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February 11, 1997

U. S. Nuclear Regulatory Commission
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Subject: Request for Information Pursuant to 10CFR50.54(f) Regarding Adequacy and Availability of Design Basis Information
River Bend Station - Unit 1
License No. NPF-47
Docket No. 50-458

File Nos.: G9.5.1

RBG-43668
RBF1-97-0034

Ladies and Gentlemen:

By letter dated October 9, 1996 and received October 14, 1997, the NRC requested information pursuant to 10CFR50.54(f) regarding adequacy and availability of design basis information. Specifically, the letter requested licensees to submit information which will provide the NRC added confidence and assurance that:

- each plant is operated and maintained within the design basis
- deviations are reconciled in a timely manner.

Enclosed is the River Bend Station (RBS) response to the requested information.

Entergy Operations, Inc. has closely followed the design and licensing bases issues identified over the last eighteen months within the nuclear industry. While the individual licensee findings are addressed based on their own merit, Entergy reaffirms our long-standing belief that compliance with our design and licensing bases is not optional. Regardless of safety significance, compliance is a necessary element of an effective regulatory framework, and an expected result

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for adhering to our operating license. Additionally, Entergy believes that an effective licensee assessment and corrective action program is essential for identifying and correcting conditions that may exist at a facility.

Prompted by the renewed focus on the design and licensing bases, FSAR assessments were conducted at each Entergy facility last summer. Entergy shared the results of these assessments with you in meetings at NRR (November 14, 1996) and Region IV (December 17, 1996).

Similarly, upon receipt of the 10CFR50.54(f) letter, RBS and the other Entergy plants jointly developed and implemented an assessment of design basis and configuration management processes. This assessment reviewed the completeness and effectiveness of controls necessary to translate the design basis into current plant configuration and operating procedures. The assessment and its results are described in the enclosed response.

Our reviews determined that no significant design basis concerns exist at RBS. However, two process discrepancies were identified. These are discussed in Section X of the enclosed response. Also, various process and control improvements were identified during the development of this response. These improvements will be evaluated to determine appropriate actions to be taken.

Based on the assessments and reviews conducted, we believe that reasonable assurance exists to conclude that the RBS design basis of systems, structures and components are adequately maintained in the plant.

The on-going program discussions provided in this letter are considered by RBS to be enhancements and are not provided as commitments necessary to ensure design basis adequacy.

The enclosed report covers a great deal of information in summary fashion. We encourage your questions and comment. Please feel free to contact Rick King or Guy Davant of my staff for clarifying information or additional detail. Pursuant to the requirements of 10CFR50.54(f), RBS is providing the enclosed response to the NRC's request under affirmation.

Sincerely,

John R. McGaha

JRM/ghd
enclosure

cc: Director, Office of Nuclear Reactor Regulations
M/S OWFN 13-H-3
Washington, DC 20555

U. S. Nuclear Regulatory Commission
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Mr. David L. Wigginton
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NRC Resident Inspector
P. O. Box 1051
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BEFORE THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

LICENSE NO. NPF-47

DOCKET NO. 50-458

IN THE MATTER OF

ENTERGY GULF STATES, INC.

CAJUN ELECTRIC POWER COOPERATIVE AND

ENTERGY OPERATIONS, INC.

AFFIRMATION

I, John R. McGaha, state that I am Vice President - Nuclear Operations of Entergy Operations, Inc., at River Bend Station; that on behalf of Entergy Operations, Inc., I am authorized by Entergy Operations, Inc., to sign and file with the Nuclear Regulatory Commission, this request for information pursuant to 10CFR50.54(f); that I signed this letter as Vice President - Nuclear Operations at River Bend Station of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information, and belief.

John R McGaha
John R. McGaha

STATE OF LOUISIANA
PARISH OF WEST FELICIANA

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the Parish and State above named, this 11th day of February, 1997.

(SEAL)

Claudia F. Hurst
Claudia F. Hurst
Notary Public

My commission expires with life

RESPONSE TO REQUEST FOR INFORMATION REGARDING ADEQUACY AND AVAILABILITY OF DESIGN BASIS INFORMATION

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RESPONSE TO REQUEST FOR INFORMATION REGARDING ADEQUACY AND AVAILABILITY OF DESIGN BASIS INFORMATION

I. INTRODUCTION

The purpose of this letter is to provide added assurance that Entergy Operations, Incorporated (EOI) facilities are operated and maintained within their design bases with deviations reconciled in a timely manner as requested pursuant to 10CFR50.54(f) by NRC's Executive Director for Operations on October 9, 1996. This response covers River Bend Station (RBS).

Although NRC's request focused on specific questions with respect to plant design control and configuration management, the request was made against a larger background of concern over licensees' ability to understand, maintain and operate their plants in accordance with a plant's licensing basis. Mindful of this broader perspective, EOI has taken steps not only to respond to the specific questions but to understand and address the wider messages:

- NRC's confidence in licensee control of their licensing and design bases has been shaken by events of the last year and a half,
- Public and Congressional confidence in the nuclear regulatory process has eroded as these events received publicity and scrutiny, and
- Compliance with licensing and design bases is not optional. Compliance is an expected and necessary element of an effective regulatory framework.

Consequently, we believe that the individual and collective responses to the 50.54(f) letters are an essential first step in restoring public and regulatory confidence in nuclear licensees.

Prior to issuance of the 50.54(f) letter, EOI developed and implemented licensing basis assessments at each of our facilities, and developed a design basis evaluation that is presently ongoing. Upon receiving the 50.54(f) letter, we extended these concepts and built upon their insights to implement the critical review needed to respond in a pro-active manner to this letter.

