EPRI RI-ISI Categorization Methodology to ASME Class 1 and 2 Piping and Components Acceptable to NRC Staff in Augmenting Exemption Categorization Process**

### **ASME Class 3**

- ◆ **Proposed Augmented Categorization Process Acceptable for Indirect (i.e., flooding) Effects**
- ◆ **Does Not Consider Direct Effect (System Level Functional Failure) Assuming Failure of Pressure Boundary**
- ◆ **Appears to be Risk Based (Failure is so unlikely there is no need to consider consequence)**



## **Open Item 3.4**

- ✓ **PRA Based Categorization Methodology Provides Risk Insights to Categorize SSCs Important to CDF or LERF**
- ✓ **However, for Defense-in-depth Categorization Process Needs to Address Late Containment Failure**
- ✓ **STPNOC Performed Sensitivity Analysis to Demonstrate Impact on Late Containment Failure Frequency**
  - **Small Increase in Late Containment Failure Frequency**
  - **STPNOC & Staff Discussed Revised Response on April 23, 2001**
  - **Staff Found Revised Response Acceptable**
  - **Brief Discussion of Sensitivity Study to be Included in FSAR**



## **Treatment**

- **Under Option 2 the Functional Capability of SSCs Using Existing or New Programs Will Be Maintained**
- **Effective Implementation of Alternative Programmatic Elements of Treatment Practices on Low Risk Safety-Related SSCs Could Provide the Basis for a Licensee to Conclude That These SSCs Will Be Capable of Performing Their Safety-Related Functions Under Design Basis Conditions**
- **Programmatic Elements of Treatment Practices Must Address Design Control; Procurement; Installation; Maintenance; Inspection, Test, and Surveillance; Corrective Action; Management and Oversight; and Configuration Control**
- **NRC Does Not Need to Know How a Licensee Will Implement the Elements of its Treatment Practices for Low Risk Safety-related SSCs Given That this Class of SSC Does Not Contribute Significantly to Plant Risk**
- **Finding on Treatment for Safety-Related LSS and NRS SSCs Necessary for Finding That Categorization Process Is Sufficiently Robust as the Basis for Granting the Exemptions Requested from the Special Treatment Requirements**



## PROCUREMENT

13.7.3.3.2 Procurement Process. *The purpose of the procurement process for safety-related LSS and NRS SSCs is to procure replacement SSCs that satisfy the design inputs and assumptions to support STP's determination that these SSCs will be capable of performing their safety-related functions under design-basis conditions.* Technical requirements (including applicable design basis environmental and seismic conditions) for items to be procured include the design inputs and assumptions for the item. As described below, one or more of the following methods will *be used to provide a sufficient basis to* determine that the procured item can perform its safety-related function under design basis conditions, including applicable design basis environmental *(temperature and pressure, humidity, chemical effects, radiation, aging, submergence, and synergistic effects)* and seismic *(earthquake motion, as described in the design bases, including seismic inputs and design load combinations)* conditions:

- Vendor Documentation - Vendor documentation could be used when the performance characteristics for the item, as specified in vendor documentation (e.g., catalog information, certificate of conformance), satisfy the SSC's design requirements. If the vendor documentation does not contain this level of detail, then the design requirements could be provided in the procurement specifications. The vendor's acceptance of the stated design specifications provides sufficient confidence that the replacement safety-related LSS or NRS SSC would be capable of performing its safety-related functions under design basis conditions.
- Equivalency Evaluation - An equivalency evaluation could be used when it is sufficient to determine that the procured item is equivalent to the item being replaced (e.g., a like-for-like replacement).
- Engineering Evaluation - For minor differences, an engineering evaluation could be performed to compare the differences between the procured item and the design requirements and determines that differences in areas such as, material, size, shape, stressors, aging mechanisms, and functional capabilities would not adversely affect the ability to perform the safety-related functions of the SSC under design basis conditions.
- Engineering Analysis - In cases involving substantial differences between the procured item and the design requirements, an engineering analysis could be performed to determine that the procured item can perform its safety-related function under design basis conditions. The engineering analysis would be based *on the combination of engineering methods that include, as necessary, calculations, analyses and evaluations by multiple disciplines, test data, or and operating experience related to the procured item to support functionality of the SSC* over its expected life. Where the differences are determined to require a design change, STP will follow the design control process for safety-related SSCs.
- Testing - Testing under simulated design basis conditions could be performed on the component. Margins and documentation specified in NRC regulations would not be required in these tests, since the components are LSS/NRS and do not warrant this additional *assurance confidence*.



## Inspections, Tests, & Surveillances

13.7.3.3.5 Inspection, Test, and Surveillance Process. **The purpose of the inspection, test, and surveillance process for safety-related LSS and NRS SSCs is to obtain data or information that allows evaluation of operating characteristics to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions throughout the service life of the SSC.** The Station's inspection and test process is primarily addressed and implemented through the Maintenance process. **When measuring and test equipment is found to be in error or defective a determination is made of the functionality of the safety-related SSCs that were checked using that equipment.** As stated above, the Maintenance process addresses inspections and tests through corrective, preventive, and predictive maintenance activities. These activities factor in vendor recommendations into the selected approach. STP may use an alternative to these recommendations if there is a technical basis that supports the functionality of the safety-related LSS and NRS SSCs. The basis does not need to be documented.

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## Maintenance

13.7.3.3.4 Maintenance Process. **The purpose of the maintenance process for safety-related LSS and NRS SSCs is to establish the scope, frequency, and detail of maintenance activities necessary to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions.** Preventive maintenance tasks are developed for active structures, systems, or components factoring in vendor recommendations. STP may use an alternative to these recommendations if there is a technical basis that supports the functionality of the safety-related LSS and NRS SSCs. The basis does not need to be documented. For **an SSCs with a in service beyond its** designed life, STP will **have a technical basis to determine that** the SSC will remain capable of performing its safety-related function(s).



## Management & Oversight

13.7.3.3.7 Management and Oversight Process. **The purpose of the management and oversight process for safety-related LSS and NRS SSCs is to control the implementation of the treatment processes, assess the effectiveness of the implementation of the treatment processes, and evaluate proposed changes to commitments to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions.** The Station's management and oversight process is accomplished through approved procedures and guidelines. **This process includes independent oversight, line self-assessments, and Maintenance Rule implementation (plant, system, or train level for LSS and NRS components). In addition, the Graded Quality Assurance Working Group periodically assesses SSC performance.**

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Documentation, reviews, and record retention requirements for completed work activities are governed by Station procedures.