Overall we have found these exercises valuable. In particular, we have identified a number of subtle means to change the configuration of a facility that may

bypass traditional design and/or licensing basis controls. As a result, we have been able to implement, or are in the process of implementing, additional programmatic controls that provide added assurance that our plants' configuration and operation reflect the underlying design and licensing bases.

The assessments conducted to respond to the 50.54(f) letter, their results and RBS's initiatives are discussed in more detail below.

II. BACKGROUND

Nuclear plants, processes, regulations and regulators change and evolve over time. EOI's first plant (ANO Unit 1) was licensed in 1974 and its last facility (Waterford 3) received its full power license in 1985. Over that time, the industry and the regulators experienced significant change ranging from the TMI accident to 10CFR50.71(e) requirements to update the FSAR. Since our facilities were licensed at differing times and subject to differing regulations (e.g., both ANO units operated for a number of years before 10CFR50.71(e) was enacted), it is not surprising that their internal process development differed.

Similarly, the industry and the regulators have undergone significant change since the last EOI facility was licensed. The period from 1985 to the present is probably best characterized as one of increased understanding of the factors important to nuclear safety. Enhanced understanding of, comfort with and use of probabilistic safety assessment techniques led to an increased capability to focus on safety significant elements of plant design regardless of their safety-related or non-safety-related designation. Performance-based approaches to plant operation and regulation started to be applied because they focused on safety results rather than prescriptive details of how a function was accomplished.

Evolving regulation and evolving understanding of elements important to safety, coupled with varying times of plant design, construction and licensing led to strikingly different historical development for EOI facilities. This is apparent in how each facility's control and conception of licensing and design basis management evolved.

For example, ANO Unit 1 (licensed in 1974) uses an FSAR format based on a predecessor to Regulatory Guide 1.70 and has custom technical specifications different from the standard format. The design bases requirements under 10CFR50.2 for ANO may be viewed as more limited than a plant licensed in the mid 1980s. Consequently, the design documentation expectations under 10CFR50, Appendix B at that time were less demanding and design documentation was in many cases not readily accessible.

In contrast, Grand Gulf was licensed in 1982, but went through an extended low power testing period due to discrepancies between the as-built plant and the technical specifications. The large technical specification re-validation effort at that time, combined with its later plant vintage, better turn-over from the architect-engineer, and better document maintenance, led to much reduced design basis documentation efforts for Grand Gulf in comparison with ANO.

Each EOI facility has a unique background which resulted in varying levels of effort needed to develop, recapture or reconstitute their design basis. This historical development is reviewed in the responses to Questions (b) and (c).

III. REGULATORY BASES

The difference between the design and licensing bases can be confusing and is often not clearly documented. While the distinction may be unimportant in many controlling processes, it is relevant to our response to the 50.54(f) letter and to the various assessments EOI has conducted either in response to the letter or as a result of the broader issues which led to the letter.

In the 50.54(f) letter, the NRC has clearly couched their request in terms of the 10CFR50.2 definition of design bases. As such, the design basis is a subset of the licensing basis. And, although the licensing basis itself is undefined in 10CFR50, in general, EOI facilities view the licensing basis to be similar to the 10CFR54.3 definition of current licensing basis.

In practical terms (although not strictly correct), the industry tends to think of the licensing basis as primarily consisting of the FSAR and the 10CFR50.2 design basis as that portion of the FSAR that addresses safety functional characteristics as defined in 10CFR50.2. Consequently, much of the introductory discussion of the 50.54(f) letter which addresses various concerns with FSAR fidelity is concentrating on the licensing basis, while the information request itself [Questions (a) - (e)] is limited to that portion of the FSAR that constitutes the design basis.

Regardless of the distinctions, as discussed below, EOI has taken steps to address issues associated with both design and licensing basis fidelity.

Design Basis

The term "design basis" as defined in 10CFR50.2 differs from how we use that term in day-to-day activities. The "regulatory design basis" of 10CFR50.2 represents only the tip of the design basis iceberg. Underlying the regulatory design basis is a large amount of design basis information contained in documents such as design documents, calculations, analyses, drawings, tables, databases and the like, which is not part of the regulatory design basis. Notwithstanding its status outside of the regulatory design basis, management and control of this larger body of information is necessary to ensure that the regulatory design basis of 10CFR50.2 is accurate, and to maintain compliance with 10CFR50, Appendix B.

In responding to the 50.54(f) letter, EOI has chosen to expand our review beyond the narrow confines of the regulatory design basis to identify and examine processes which could affect the broader design basis and plant

configuration. Although those processes [which are identified and reviewed in Section VI, Response to Question (a)] are extensive, we found our review valuable in identifying and refining controls on plant configuration.[1]

Licensing Basis

Last June, recognizing the importance of the licensing basis issues associated with recent industry events, EOI management directed that licensing basis assessments be developed and conducted for EOI facilities to determine if additional action was needed to maintain and control our plants' licensing basis.

These assessments, which were conducted in July and August, 1996 at each EOI plant, were successful in identifying a number of subtle ways in which the plant's operating basis could be changed while bypassing the traditional licensing basis change mechanisms.

While the FSAR assessments and their results are beyond the scope of the 50.54(f) request[2], their insights were utilized in developing the review approach to respond to the 50.54(f) letter. EOI has also shared our FSAR assessment approach and findings with the industry and the NRC. In particular, we met with NRR (November 14, 1996) and Region IV (December 17, 1996) to provide a detailed presentation on the FSAR assessment results from each facility.

Overall, the FSAR assessments found that traditional licensing basis controls such as the 10CFR50.59 and 50.71(e) processes are effective in maintaining and updating the licensing basis. Process enhancements were identified in some cases to address non-traditional operating basis. At two of our facilities (ANO and River Bend) there were sufficient discrepancies in the original FSAR text to merit an FSAR upgrade effort. That effort, which was briefly described during the NRC presentations, is beginning at the two plants and is expected to be completed in approximately two years.

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[1] In addition to the review conducted to respond to the 50.54(f) request, EOI is conducting design basis team evaluations at each of our facilities. Similar to the FSAR assessments described below, the design basis evaluations are expected to yield further insight into useful areas to enhance the design basis documentation and control. These evaluations are scheduled to be complete in 1997.

[2] As noted in footnote 8 to the 50.54(f) letter, the Commission has adopted enforcement policy changes to encourage licensees to voluntarily undertake initiatives to identify and correct FSAR noncompliances. We believe the FSAR assessments and other initiatives qualify for such enforcement discretion. EOI will docket this position separately from this response.

IV. RESPONSE DEVELOPMENT AND OVERSIGHT

Planning for and preparation of the 50.54(f) response was coordinated by an EOI team of knowledgeable representatives from each facility and the corporate office. As directed by management, the team developed a response approach (described in Section V, below) involving a critical review of site process completeness and effectiveness. The intent was to go beyond process description and develop an approach capable of identifying new insight into the adequacy of design basis and configuration management processes.
Each site assembled a separate team to implement the resulting assessment. The site team was responsible for investigating site processes, evaluating the resultant information and identifying and documenting any deficiencies or process enhancements. The site team also compiled sufficient records of their review to substantiate the accuracy of the findings.

One advantage of a system-wide team approach is that throughout the response development period, site-specific findings and insights were shared amongst the EOI team. Common problems were addressed, and, where appropriate, consistency in evaluation and approach was facilitated.

Draft information was shared with nuclear facilities outside of EOI in order to benefit from external insights. Knowledgeable external and legal personnel also provided valuable feedback.

The RBS response was reviewed by a broad range of site personnel including engineering, licensing, and management personnel. In addition, the on-site safety review committee (Facility Review Committee) performed site-specific reviews.

V. APPROACH TO ADDRESSING QUESTIONS (a) - (d)

Before providing the detailed response to Questions (a) - (d), it is worthwhile to discuss how these questions interrelate and our understanding of NRC's intent in posing the questions.

Questions (a) and (d) request descriptive information concerning the design/configuration control processes and the corrective action processes. Questions (b) and (c) request our reasons for concluding that these processes are implemented such that actual plant configuration and activities accurately reflect the design basis. In constructing our review to be responsive to the spirit of these requests, EOI focused on addressing two key issues:

- Completeness [Questions (a) and (d)]
  - ◊ Have we identified the ways (processes) by which plant configuration can be changed?
  - ◊ Does the corrective action program contain the appropriate elements?
  - ◊ Do the identified processes contain the elements necessary for effective control?
- Effectiveness [Questions (b) and (c)]
  - ◊ Do we have previous assessments (e.g., audits, vertical slice inspections, etc.) that provide reasonable assurance of process effectiveness (i.e., that the design basis is reflected in plant configuration and procedure)?
  - ◊ Have we undertaken major process or other upgrade efforts (e.g., design basis reconstitution, improved technical specification implementation, etc.) that provide reasonable assurance of process effectiveness?

The concepts of completeness and effectiveness deserve further discussion in order to fully understand our response.

Completeness

In reality, engineering design, configuration control and corrective action processes are a complex set of intertwining proceduralized processes spanning multiple departments. For example, just in the area of design control there are many processes (and even more procedures) that address different control

mechanisms such as design specifications, drawing updates, internal standards, vendor manual changes, software control, database control (e.g., cable, EQ, seismic, setpoints, etc.), and many other control activities.

The question of completeness becomes more complex when we move beyond the traditional design change and configuration management processes to evaluate other potential ways that plant configuration can be changed. As we found through the FSAR assessments mentioned above, there are a number of ways in which plant configuration can be changed that may bypass traditional configuration control processes.

There are numerous processes/procedures that can affect, in one way or another, plant configuration. Similarly, there are multiple processes that can affect corrective action. These processes are listed and discussed in the response to Questions (a) and (d), and in Appendix A.

In addition to identifying the processes by which plant configuration or corrective action can be affected, it is important to identify the elements which should be present in those processes in order for them to be effective. For configuration management, process effectiveness elements control a change from conception to implementation and closure of documentation including update of design files. For example, initial process effectiveness elements are a design review for compliance with appropriate codes and standards, and a 10CFR50.59 review for licensing basis impact. Post-implementation elements include testing to confirm function and, if the change is temporary, a provision to revisit the basis for the change or restore its initial condition. For corrective action, process effectiveness elements are also defined. Like the processes themselves, the process effectiveness elements are listed and discussed in the response to Questions (a) and (d), and in Appendix A (for configuration management elements) and Appendix B (for corrective action elements).

Based upon identification of processes and identification of process effectiveness elements we can draw conclusions (with reasonable assurance) about the completeness of our programmatic controls for configuration management and corrective action. This is the focus of our response to Question (a), and the detailed evaluations in Appendix A.

Effectiveness

The effectiveness of a process is a measure of how well it performs its intended function. For example, prior to a change being implemented into plant procedures or design, does the 10CFR50.59 process consistently ensure that

the change has been appropriately evaluated for its effects on safety and the licensing basis? If so, the 10CFR50.59 process is considered effective.

Determining process effectiveness is largely a matter of inference based on a sampling of individual process products. For instance, an audit of the 10CFR50.59 process may sample 20 plant procedure and design changes and find that in each case, the change (prior to implementation) was evaluated in accordance with 10CFR50.59 and that the quality of the evaluation was high. Although all plant procedure and design changes were not reviewed, the consistent nature of the sampling findings leads to the inference that the 10CFR50.59 process is effective.