**Procedures identify the types of inspection, test, and surveillance equipment requiring control and calibration, and the interval of calibration. Measuring and test equipment that is found to be in error or defective is removed from service or properly tagged to indicate the error or defect, and a determination is made of the functionality of the safety-related SSCs that were checked using that equipment.**

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## Statements of Purpose/Outcomes

- ◆ The purpose of the **PROCUREMENT** process for safety-related LSS and NRS SSCs is to procure replacement SSCs that satisfy the design inputs and assumptions to support STP's determination that these SSCs will be capable of performing their safety-related functions under design-basis conditions.
- ◆ The purpose of the **INSTALLATION** process for safety-related LSS and NRS SSCs is to achieve proper installation and testing of replacement SSCs to support STP's determination that these SSCs will be capable of performing their safety-related functions under design-basis conditions.
- ◆ The purpose of the **MAINTENANCE** process for safety-related LSS and NRS SSCs is to establish the scope, frequency, and detail of maintenance activities necessary to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions.
- ◆ The purpose of the **INSPECTION, TEST, AND SURVEILLANCE** process for safety-related LSS and NRS SSCs is to obtain data or information that allows evaluation of operating characteristics to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions throughout the service life of the SSC.
- ◆ The purpose of the **MANAGEMENT AND OVERSIGHT** process for safety-related LSS and NRS SSCs is to control the implementation of the treatment processes, assess the effectiveness of the implementation of the treatment processes, and evaluate proposed changes to commitments to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions.



## **Open Items 10.1 & 10.2**

### **STPNOC Proposal**

- ✓ ISI Exemption Applies to ASME Class 1, 2, & 3 LSS/NRS Piping & Components
- ✓ Repair/Replacement Exemption Applies to ASME Class 2 & 3 LSS/NRS Piping & Components
- ✓ Three Alternative Repair/Replacement Methods Proposed for ASME Class 2 & 3
  1. Use ASME Construction Code Technical Requirements (not administrative)
  2. Use All Requirements of Alternative Nationally-Recognized Code, Standard, or Specification
  3. Use Technical Requirements from Various Codes, Standards, or Specifications Necessary to Determine Repair & Replacement Supports Functionality (NOTE: STPNOC indicated it would no longer be pursuing this alternative under the exemption requests.)

### **Staff Positions on ISI & Repair/Replacement**

- ✓ Scope of ISI Exemption Request Acceptable (Assuming OI 3.5 Resolved Acceptably to Staff)
- ✓ Scope of Repair/Replacement Exemption Request Acceptable (Assuming OI 3.5 Resolved Acceptably to Staff)
- ✓ Require Fracture Toughness (i.e., impact test data) for Replacement Components if Required Under ASME Code to which Original Item was Designed
- ✓ Staff & STPNOC Must Discuss Revised Response Before These Open Items can be Resolved



## **Oversight of Treatment Implementation**

### **STPNOC Perceptions on Effective Implementation of Treatment for LSS/NRS SSCs**

- ✓ High Risk Activity
- ✓ Future Oversight Activities Will Second Guess Whether STPNOC Efforts to Implement Revised Treatment are Effective
- ✓ Current Staff Insights on How to Implement FSAR Program Lead STPNOC to Believe it Will Get No Relief

### **Staff Response:**

- ✓ Properly Categorized LSS/NRS SSCs Should Not Exceed Threshold for Increased NRC Attention Under Reactor Oversight Program
- ✓ Corrective Action Programmatic Failures Associated with LSS/NRS SSCs Could be Reason for Increased Oversight
- ✓ LSS/NRS SSC Failure that Cross Threshold for Increased Oversight Should Drive Licensee to Assess Categorization, Treatment, and Oversight Processes



## **Schedule for Remaining Activities**

- ▶ **April 20, 2001**      **Final Responses to Open Items 3.4, 3.5, 10.1, & 10.2 Due**
- ▶ **April 24, 2001**      **RILP Meet with STPNOC**
- ▶ **April 27, 2001**      **Final Version of FSAR Due**
- ▶ **April 30, 2001**      **Final SE in Concurrence**
- ▶ **May 8, 2001**          **Final SE Forwarded to EDO & ACRS. To STPNOC for Errors.**
- ▶ **May 10, 2001**        **Staff Briefs ACRS on Final SE and Exemptions**
- ▶ **May 15, 2001**        **Commission Paper & Final SE Forwarded to Commission**
- ▶ **June 5, 2001**         **ACRS Letter on Final SE & Exemptions**
- ▶ **June 5, 2001**         **Commission Meeting on STPNOC - Option 2 Proof-of-Concept**
- ▶ **June 19, 2001**        **Exemptions & SE Issued**
- ▶ **July 2001**             **Staff Brief Region IV Inspectors on Exemptions and Effect on Reactor Oversight Program**
- ▶ **July 2001**             **STPNOC and Staff Public Meeting in Region IV on Exemptions**

## STPEGS UFSAR 13.7

### 13.7 RISK-INFORMED SPECIAL TREATMENT REQUIREMENTS

#### 13.7.1 Introduction

NRC regulations in 10 CFR Parts 21, 50, and 100 contain special treatment requirements that impose controls to ensure the quality of components that are safety-related, important to safety, or otherwise come within the scope of the regulations. These special treatment requirements go beyond normal commercial and industrial practices, and include quality assurance (QA) requirements, qualification requirements, inspection and testing requirements, and Maintenance Rule requirements. STP has been granted an exemption from the special treatment requirements. Table 13.7-1 identifies the regulations from which an exemption was granted and the scope of the exemption. This exemption only pertains to special treatment requirements; it does not change the requirements of 10 CFR Parts 50 and 100 that specify design or functional requirements for SSCs; i.e., the requirements that specify the safety functions to be performed by a system or component (including design features to prevent adverse impacts upon the safety function of one SSC due to the failure of another SSC). Also it does not change any design or functional requirements in the other sections of the STP FSAR or requirements of the STP Technical Specifications.

STP has a risk-informed process for categorizing the safety/risk significance of components. This process is described in Section 13.7.2. Components with no or low safety significance have been exempted from the scope of most of the NRC regulations that impose special treatment requirements, and instead are subject to normal industrial and commercial practices. Additionally, components with medium or high safety significance are evaluated for enhanced treatment. Components retain their original regulatory requirements unless they have been recategorized using the process described below. The treatment for the various categories of components is described in Section 13.7.3. As part of this process, STP also performs continuing evaluations and assessments, which are described in Section 13.7.4. Finally, STP applies quality assurance to this process, and controls changes to the process, as described in Section 13.7.5.

#### 13.7.2 Component Categorization Process

13.7.2.1 Overview of Categorization Process. The process utilized by STP in categorizing components consists of the following major tasks:

1. Identification of functions performed by the subject plant system.
2. Determination of the risk significance of each system function.
3. Identification of the system function(s) supported by that component.
4. Determination of a risk categorization of the component based on probabilistic risk assessment (PRA) insights (where the component is modeled)
5. Development of a risk categorization of the component based on deterministic insights.
6. Designation of the overall categorization of the component, based upon the higher of the PRA categorization and the deterministic categorization.
7. Identification of critical attributes for components determined to be safety/risk significant.

The processes for determining the risk categorization and deterministic categorization of a component are described in more detail in Sections 13.7.2.3 and 13.7.2.4.

Based upon these processes, a component is placed into one of four categories: 1) high safety/risk significant (HSS), 2) medium safety/risk significant (MSS), 3) low safety/risk significant (LSS), and 4) non-risk significant (NRS). This categorization process does not, in and of itself, affect the other classifications of the component (e.g., safety, seismic, ASME classification).

The process is implemented by a Working Group comprised of individuals experienced in various facets of nuclear plant operation and reviewed by an Expert Panel. This integrated decision process is described in more detail in Section 13.7.2.2.

13.7.2.2 Comprehensive Risk Management Process. The integrated decision-making process used by STP is controlled by procedure. The integrated decision-making process incorporates the use of an Expert Panel and Working Groups. The Expert Panel is comprised of qualified senior level individuals and is responsible for oversight of the program and for reviewing the activities and recommendations of the Working Group. The Working Group is comprised of experienced individuals who apply risk insights and experience to categorize components in accordance with the process described in this Section and make recommendations to the Expert Panel.

The Expert Panel and Working Group have expertise in the areas of risk assessment, quality assurance, licensing, engineering, and operations and maintenance. The combined membership of the Expert Panel and Working Group includes at least three individuals with a minimum of five years experience at STP or similar nuclear plants, and at least one individual who has worked on the modeling and updating of the PRA for STP or similar plants for a minimum of three years.

Procedures control the composition of and processes used by the Expert Panel and Working Group. Procedures also identify training requirements for members of the Expert Panel and Working Group, including training on probabilistic risk assessment, risk ranking, and the graded quality assurance process. Finally, the procedures specify the requirements for a quorum of the Expert Panel and Working Group, meeting frequencies, the decision-making process for determining the categorization of components, the process for resolving differing opinions among the Expert Panel and Working Group, and periodic reviews of the appropriateness of the programmatic control and oversight of categorized components. ***[STPNOC proposed to rewrite Section 13.7.2.2 to be generic in describing the organization implementing the integrated decision-making process. Description of the functional aspects of the integrated decision-making process would be retained.]***

13.7.2.3 PRA Risk Categorization Process. A component's risk categorization is initially based upon its impact on the results of the PRA. ***[STPNOC agreed to add a discussion on the sensitivity study that increased the failure rate of LSS SSCs modeled in the PRA. The relation of this sensitivity study to the guidance provided in Regulatory Guide 1.174 would also be discussed.]***

STP's PRA calculates both a core damage frequency (CDF) and a large early release frequency (LERF). The PRA models internal initiating events at full power, and also accounts for the risk associated with external events.

The PRA configuration control program incorporates a feedback process to update the PRA Model. The updates are segregated into two categories:

- The plant operating update incorporates plant design changes and procedure changes that affect PRA-modeled components, initiating event frequency updates, and changes in SSC unavailability that affect the PRA model. These changes will be incorporated into the model on a period not to exceed 36 months.
- The comprehensive data update incorporates changes to plant-specific failure rate distributions and human reliability, and any other database distribution updates (examples would include equipment failure rates, recovery actions, and operator actions). This second category will be updated on a period not to exceed 60 months.

The PRA model may be updated on a more frequent basis if an update would result in a significant increase in the CDF.

Only components that are modeled in the PRA are given an initial risk categorization. The PRA risk categorization of a component is based upon its Fussell-Vessely (FV) importance, which is the fraction of the CDF and LERF to which failure of the component contributes, and its risk achievement worth (RAW), which is the factor by which the CDF and LERF would increase if it were assumed that the component is guaranteed to fail. Specifically, PRA risk categorization is based upon the following:

PRA Ranking	Criteria
High	RAW $\geq$ 100.0 or FV $\geq$ 0.01 or FV $\geq$ 0.005 and RAW $\geq$ 2.0
Medium (Further Evaluation is Required)	FV $<$ 0.005 and 100.0 $>$ RAW $\geq$ 10.0
Medium	FV $\geq$ 0.005 and RAW $<$ 2.0 or FV $<$ 0.005 and 10.0 $>$ RAW $\geq$ 2.0
Low	FV $<$ 0.005 and RAW $<$ 2.0

13.7.2.4 Deterministic Categorization Process. Components are subject to a deterministic categorization process, regardless of whether they are also subject to the risk categorization process using PRA insights. This deterministic categorization process can result in an increase, but not a decrease (from the PRA risk), in a component's categorization. *[STPNOC agreed to add discussion on the application of the risk-informed inservice inspection categorization methodology for the categorization of the passive pressure boundary function of ASME Class 1, 2, and 3, components.]*

A component's deterministic categorization is directly attributable to the importance of the system function supported by the component. In cases, where a component supports more than one system function, the component is classified based on the highest risk categorization of the function supported. In categorizing the functions of a system, the Working Group considers five critical questions regarding the function, each of which is given a different weight. These questions and their weight are as follows:

<u>QUESTION</u>	<u>WEIGHT</u>
Is the function used to mitigate accidents or transients?	5
Is the function specifically called out in the emergency operating procedures (EOPs) or Emergency Response Procedures (ERPs)?	5
Does the loss of the function directly fail another risk-significant system?	4
Is the loss of the function safety significant for shutdown or mode changes?	3
Does the loss of the function, in and of itself, directly cause an initiating event?	3