In responding to the 50.54(f) request, EOI chose to identify and review the results of past assessment activities that in some way either reached conclusions about process effectiveness or developed information from which such conclusions could be inferred. There is a wide array of useful process effectiveness assessments. In the regulatory arena these include inspections by NRC personnel, SALP reports and safety evaluations. Under EOI's purview, we conducted quality assurance audits, self-assessments, vertical slice system inspections, and upgrades of particular process areas such as design basis documentation upgrades.

The combination of process effectiveness assessment results, over a period of time, provides a reasonable basis upon which to draw overall conclusions about process effectiveness. This is the focus of our response to Questions (b) and (c) in Section VII.

Finally, this assessment approach is necessarily qualitative rather than an exhaustive revalidation of the design basis. We have made judgments based on our assessments and a standard of "reasonable assurance." By this we mean that we have drawn inferences from our assessments that we feel would be drawn by other objective and knowledgeable people, based on the same information.[3]

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[3] It is important to note that this response is not based on a detailed, line-by-line review of a facility's design and licensing basis (which is not possible in the time allowed for this response). Our response should not be interpreted as a guarantee that discrepancies are not present somewhere in a design or license basis document or that there are no equipment discrepancies. Rather, it should be interpreted as a good faith effort to respond to global questions on a limited schedule.

VI. RESPONSE TO QUESTION (a)

Question (a) requests the following information:

> Description of engineering design and configuration control processes, including those that implement 10CFR50.59, 10CFR50.71(e), and Appendix B to 10CFR Part 50;

As previously discussed, there are two key aspects to addressing this question - identification of the processes which could affect plant configuration, and identification of the elements necessary for process effectiveness.

Processes which could affect plant configuration are numerous and go well beyond those thought to traditionally constitute configuration management. Those we considered in responding to the 50.54(f) request are listed below in Table 1.

These processes range from a narrow focus with a single controlling procedure (e.g., maintaining the setpoint list) to broad processes that span several procedures and departments (e.g., the design change process). However, regardless of scope, they share a common characteristic in their capacity to change some aspect of plant configuration. Collectively, they also represent our judgment of a reasonably complete set of ways to affect plant configuration. Each of these processes is described broadly for all EOI sites in Appendix A.

In order to effectively control plant configuration, there are a limited set of process elements which are expected to be in place[4]. The process elements were derived by the EOI team based on general considerations of configuration management including 10CFR50 Appendix B[5] and the primary licensing/design basis control requirements such as 10CFR50.59 and 10CFR50.71(e). These process effectiveness elements are listed in Table 2.

By their nature, the process effectiveness elements may have somewhat different meanings depending on the process to which they are applied. For

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[4] It is important to note that the critical process elements were selected with respect to their importance for design and configuration control as requested in Question (a). An individual process such as maintenance work orders may have a large number of other elements important for the successful implementation of that unique process. However, for the sole purpose of maintaining configuration control while implementing maintenance work orders (or any other process) the applicable elements listed in Table 2 should be present.

[5] For instance, see applicable elements of ANSI N45.2.11.

instance, interface controls (#5) fc· a design change may be different than interface controls for an off-normai procedure change. In addition, many processes will not be sufficiently broad to encompass all process effectiveness elements. As examples, changing an internal civil engineering standard for non-category I structures will likely not have any provision for restoration controls (#6), or a permanent design/procedure change will not need a provision to periodically revisit the change (#8).

The process effectiveness elements are described in more detail in Appendix A.

By assessing the processes which may affect configuration control (Table 1) against the critical elements necessary to control configuration (Table 2), we can make a judgment as to the completeness of our configuration control processes.[6] The detailed results of our site-specific reviews for completeness are included in Appendix A.

Summary of Response to Question (a)

In large measure, EOI facilities determined that those processes (Table 1) and process effectiveness elements (Table 2) necessary for effective configuration management and design control are present and implemented. In particular, RBS determined the following (the details of which can be found in Appendix A).

We reviewed each process listed in Table 1 as they are applied at RBS against the key elements listed in Table 2. Of these processes, two are not applicable to RBS: 1) Technical Specification Interpretations; and 2) Steam Generator/Eddy Current Testing Program.

Based on this process review, we have identified three (3) deficiencies pertaining to the key elements which could lead to inaccuracies in the design basis and licensing basis. These deficiencies are identified and discussed in the **Conclusions** section of Appendix A.

Over the past four years, RBS has been conducting performance improvement plans. [The Near-Term Performance Improvement Plan and the Long-Term Performance Improvement Plan are discussed in Section IV, Response to Questions (b) and (c)] These activities have focused on improving performance in three key areas:

- People

[6] The effectiveness of the processes is included in the response to Questions (b) and (c).

- Plant
- Processes

These improvement initiatives and plans have been effective in improving performance and correcting process deficiencies.

Processes Which May Affect Configuration Control
Table 1

CONTROL OF CONFIGURATION DOCUMENTS

- DESIGN INPUT: e.g.,
  - DESIGN BASES DOCUMENTS
  - SYSTEM DESIGN CRITERIA
  - ANALYSIS BASIS DOCUMENTS
  - UPPER LEVEL DOCUMENTS
  - TOPICALS
- DESIGN PROCESS:
  - CALCULATIONS
  - STANDARDS/GUIDES
  - SOFTWARE
- DESIGN OUTPUT:
  - SPECIFICATIONS:
  - DRAWINGS
  - VENDOR DOCUMENTS
  - DATABASES, e.g.,
    - CABLE AND CONDUIT LIST
    - STATION INFORMATION MANAGEMENT SYSTEM
    - EQUIPMENT QUALIFICATION
    - COMPONENT DATABASE
    - SEISMIC QUALIFICATION
    - SETPOINT LIST
    - INSTRUMENT LIST

PLANT CONFIGURATION CHANGE CONTROL

- DESIGN CHANGE
- REPAIR OR USE AS-IS
- PART EQUIVALENCY
- SETPOINT CHANGES
- TEMPORARY ALTERATIONS
- SOFTWARE CONTROL (PLANT PROCESS)
- RELOAD

MATERIALS/PROCUREMENT

- COMMERCIAL GRADE ITEMS
- MATERIAL TECHNICAL EVALUATIONS
- STORAGE/INVENTORY CONTROLS
- END USE AUTHORIZATION

IMPLEMENTING DOCUMENTS

- PROCEDURES, e.g.,
  - ADMINISTRATIVE
  - IMPLEMENTING
- PROGRAM DOCUMENTATION/STANDARDS/GUIDES

CONTROL OF LICENSE DOCUMENTS

- FSAR UPDATE (50.59/50.71(e))
- LICENSE CHANGE (50.54/50.59/50.90)
  - TECHNICAL SPECIFICATIONS
  - TECHNICAL REQUIREMENTS MANUAL
- COMMITMENT MANAGEMENT

OPERATIONS

- NORMAL, OFF-NORMAL AND ALARM RESPONSE PROCEDURES
- EMERGENCY OPERATION PROCEDURES
- TAGOUTS/CAUTION TAGS
- TECH. SPEC. INTERPRETATIONS
- OPERATOR WORK-AROUNDS
- NIGHT ORDERS/STANDING ORDERS

MAINTENANCE

- MAINTENANCE WORK ORDERS
- PREVENTIVE MAINTENANCE
- CORRECTIVE MAINTENANCE
- REPAIR AND REPLACEMENT PROGRAM
- CALIBRATION PERFORMANCE

PERFORMANCE MONITORING*

- SURVEILLANCES
- IN-SERVICE TESTING
- SPECIAL TESTS
- RETEST
- MOV/AOV/CHECK VALVE TESTING
- HEAT EXCHANGER TESTING
- SNUBBER TESTING
- INTEGRATED AND LOCAL LEAK RATE TESTING
- FAN/FILTER TESTING
- PRESSURE TESTING
- FIRE PROTECTION

CONDITION MONITORING*

- IN-SERVICE INSPECTION
- CORROSION MONITORING
- NON-DESTRUCTIVE EXAMINATION
- WELDING PROGRAM
- SYSTEM/COMPONENT TRENDING
- STEAM GENERATOR INTEGRITY PROGRAM

* These processes were examined for their ability to confirm SSC performance is consistent with the design basis [Question (c)]

Design and Configuration Control Process Effectiveness Elements Table 2
1. Design basis review 2. Licensing basis review 3. Review and approval process 4. Document update controls 5. Interface controls - processes, configuration documents, functional organizations 6. Restoration controls - post-maintenance and post-modification testing, restoration checks 7. Deficiency controls 8. If change is temporary, are there adequate provisions to revisit/restore?

VII. RESPONSE TO QUESTIONS (b) and (c)

The basis for responding to Questions (b) and (c) relates to the effectiveness of various common or overlapping configuration management processes identified in Table 1. Therefore, we have combined the responses for both questions.

Question (b) requests the following information:

> Rationale for concluding that design bases requirements are translated into operating, maintenance, and testing procedures;

Question (c) requests the following information:

> Rationale for concluding that system, structure, and component configuration and performance are consistent with the design bases;

A portion of the rationale to respond to Questions (b) and (c) has to do with the completeness of the programmatic controls discussed in response to Question (a). The remainder of the rationale consists of numerous confirmatory historical and current activities such as assessments, audits, vertical slice inspections and the like which provide additional assurance that programmatic controls are effective in reflecting design bases requirements in day-to-day procedures and effective in maintaining plant configuration and performance consistent with the design bases.

In the remainder of this section, we review the historical development of RBS, focusing on activities and processes related to design basis development that provide additional assurance that operating, maintenance and testing procedures, as well as plant configuration and performance, accurately reflect the design basis. And, we provide our judgment as to the effectiveness of those activities and processes.

RATIONALE SUMMARY

Entergy has reasonable assurance that the RBS design basis requirements are properly translated into operating, maintenance, and testing procedures and that the system, structure, and component (SSC) configuration and performance are consistent with these requirements.

The plant design bases were documented at the time the site was granted an operating license. Based on assessment activities performed over the past several years, Entergy has reasonable assurance that RBS had maintained its

programs and processes with potential to impact design bases in accordance with the applicable criteria of 10CFR50, Appendix B. These activities, while supporting this conclusion, have resulted in enhancements that are expected to provide additional support and assurance of the control and maintenance of the design bases.

This assurance is substantiated by the following key points:

1. RBS is a relatively new plant, receiving its operating license in November, 1985.

2. Although weaknesses were identified in various processes used to maintain the design basis information, broad-based assessments performed by EOI as part of the merger with Gulf States Utilities (GSU) provided reasonable assurance that the RBS design basis was known and available.

3. Verification and formal determinations have been performed that provide reasonable assurance of the effectiveness of the established processes for operating, maintaining, and testing the facility in accordance with its design basis.

4. Necessary configuration management and design basis-related improvements have been implemented to protect design basis information. The processes which control plant configuration and design basis were identified, reviewed, and found to contain the elements necessary for effective control.

BASELINE

RBS received its operating license in November, 1985. RBS was acquired by EOI as part of a merger with GSU. Broad-based assessments conducted at RBS around the time of the merger provide reasonable assurance RBS had control of its design basis. These assessments provided evaluations of the condition of RBS relative to design and license bases and identified shortcomings in various aspects of plant performance. Consequently, the merger period serves as an appropriate baseline to begin response to Questions (b) and (c).