Based on the impact on safety if the function is unavailable and the frequency of loss of the function, each of the five questions is given a numerical answer ranging from 0 to 5. This grading scale is as follows:

"0" - Negative response

"1" - Positive response having an insignificant impact and/or occurring very rarely

"2" - Positive response having a minor impact and/or occurring infrequently

"3" - Positive response having a low impact and/or occurring occasionally

"4" - Positive response having a medium impact and/or occurring regularly

"5" - Positive response having a high impact and/or occurring frequently

The definitions for the terms used in this grading scale are as follows:

Frequency Definitions –

- Occurring Frequently – continuously or always demanded
- Occurring Regularly – demanded > 5 times per year
- Occurring Occasionally – demanded 1-2 times per cycle
- Occurring Infrequently – demanded < once per cycle
- Occurring Very Rarely – demanded once per lifetime

Impact Definitions –

- High Impact – a system function is lost which likely could result in core damage and/or may have a negative impact on the health and safety of the public
- Medium Impact – a system function is lost which may, but is not likely to, result in core damage and/or is unlikely to have a negative impact on the health and safety of the public
- Low Impact – a system function is significantly degraded, but no core damage and/or negative impact on the health and safety of the public is expected
- Minor Impact – a system function has been moderately degraded, but no core damage or negative impact on the health and safety of the public
- Insignificant Impact – a system function has been challenged, but no core damage or negative impact on the health and safety of the public

Although some of these definitions are quantitative, both of these sets of definitions are applied based on the collective judgment and experience of the Working Group.

The numerical values, after weighting, are summed; the maximum possible value is 100. Based on the sum, functions are categorized as follows:

<u>SCORE RANGE</u>	<u>CATEGORY</u>
0 – 20	NRS
21 – 40	LSS
41 – 70	MSS
71 – 100	HSS

A function with a low categorization due to a low sum can receive a higher risk classification if any one of their five questions received a high numerical answer. Specifically, a weighted score of 25 on any one question results in an HSS categorization; a weighted score of 15-20 on any one question results in a minimum categorization of MSS; and a weighted score of 9-12 on any one question results in a minimum categorization of LSS. This is done to ensure that a component with a significant risk in one area does not have that risk masked because of its low risk in other areas.

In general, a component is given the same categorization as the system function that the component supports. However, a component may be ranked lower than the associated system function. ***[STPNOC agreed to provide discussion on the basis for lower ranking]***

General notes are used to document component risk justification, where needed, for similar component types that are treated the same from system to system. Components covered by a general note are evaluated by the Working Group to ensure proper applicability of the note and appropriateness of the risk categorization. The use of general notes is an administrative tool

that allows for increased efficiency in the documentation of justifications of large numbers of similar components. General notes are not used for categorizing system functions.

13.7.2.5 Defense in Depth and Safety Margins. For the following reasons, the exemption and the categorization process maintain defense in depth and sufficient safety margins: *[STPNOC agreed to add insights gained from a sensitivity study that increased the unavailability of LSS SSCs modeled in the PRA associated with maintaining containment integrity at the end of Section 13.7.2.5. STPNOC proposed that this sensitivity study be done once as a demonstration that these SSCs do not have a significant impact on maintaining containment integrity or the protection of public health and safety. The NRC is assessing the adequacy of performing this study one time.]*

- Design and functional requirements of systems will not be changed by this exemption.
- No existing plant barriers are removed or altered.
- Design provisions for redundancy, diversity, and independence are maintained.
- The plant's response to transients or other initiators is not affected.
- Preventive or mitigative capability of components is preserved.
- There is no change in any of the safety analyses in the UFSAR.
- Existing safety-related LSS and NRS components will not be replaced, absent good cause (e.g., obsolescence or failure). Since the existing safety-related LSS and NRS components were designed, procured, manufactured, and installed in accordance with the existing special treatment requirements, these components have inherent design margins to perform their intended functions that will not be adversely affected by this exemption.
- The treatment processes described in Section 13.7.3 provide an appropriate and acceptable level of assurance that safety-related LSS and NRS components will be able to perform their intended functions.
- The corrective action program is applied to safety-related LSS and NRS components. This program provides reasonable **assurance confidence** that deficiencies involving safety-related LSS and NRS components will be identified, corrected, and necessary action taken to ensure acceptable performance levels are maintained.

### 13.7.3 Treatment for Component Categories

13.7.3.1 Description of Treatment for Component Categories. The following treatment is provided for the various component categories:

- Safety-Related HSS and MSS Components – The purpose of treatment applied to safety-related HSS and MSS SSCs is to maintain compliance with NRC regulations and the ability of these SSCs to perform risk-significant functions consistent with the categorization process. These components continue to receive the treatment required by NRC regulations and STP's associated implementing programs.

Some safety-related components may be called upon to perform functions that are beyond the design basis or perform safety-related functions under conditions that are beyond the design basis. STP's PRA does not take credit for such functions unless there is basis for confidence that the component will be able to perform the functions (e.g., the functions are subject to special treatment; demonstrated ability of the component to perform the functions under the specified conditions). Additionally, to the extent that the PRA does credit such functions, the PRA assumes a reduced reliability for the function commensurate with the

severity of the beyond design basis conditions in question and the special treatment provided to the function. However, if STP should decide to take credit for such functions beyond that described above, STP would use the process described in Section 13.7.3.2 to evaluate the risk-significant functions performed by these components that are not being treated under STP's current programs, and provide enhanced treatment for such functions.

- Non-Safety-Related HSS and MSS Components – The purpose of treatment applied to non-safety-related HSS and MSS SSCs is to maintain their ability to perform risk-significant functions consistent with the categorization process. These components will continue to receive any existing special treatment required by NRC regulations and STP's implementing programs. Additionally, the risk-significant functions of these components will receive consideration for enhanced treatment. This consideration is described in Section 13.7.3.2.
- Safety-Related LSS and NRS Components – These components receive STP's normal commercial and industrial practices. These practices are described in Section 13.7.3.3.
- Non-Safety-Related LSS and NRS Components – The treatment of these components is not subject to regulatory control.
- Uncategorized Components – Until a component is categorized, it continues to receive the treatment required by NRC regulations and STP's associated implementing programs, as applicable.

13.7.3.2 Enhanced Treatment for HSS and MSS Components. Non-safety-related HSS and MSS components may perform risk-significant functions that are not addressed by STP's current treatment programs.