As a result of these evaluations which occurred during the merger period, RBS management initiated improvement programs to address declining performance

trends. These programs were the Near-Term Performance Improvement Plan (NTPIP)[7] and the Long-Term Performance Improvement Plan (LTPIP)[8].

The NTPIP was implemented in December, 1993 to address underlying causes of significant performance issues and put into place immediate actions to achieve performance improvements. These activities were intended to be implemented over the first half of 1994 while the LTPIP was being developed. The NTPIP identified broad performance areas which included configuration management concerns. Those items not complete at the conclusion of the NTPIP were incorporated into the LTPIP.

RBS management provided progress updates to the NRC in periodic meetings both at the site and at Region IV headquarters throughout the six-month life of the NTPIP.

Specific configuration management areas addressed by the NTPIP included:

- Drawing Upgrade Project: incorporated near-term, high priority drawing changes
- Vendor technical manuals: incorporated near-term, high priority changes into vendor manuals
- Design document usability and accuracy: improve design documentation
- Resolve NSSS drawing problems
- Evaluate configuration management issues against drawings critical to Operations to ensure design drawings accurately reflect the updated physical plant

The LTPIP has been a 3-year effort developed to continue the improvement processes established and further identified under the NTPIP and to broaden the scope of assessments. It includes 21 wide-range improvement initiatives for RBS programs and processes including those involving configuration control. RBS management has met with the NRC periodically providing status updates.

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[7] Submitted to the NRC via letter RBG-39809, dated 12/23/93. The NTPIP was also presented to the NRC in a public meeting held on 1/5/94.

[8] Submitted to the NRC via letter RBG-40428, dated 3/28/94. The LTPIP was also presented and discussed in the 1/5/94 public meeting referenced in footnote 7.

The LTPIP contains several sections which address configuration control and maintenance of design basis information. These are:

- Sections 11, "Materials Management"
- Section 12, "Modifications"
- Section 14, "Engineering Support"
- Section 22, "Preventive and Predictive Maintenance"

Further discussion of the LTPIP is contained under the **POST-MERGER ACTIVITIES** section below.

Recognizing the importance of configuration management, RBS management also commissioned a Configuration Management Assessment (CMA) of RBS configuration management practices and processes. The CMA was performed by the Configuration Management Assessment Team composed of technical experts inside the company as well as outside consultants. The CMA resulted in a comprehensive plan addressing configuration management and design basis maintenance. The results of the assessment are documented in "Configuration Management Assessment Team Report," dated November 7, 1994.

The following excerpt from the executive summary of the report identifies its scope and clearly demonstrates correlation to the actions required under the NRC 50.54(f) letter, as clarified in a letter from NRC Chairperson Shirley A. Jackson to Mr. J. F. Colvin, President and CEO of the Nuclear Energy Institute, dated August 14, 1996.

"The assessment performed by the CMA Team included:

- *comparisons of plant as-built configuration vs. documentation,*
- *evaluation of design-bases documentation (calculations, System Design Requirements Documents (SDRDs), System Descriptions (SDs), etc.),*
- *evaluation of plant documentation routinely used by operations, maintenance, engineering, training, and procurement (drawings, procedures, databases, etc.),*
- *a check for consistency between design bases and the information contained in controlled plant documentation used by RBS personnel,*

- *an overview of document control processes and practices,*
- *an evaluation of material control processes and practices,*
- *an evaluation of change control processes (design control & work control),*
- *a vertical slice of the HPCS,*
- *a review of previous assessment findings and observations*
- *an assessment of current upgrade programs, and*
- *evaluate Configuration Management issues identified at other Entergy sites."*

A variety of configuration management-related issues were identified by the CMA Team. Each was evaluated for significance and generic implications. None of the issues (individually or collectively) constituted a significant safety concern or warranted plant shutdown.

Corrective actions recommended in the CMA Report were addressed in Condition Report (CR) 95-0102, "Configuration Management Issues, Root Cause Analysis Report," dated May 26, 1995. CR 95-0102 evaluated the root causes for the identified conditions and established appropriate actions to correct the conditions and to prevent recurrence.

POST-MERGER ACTIVITIES

General Discussion

Assurance that design basis information is maintained and properly translated into procedures, design and license basis documents, and properly reflected in the as-built configuration of the plant is based on the effectiveness of RBS processes. These processes are described in Appendix A. Activities which evaluate the effectiveness of these processes are discussed below.

Effectiveness Reviews

Since the merger, River Bend has undergone various inspection, assessment, and evaluation activities which have evaluated the processes used to ensure design basis information is correctly incorporated into plant procedures and the

"as-designed" configuration of plant SSCs. Several of these activities are discussed below.

LTPIP

The LTPIP included numerous assessments and improvement initiatives as discussed under the **BASELINE** section above. In August, 1996, the LTPIP was evaluated to determine its effectiveness and subsequent impact on RBS performance. This evaluation concluded the LTPIP has been effective in improving overall RBS performance, with certain areas still requiring elevated attention.

As identified in the **BASELINE** section above, Sections 11, "Materials Management;" 12, "Modifications;" 14, "Engineering Support;" and 22, "Preventive and Predictive Maintenance;" are applicable to configuration control. Sections 11, 12, and 14 were determined to be effective, with the evaluation recommending Section 14 receive further monitoring to ensure a sustained improvement trend. Although substantial performance improvement has been realized in the areas of preventive and predictive maintenance, Section 22 requires further actions to ensure continued effectiveness.

RBS management presented the results of the LTPIP effectiveness review to the NRC in a meeting on September 18, 1996[9].

Surveillance Test Procedure Review

On July 10, 1996, we discovered a Technical Specification (TS) surveillance test had not been performed within its required frequency. Subsequently, the plant was taken to Mode 4 to perform the surveillance test.[10]

In response to this incident, RBS management assembled a team composed of senior engineering staff and management personnel of varying backgrounds and experiences to review surveillance test results. The scope of the review included cold shutdown surveillances with 18 months or greater frequency.

Approximately 370 Surveillance Test Procedures (STPs) were reviewed by the team. The team identified numerous concerns regarding STP performance. The concerns were entered into the Corrective Action Program via condition reports

[9] Documented in RBC-47104, dated 9/27/96.

[10] Reported in LER 96-014-00 transmitted via letter RBG-43154, dated 8/9/96.

(CRs). As a result, eight STPs were satisfactorily reperformed; each system was demonstrated to perform its intended safety function.

Also, a follow-up evaluation was conducted to ensure identified problems were properly dispositioned.

This TS surveillance review provided RBS management with reasonable assurance of operability.

Internal Assessments

Entergy believes a strong self-assessment program is essential for safe, reliable plant performance. Assessments are performance-based evaluations of site functional areas, using industry standards of excellence as measures of evaluation. Corporate assessments are used to address large functional areas, such as vertical slices of Operations, Maintenance, etc., or horizontal slices such as Safety Culture and Human Performance. These are staffed by subject matter experts, both from inside Entergy and from outside organizations. Site-based assessments are more narrow in scope, for example, focusing upon a system, or a specific program.

Since 1993, RBS has undergone several self-critical program assessments which evaluated processes involved with control of the design basis and in translating design bases into drawings, specifications, and procedures. These include:

- Motor Operated Valve Program Assessment
- In-Service Testing Program Assessment
- 10CFR50.59 Program Assessment
- Emergency Diesel Generator Program Assessment

In addition to program assessments, the RBS Quality Assurance department has conducted various program assessments in accordance with 10CFR50 Appendix B. These have included:

- Safety System Functional Assessments (SSFAs) and Safety System Functional Inspections (SSFIs)
- Audits of the RBS design control program and design modifications to existing plant configuration.

- Surveillances of design control activities. These are generally specific to certain activity and focus on a limited portion of the overall design control program.

Several of these internal assessment activities are discussed below.

- Motor Operated Valve (MOV) Program Assessment

  RBS performed a detailed self assessment for the GL 89-10 MOV program in May 1996. The assessment report identified several areas where design basis information was inconsistent or not correctly translated into site procedures and programs. Specific examples included:

  ◊ RCIC MOV differential pressures referenced in the USAR not in agreement with RBS-specific design basis calculations but, rather, reflected a GE generic specification for BWR/6 plants

  ◊ Use of certified material test report (CMTR) yield values for valve weak link analysis without proper procedural or programmatic controls in place to ensure design basis calculations are revised if the existing components were replaced

  ◊ Inconsistent stroke times of RCIC MOVs contained in purchase specifications, IST program and the USAR

  In response to these findings, several CRs and numerous corrective actions were generated which are either closed or are being aggressively answered. None of these conditions were determined to be safety significant.

- In-Service Testing Program Assessment

  An assessment of the In-Service Testing (IST) Program was performed in January, 1996. The assessment found that the IST Program Plan did not accurately reflect ASME code requirements, RBS design bases, and licensing or USAR commitments. The assessment discovered that the implementing test procedures had been modified by change requests without timely follow-up to update the Program Plan. The requirements for IST as prescribed by the ASME Boiler and Pressure Vessel, Section XI, were being satisfied by the implementing procedures.

  The deficiencies were entered into the Corrective Action Program. An integrated team was formed to review/validate the information in the IST Plan

and to streamline the administrative processes. These actions were completed in July, 1996.

- 10CFR50.59 Program Assessment

  An assessment of the 10CFR50.59 Safety Review Program was conducted in March, 1996. The processes associated with the screening and pre-screening portions of the 50.59 Program were selected for assessment and included reviews of procedure revisions and condition report dispositions involving Repair and Use-As-Is dispositions. The team concluded that the screening and pre-screening process is effective in determining when additional evaluation is required. Several recommendations for improvements to the program were made. One procedural inconsistency was dispositioned through the Corrective Action Program. Corrective actions are continuing.

- Emergency Diesel Generator Program Assessment

  In July, 1996, a self assessment of the RBS Standby Diesel Generators (DG) was performed at the request of the RBS DG System Engineers. This self assessment was a milestone of a site initiated DG Improvement Plan. The self assessment team was comprised of six team members and included personnel from the Southern Nuclear Company, Waterford 3, Grand Gulf Nuclear Station, the EOI corporate office, and RBS Quality Assurance. Team members were selected to assure a high level of DG expertise.

  The self assessment purpose was to review and evaluate the adequacy of RBS DG program. The assessment identified four strengths and three areas needing improvement. Specific recommendations and comments were compiled and entered into a tracking database to assure the full benefit of assessment recommendations. Recommendations included Technical Specification enhancements, operating procedure changes, and improvements in maintenance and trending.

- Safety System Functional Inspections (SSFIs) and Safety System Functional Assessments (SSFAs)

  The methodology used in conducting SSFIs and SSFAs includes vertical-slice techniques and criteria. SSFIs and SSFAs consist of a team of highly qualified and experienced evaluators focused on a specific system or systems to examine the design, operation, testing and maintenance of the system. One SSFI has been conducted since the merger. It is discussed below.