When a non-safety-related component is categorized as HSS or MSS, STP documents the condition under the corrective action program and determines whether enhanced treatment is warranted to enhance the reliability and availability of the function. In particular, STP evaluates the treatment applied to the component to ensure that the existing controls are sufficient to maintain the reliability and availability of the component in a manner that is consistent with its categorization. This process evaluates the reliability of the component, the adequacy of the existing controls, and the need for any changes. If changes are needed, additional controls are applied to the component. In addition, the component is placed under the Maintenance Rule monitoring program, if not already scoped in the program (i.e., failures of the component are evaluated and Maintenance Rule Functional Failures (MRFF) involving the component are counted against the performance criteria at the plant/system/train level, as applicable). Additionally, as provided in the approved GQA program, non-safety-related HSS and MSS components are subject to the TARGETED QA program. These controls will be specifically 'targeted' to the critical attributes that resulted in the component being categorized as HSS or MSS. Components under these controls will remain non-safety-related, but the special treatments will be appropriately applied to give additional **assurance confidence** that the component will be able to perform its HSS/MSS function when demanded.

As discussed in Section 13.7.3.1, STP's PRA does not take credit for the beyond-design basis functions of safety-related components, unless there is a basis for confidence that the component will be able to perform the functions. However, if STP should decide to take credit for a risk-significant function in a situation in which existing special treatment does not provide

the applicable level of confidence, STP would use the process described above to evaluate enhanced treatment for the function.

These identified processes provide **reasonable confidence** that HSS and MSS components will be able to perform their risk significant functions. The validation of functionality of HSS and MSS SSCs (safety-related and non-safety-related) will consist of a documented technical evaluation to determine what enhanced treatment, if any, is warranted for these SSCs to provide **reasonable** confidence that the applicable risk significant functions will be satisfied. The performance of these SSCs will be monitored sufficiently to assure their ongoing capability to perform their risk significant functions. The design control process will assure that facility changes affecting the risk-significant functions of these SSCs will continue to be capable of performing those functions.

### 13.7.3.3 Normal Commercial and Industrial Practices for Safety-Related LSS and NRS Components

A description of STP's commercial practices is provided below. The purpose of the treatment practices applied to safety-related LSS and NRS SSCs is to maintain their design basis and functionality under design-basis conditions. ***[STPNOC has indicated that it will add a statement in this section that discusses full or partial implementation of changes to the treatment granted by the exemptions. The staff agreed that this would be reasonable.]***

**13.7.3.3.1 Design Control Process.** The Station's Design Control Program is used for safety-related SSCs, including safety-related LSS and NRS SSCs). The Design Control Program complies with 10 CFR Part 50, Appendix B, and is described in the Operations Quality Assurance Plan (OQAP). The design control process for safety-related LSS and NRS SSCs will maintain and apply the design inputs and assumptions to maintain the ability of these SSCs to perform their safety-related functions under design-basis conditions. Changes to the design basis of safety-related LSS and NRS SSCs will be controlled following the design control process satisfying 10 CFR Part 50, Appendix B.

**13.7.3.3.2 Procurement Process.** ***The purpose of the procurement process for safety-related LSS and NRS SSCs is to procure replacement SSCs that satisfy the design inputs and assumptions to support STP's determination that these SSCs will be capable of performing their safety-related functions under design-basis conditions.*** Technical requirements (including applicable design basis environmental and seismic conditions) for items to be procured include the design inputs and assumptions for the item. As described below, one or more of the following methods will ~~be used to~~ ***provide a sufficient basis*** to determine that the procured item can perform its safety-related function under design basis conditions, including applicable design basis environmental (***temperature and pressure, humidity, chemical effects, radiation, aging, submergence, and synergistic effects***) and seismic (***earthquake motion, as described in the design bases, including seismic inputs and design load combinations***) conditions:

- Vendor Documentation - Vendor documentation could be used when the performance characteristics for the item, as specified in vendor documentation (e.g., catalog information, certificate of conformance), satisfy the SSC's design requirements. If the vendor documentation does not contain this level of detail, then the design requirements could be provided in the procurement specifications. The vendor's acceptance of the stated design specifications provides sufficient confidence that the replacement safety-

related LSS or NRS SSC would be capable of performing its safety-related functions under design basis conditions.

- Equivalency Evaluation - An equivalency evaluation could be used when it is sufficient to determine that the procured item is equivalent to the item being replaced (e.g., a like-for-like replacement).
- Engineering Evaluation - For minor differences, an engineering evaluation could be performed to compare the differences between the procured item and the design requirements and determines that differences in areas such as, material, size, shape, stressors, aging mechanisms, and functional capabilities would not adversely affect the ability to perform the safety-related functions of the SSC under design basis conditions.
- Engineering Analysis - In cases involving substantial differences between the procured item and the design requirements, an engineering analysis could be performed to determine that the procured item can perform its safety-related function under design basis conditions. The engineering analysis would be based *on the combination of engineering methods that include, as necessary, calculations, analyses and evaluations* by multiple disciplines, test data, *or and* operating experience *related to the procured item to maintain support functionality of the SSC* over its expected life. Where the differences are determined to require a design change, STP will follow the design control process for safety-related SSCs.
- Testing - Testing under simulated design basis conditions could be performed on the component. Margins and documentation specified in NRC regulations would not be required in these tests, since the components are LSS/NRS and do not warrant this additional **assurance confidence**.

Documentation of the implementation of these methods is maintained. Additionally, documentation is maintained to identify the preventive maintenance needed to preserve the capability of the procured item to perform its safety-related function under applicable design basis environmental and seismic conditions for its expected life.

A Purchase Order is issued to the supplier, which specifies the item to be procured either by catalog identification or procurement specifications.

STP uses the following commercial national consensus standards in the procurement process to provide confidence that components can perform their safety-related function: **[Merge]**

- X Standards required by the State of Texas to be used in the process.
- X Standards used at STP for the procurement of SSCs consistent with STP's normal commercial and industrial practices.

STP does not need to itemize the standards in use at STP or to perform an evaluation of all national consensus standards.

The procurement program provides for the identification and implementation of special handling and storage requirements to ensure that the item is not damaged or degraded during shipment

to the site or during storage on site. These handling and storage requirements consider available recommendations from the vendor. STP may use an alternative to these recommendations if there is a technical basis that supports the functionality of the safety-related LSS and NRS SSCs. The basis does not need to be documented.

At the time of receipt, the received item is inspected to ensure that the item was not damaged in the process of shipping, and that the item received is the item ordered.

**13.7.3.3.3 Installation Process.** *The purpose of the installation process for safety-related LSS and NRS SSCs is to achieve proper installation and testing of replacement SSCs to support STP's determination that these SSCs will be capable of performing their safety-related functions under design-basis conditions.* STP uses the following commercial national consensus standards in the installation process to provide confidence that components can perform their safety-related function: **[Merge]**

- X Standards required by the State of Texas to be used in the process.
- X Standards used at STP for the installation of SSCs consistent with STP's normal commercial and industrial practices.

STP does not need to itemize the standards in use at STP or to perform an evaluation of all national consensus standards.

Post-installation testing will be performed to the extent necessary to provide **reasonable** confidence that the installed SSC will perform its safety function. The test verifies that the SSC is operating within expected parameters and is functional. The testing may necessitate that the SSC be placed in service to validate the acceptance of its performance. Testing is not necessarily performed under design basis conditions.

**13.7.3.3.4 Maintenance Process.** *The purpose of the maintenance process for safety-related LSS and NRS SSCs is to establish the scope, frequency, and detail of maintenance activities necessary to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions.* Preventive maintenance tasks are developed for active structures, systems, or components factoring in vendor recommendations. STP may use an alternative to these recommendations if there is a technical basis that supports the functionality of the safety-related LSS and NRS SSCs. The basis does not need to be documented. For ~~an SSCs with a~~ **in service beyond its** designed life, STP will **have a technical basis to determine that** the SSC will remain capable of performing its safety-related function(s).

The frequency and scope of predictive maintenance actions are established and documented considering vendor recommendations, environmental operating conditions, safety significance, and operating performance history. STP may deviate from vendor recommendations where a technical basis supports the functionality of the safety-related LSS and NRS SSCs. Such deviations are not required to be documented.

When an SSC deficiency is identified, it is documented and tracked through the Corrective Action Program. The deficiency is evaluated to determine the corrective maintenance to be performed.

Following maintenance activities that affect the capability of a component to perform its safety-related function, post maintenance testing is performed to the extent necessary to provide **reasonable** confidence that the SSC is performing within expected parameters.

STP uses the following commercial national consensus standards in the maintenance process to provide confidence that components can perform their safety-related function: **[Merge]**

- X Standards required by the State of Texas to be used in the process.
- X Standards used at STP for maintenance of SSCs consistent with STP's normal commercial and industrial practices.

STP does not need to itemize the standards in use at STP or to perform an evaluation of all national consensus standards.

**13.7.3.3.5 Inspection, Test, and Surveillance Process.** *The purpose of the inspection, test, and surveillance process for safety-related LSS and NRS SSCs is to obtain data or information that allows evaluation of operating characteristics to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions throughout the service life of the SSC.* The Station's inspection and test process is primarily addressed and implemented through the Maintenance process. **When measuring and test equipment is found to be in error or defective a determination is made of the functionality of the safety-related SSCs that were checked using that equipment.** As stated above, the Maintenance process addresses inspections and tests through corrective, preventive, and predictive maintenance activities. These activities factor in vendor recommendations into the selected approach. STP may use an alternative to these recommendations if there is a technical basis that supports the functionality of the safety-related LSS and NRS SSCs. The basis does not need to be documented.

STP uses the following commercial national consensus standards in the inspection, test, and surveillance process to provide confidence that components can perform their safety-related functions: **[Merge]**

- X Standards required by the State of Texas to be used in the process.
- X Standards used at STP for testing, inspecting, or surveillance of SSCs consistent with STP's normal commercial and industrial practices.

STP does not need to itemize the standards in use at STP or to perform an evaluation of all national consensus standards.

**13.7.3.3.6 Corrective Action Program.** The Station's Corrective Action Program is used for both safety-related (LSS and NRS as well as HSS and MSS SSCs) and non-safety-related applications. The Corrective Action Program complies with 10 CFR Part 50 Appendix B, and is described in the OQAP.

**13.7.3.3.7 Management and Oversight Process.** *The purpose of the management and oversight process for safety-related LSS and NRS SSCs is to control the implementation of the treatment processes, assess the effectiveness of the implementation of the treatment*

~~processes, and evaluate proposed changes to commitments to support STP's determination that these SSCs will remain capable of performing their safety-related functions under design-basis conditions. The Station's management and oversight process is accomplished through approved procedures and guidelines. This process includes independent oversight, line self-assessments, and Maintenance Rule implementation (plant, system, or train level for LSS and NRS components). In addition, the Graded Quality Assurance Working Group periodically assesses SSC performance.~~

Procedures provide for the qualification, training, and certification of personnel. STP considers vendor recommendations in the training, qualification, and certification of personnel. STP may use an alternative to these recommendations if there is a basis for continued effective training of personnel. The basis does not need to be documented. Additionally, STP uses the following commercial national consensus standards for qualification, training, and certification of personnel to provide confidence that components can perform their safety-related function:

[Merge]

- X Standards required by the State of Texas to be used in the process.
- X Standards used at STP for qualification, training, or certification of personnel, consistent with STP's normal commercial and industrial practices.

STP does not need to itemize the standards in use at STP or to perform an evaluation of all national consensus standards.

Documentation, reviews, and record retention requirements for completed work activities are governed by Station procedures.

~~Procedures identify the types of inspection, test, and surveillance equipment requiring control and calibration, and the interval of calibration. Measuring and test equipment that is found to be in error or defective is removed from service or properly tagged to indicate the error or defect, and a determination is made of the functionality of the safety-related SSCs that were checked using that equipment.~~

Planned changes to, or elimination of, commitments described in the FSAR or other licensing bases documentation that address issues identified in NRC generic communications (i.e., generic letters or bulletins), NRC orders, notices of violation, etc. related to safety-related LSS and NRS SSCs will be evaluated for the effect on the ability of these SSCs to perform their safety-related functions under design basis conditions in accordance with an NRC endorsed commitment change process.

13.7.3.3.8 Configuration Control Process. The Station's configuration control process is controlled through approved procedures and policies. The design control process ensures that the configuration of the Station is properly reflected in design documents and drawings.

#### 13.7.4 Continuing Evaluations and Assessments

13.7.4.1 Performance Monitoring. STP has performance monitoring processes that include the following:

- Maintenance Rule Program – Specific performance criteria are identified at the plant, system, or train level. Regardless of their risk categorization, components that affect MSS or HSS functions will be monitored and assessed in accordance with plant, system and/or train performance criteria.
- Performance Reporting & Identification Database – This database collects both positive and negative indicators from the performance of plant activities, such as corrective maintenance, installation of modifications, and conduct of testing. The Quality organization provides oversight of this database.
- Corrective Action Program - Condition reports document degraded equipment performance or conditions, including conditions identified as a result of operator rounds, system engineer walk-downs, and corrective maintenance activities.

13.7.4.2 Feedback and Corrective Action. STP has feedback and corrective action processes to ensure that equipment performance changes are evaluated for impact on the component risk categorization, the application of special treatment, and other corrective actions. At least once per cycle, performance data is compiled and presented to the Working Group for review, which is performed for each risk-categorized system. Performance and reliability data are generally obtained from sources such as the Maintenance Rule Program and Operating Experience Review.

This process provides an appropriate level of assurance that any significant negative performance changes that are attributed to the relaxation of special treatment controls are addressed in a timely manner. Responsive actions may include the reinstatement of applicable controls up to and including the re-categorization of the component's risk significance, as appropriate.

13.7.4.3 Process for Assessing Aggregate Changes in Plant Risk. The Expert Panel is responsible for assessing and approving the aggregate effect on plant risk for risk-informed applications.

The process used to assess the aggregate change in plant risk associated with changes in special treatment for components is based on periodic updates to the station's PRA and the associated PRA risk ranking sensitivity studies.

### 13.7.5 Quality Assurance and Change Control for the Risk-Informed Process

#### 13.7.5.1 Quality Assurance for the PRA and Categorization Process.

STP has a PRA configuration control program, which is structured to ensure that changes in plant design and equipment performance are reflected in the PRA as appropriate. The PRA configuration control process is controlled by procedures and guidelines that ensure proper control of changes to the models.

13.7.5.2 Regulatory Process for Controlling Changes. Changes affecting Section 13.7 will be controlled in accordance with the following provisions:

- a. Changes to Section 13.7.2, "Component Categorization Process" may be made without prior NRC approval, unless the change would decrease the effectiveness of the process in identifying HSS and MSS components.
- b. Changes to Section 13.7.3, "Treatment of Component Categories" may be made without prior NRC approval, unless the change would result in a reduction in the **assurance confidence** of component functionality.
- c. Changes to Section 13.7.4, "Continuing Evaluations and Assessments" may be made without prior NRC approval, unless the change would result in a decrease in effectiveness of the evaluations and assessments.
- d. A report shall be submitted, as specified in 10 CFR 50.4, of changes made without prior NRC approval pursuant to these provisions. The report shall identify each change and describe the basis for the conclusion that the change does not involve a decrease in effectiveness or **assurance confidence** as described above. The report shall be submitted within 60 days of the date of the change.
- e. Changes to Sections 13.7.2, 13.7.3, and 13.7.4 that do not meet the criteria of Sections 13.7.5.2.a through c shall be submitted to the NRC for prior review and approval.

**South Texas Project/Nuclear Regulatory  
Commission Meeting**

**Remaining Open Issues on the Request for  
Exemption from Special Treatment  
Requirements**

Meeting of the  
Risk-Informed Licensing Panel

April 24, 2001

**South Texas Project Attendees**

- Joe Sheppard, Vice President of Engineering & Technical Services
- Glen Schinzel, Exemption Request Project Manager
- Scott Head, Licensing Manager
- Rick Grantom, Risk Management Manager
- Steve Frantz, STP counsel

## **Background**

- **STP Has a Robust Categorization Process**
  - PRA and Importance Measures
  - Deterministic Evaluation
  - Higher of PRA or Deterministic Category Is Used
- **LSS/NRS Components Have Little or No Safety Significance**
  - Typical examples include vents, drain valves, indicators, etc.
  - Little or no contribution to accident prevention or mitigation

## **Background**

- **No Significant Impact on Reliability Expected from Use of Commercial Practices**
  - Commercial practices at STP have proven effective on BOP components
  - STP analysis of industry data shows commercial practices are effective
    - STP evaluated 33 component types (74 billion component hours)
    - 21 component types had lower failure rates for non-safety-related components than safety-related components
    - Only 1 component type had higher failures rates for non-safety-related components than safety-related components

## **Background**

- Decreases in Reliability of LSS/NRS Components Would Not Significantly Affect PRA Results
  - STP sensitivity study postulated factor of 10 increase in failure rates of all LSS components
  - CDF and LERF increased by about 1%
  - Noted increase in CDF and LERF is small fraction of acceptance criteria in RG 1.174

## **Summary of Remaining Open Issues**

- Open issues are detailed on attached pages - summary includes the STP concern, our perception of the staff's position, and the delta between these two positions.
- Open issues include:
  - Equipment Qualification
  - Seismic
  - Safety-related SSC testing
  - Overall detail in the FSAR
    - Categorization
    - Procurement
    - Management & Oversight

## Summary of Remaining Open Issues

- Pressure boundary categorization
- Guidance provided in SER on what constitutes effective implementation

## Environmental Qualification

- **STP Position**
  - Will use five-tiered procurement approach
  - One or more of the five options may be used
  - Will ensure that design functional requirements are met
- **Staff Position**
  - Official staff position has not been received
  - Design basis environmental parameters detailed in FSAR
  - NRC has indicated that a combination of calculations, multiple discipline analysis, test data, and operating experience must be used

## **Environmental Qualification**

- **Delta**
  - The formal staff position is not known
  - It is not clear that the staff will permit procurement to be satisfied by vendor documentation, equivalency evaluations, engineering evaluations
  - Detail in the FSAR is too prescriptive

## **Seismic**

- **STP Position**
  - Will use five-tiered procurement approach
  - One or more of the five options may be used
  - Design functional requirements to be met
- **Staff Position**
  - 5 OBE followed by 1 SSE criteria must be met/demonstrated
  - Detailed engineering analysis and testing viewed as only viable options
  - Is willing to grant exemption, but doesn't see how it could be effectively implemented

## **Seismic**

- **Delta**
  - five-tiered approach viability
  - 13.7.3.3.2 language of ‘seismic (earthquake motion, as described in the design bases, including seismic inputs and design load combinations)’

## **Conclusions on Seismic and EQ**

- Focus continues to be on “how” STP intends to qualify components with Low Safety Significance
- STP’s Approach Is Commensurate with Safety
  - Vendor documentation provides sufficient confidence as shown by commercial experience
  - Engineering evaluations provide sufficient confidence for like-for-like replacements and minor differences
  - STP will use more detailed engineering analysis and/or testing for more substantial differences

## Conclusions on Seismic and EQ

- **Summary**
  - Reduced assurance is not apparent with respect to EQ and seismic qualification of LSS/NRS components
  - Absent relief, the exemption will provide essentially no cost savings for procurement

## SSC Testing

- **STP Position**
  - LSS/NRS SSCs will be appropriately tested and inspected following commercial practices and insights
- **Staff Position**
  - LSS/NRS SSCs must continue to receive equivalent-type testing as currently required
  - Successful operation/testing does not provide sufficient assurance
  - Data gathering, trending, and evaluation is necessary

## SSC Testing

- **Delta**
  - Whether data collection, trending, and evaluation should be performed
- **STP's Approach Is Commensurate with Safety**
  - STP has agreed to exercise ASME pumps and valves during normal operation or test periodically
  - These activities will demonstrate that the pumps and valves are functional
  - Any failures will be subject to STP's Appendix B Corrective Action Program

## SSC Testing

- **Summary**
  - Reliance on commercial practices has not been fully accepted
  - Data collection, trending, and evaluation for LSS/NRS components is not warranted and is unduly burdensome
  - Specification of 'how' testing is to be accomplished is unnecessary for LSS/NRS components

## Detail in the FSAR

- **STP Position**
  - New NRC guidance to focus on ‘whats’ and not the ‘hows’
  - Extensive detail had been provided to support closure of RAIs and Open Items
  - FSAR continues to become more detailed
  
- **Staff Position**
  - Current detail in FSAR 13.7 reflects the minimum detail needed to make a finding in the SER
  - Additional detail is needed on containment integrity sensitivity study, pressure boundary, etc.

## Detail in the FSAR

- **Delta**
  - 13.7.2.4 - detail of numerical scores to answers and the definitions to support the categorization is unnecessary
  - 13.7.2.5 - defense in depth bulleted details are more appropriate for the SER rather than the FSAR
  - 13.7.3.2 - no need for technical evaluation for safety-related HSS/MSS components
  - 13.7.3.3.2 - the detailed ‘how’ that STP will use to procure replacement SSCs is unnecessary - detailing environmental and seismic attributes is not needed
  - 13.7.3.3.7 - details concerning personnel qualifications, procedures, M&TE programmatic approach is not needed

## **Detail in the FSAR**

- **STP's Approach Is Commensurate with Safety**
  - STP's sensitivity studies show that substantial increases in failure rates of LSS components would have no significant impact on risk
  - Such increases are well beyond what may be reasonably expected to occur due to the change from special treatment to commercial practices
  - Given the large margins of safety shown by STP's sensitivity studies, the details of STP's commercial treatment are unimportant
    - E.g., changes in the details will not have any appreciable impact on risk and are bounded by the sensitivity studies

## **Detail in the FSAR**

- **Summary**
  - There will be substantial future burden associated with managing the level of detail proposed in the FSAR
  - The details desired are not warranted for low safety significant components

## Pressure Boundary Categorization

- **STP Position**
  - GQA approach conservatively categorizes pressure boundary
  - RI-ISI methodology supplements the ASME Class 1/2 categorization
  - Streamlined RI-ISI-type approach supplements ASME Class 3 categorization
- **Staff Position**
  - GQA categorization inadequate for pressure boundary
  - RI-ISI categorization must be used to supplement categorization for ASME Repair and Replacement for all ASME classes

## Pressure Boundary Categorization

- **Delta**
  - Whether STP should be allowed to use alternate approach to supplement categorization for ASME Class 3 components
- **Class 3 components**
  - Class 3 components have the least important pressure boundary considerations
  - Currently, NRC regulations have only minimal inspection requirements for Class 3 components
  - Would impose substantial additional burden on STP with respect to categorization of Class 3 components

## **Pressure Boundary Categorization**

- **STP's Approach Is Commensurate with Safety**
  - GQA approach considers impact on system functions from pressure boundary failure
  - STP's alternative approach considers spatial effects on other safety significant SSCs from pressure boundary failure
  - Reduced treatment of Class 3 components inside containment does not pose any new EQ or spatial effects concerns

## **Pressure Boundary Categorization**

- **Summary**
  - Requires STP to use two categorization processes for pressure boundary
  - EPRI RI-ISI approach is viewed by NRC as only acceptable method
  - STP's approach adequately accounts for the risk of pressure boundary failure
    - STP believes that the GQA categorization process is adequate for all functions, including pressure boundary (based on comparison with RI-ISI results)
    - STP has agreed to supplement its process with alternate approach
    - No significant safety benefit to applying EPRI RI-ISI to Class 3 components

## Implementation Guidance in SER

- **Staff Position**

- Implementation guidance is needed to give insight to STP on staff's expectations

- **STP Position**

- Commercial practices are sufficient
- Detailed guidance on what constitutes 'effective implementation' or 'ineffective implementation' in the SER will establish expectations that go beyond commercial practices
- Guidance becomes default 'commitments' that limit implementation

## Implementation Guidance in SER

- STP will not have an opportunity to comment on the guidance before it appears in the final SER

- **Delta**

- Resolve whether guidance should be provided in the SER

- **Summary**

- It is inappropriate for NRC to place guidance in the SER without providing STP a prior opportunity to review and comment
- The staff's proposal threatens to impose new requirements that could impact the viability of the exemption

## **Future Activities**

- What should be NRC's inspection approach to LSS/NRS components?
- Process should proceed as a pilot and learn from feedback that is received
- STP does not expect any significant changes in reliability of LSS/NRS components
- STP's sensitivity studies demonstrate that even a postulated 10 fold increase in failure rates would not significantly affect risk
- LSS/NRS components do not warrant substantial NRC inspection resources

## **Conclusions**

- Significant progress has been made
- Few open issues remain
- Use of commercial practices for low safety significant components not fully accepted
- Level of detail in the FSAR is excessive given the low safety significance of the components
- Cost-effective implementation of the exemption is challenged