◊ December, 1994 - Service Water System Assessment

This assessment was prompted by NRC Generic Letter (GL) 89-13 which requested licensees implement and maintain an ongoing program of surveillance and control techniques to significantly reduce the incidence of flow blockage problems as a result of bio-fouling in open-cycle service water systems. The scope of this assessment included RBS's actions in response to GL 89-13, verification that the RBS service water system is capable of fulfilling its thermal and hydraulic performance requirements and is operated consistent with its design basis and to assess the operational controls, maintenance, surveillance, and other testing and personnel training to ensure the service water system is operated and maintained so as to perform its safety related functions.

Five actions were identified in GL 89-13 which required attention and response. These action items were bio-fouling control and surveillance techniques, monitoring safety related heat exchanger performance, routine inspection and maintenance, design function verification and single failure analysis and training. The results of this assessment indicate that RBS has implemented the five actions required by GL 89-13 and all actions taken are satisfactory.

- QA Audits

Major audit activities since the merger are discussed below.

◊ April, 1994

The purpose and scope of the audit was to assess the adequacy of the RBS Design Control and Modification Program including Equipment Qualification by verifying compliance to RBS upper tier documents and performance effectiveness. One CR was issued during this audit which identified two deficiencies in which drawings did not correctly depict actual plant configuration. The CR was determined to be non-significant. Corrective action was taken and the CR closed as confirmed in the follow-up audit conducted in December 1994.

◊ December, 1994 - January, 1995 Follow-up

In December, 1994 through January, 1995 a follow-up audit of the Design Control audit conducted in April 1994 was conducted. The purpose of this audit was to provide follow-up in the areas of Modifications, Configuration

Management and the Drawing Upgrade Project as well as revisiting the problem areas identified during the previous audit. As a result of this audit, two CRs and nine concerns were initiated. The CRs pertained to administrative and human performance errors. Both CRs were closed satisfactorily. The nine concerns identified process improvements. A formal response was received from Design Engineering regarding the nine concerns issued during this audit. Actions to correct the identified deficiencies were completed.

- QA Surveillances

  QA conducted 20 surveillances of portions of the Design Control Program over the past two years (1995 - 1996). Subject areas within the Design Control Program which were surveyed include the Fire Protection Program, Safety and Environmental Evaluation Program, Drawing Upgrade Project, Main Steam Isolation Valve Leak Rate Testing Program, Temporary Alterations, Surveillance Testing Program, Modification Request Program, Engineering Request Program and the Engineering Review Process. Surveillances are scheduled when there have been changes in programs and/or procedures, and as necessary to supplement the RBS audit program. Identified problems were dispositioned through corrective action processes.

Improvement Initiatives

RBS departments undertook various improvement initiatives to address configuration control concerns. These are discussed below.

- Configuration Management

  To address the issues identified under the NTPIP, the LTPIP, the CMA, and other self improvement initiatives, RBS engineering departments initiated improvement actions. These improvement initiatives serve to effectively and efficiently maintain and control plant configuration and design bases. The initiatives are being pursued and are in various stages of completion. Among them are:

  ◊ Establishment of the RBS Configuration Management Group - This group is responsible for coordinating configuration management-related activities.

  ◊ Establishment of the RBS Component Database - This site-wide computer database provides easy access to component specific information, such

as make, model, classification, qualification, plant location, and reference documents.

◊ Expansion of the RBS Bill of Material database - This site-wide computer database identifies replacement parts that have been authorized for use in the plant.

◊ Expansion and update of the Nuclear Operating Records Management System (NORMS) database - This database is used to identify the current status of controlled design and design change documents and station procedures.

◊ Establishment of a computerized imaging system - This system allows easy access to plant procedures, records, and design basis documents.

◊ Establishment of a new comprehensive change process (Engineering Request) - This process contains the appropriate elements of design and configuration control.

◊ Establishment of a Design Change Implementation Package (DCIP) process - This process ensures that configuration changes are controlled through installation, update of station procedures, and provide feedback of as-built configuration to Engineering.

◊ Enhance site configuration management awareness - Emphasis placed on configuration management training increased significantly starting in 1995. Workshop training was provided to increase the general CM awareness of personnel in all site departments. Additional awareness enhancing techniques included the use of informal tools such as the site newsletter and information TV system. Procedure owners provided appropriate notification and/or training to personnel directly affected by new and/or revised CM-related procedures.

◊ Strengthen and enhance the performance and responsibilities of Plant Engineering.

◊ Establish EQ program improvements.

◊ Establish the Job Tracking System (JTS) - This system provides a tool for scheduling, prioritizing, man-loading, and statusing engineering activities.

◊ Assess the adequacy of engineering procedures, standards, and guides and revise/create documents as necessary to address engineering functions not adequately controlled by existing documents.

- ◊ Reduce backlog of procedure change notices.
- ◊ Drawing Upgrade Project - This project incorporates outstanding change notices, updates drawing database entries, and converts drawings to electronic format. Approximately 5,600 drawings have been converted.
- ◊ Vendor Manual Project - This project upgraded approximately 341 vendor manuals.
- ◊ Improvements to the ASME Section XI In-Service Testing (IST) Program.
- ◊ Enhancement of the ASME Section XI In-Service Inspection (ISI) Program.
- ◊ Skid P&ID Project - This project creates drawings for identified skid equipment.
- ◊ Modification Backlog Reduction Effort - This effort closes completed modification packages.
- ◊ Design Change Drawing (DCD) Initiative - This effort improves usability and retrievability of design drawings contained in modification packages.
- ◊ Loop Calibration Reports Project - This project updates approximately 5,000 instrument loop documents. Documents are being validated, verified, and converted into electronic format. The instrument loop diagrams are designated as controlled documents.
- ◊ Calculation Indexing Project - This project computerizes the calculation index and establishes cross-references and keywords. The derived benefit is the ability to identify affected calculations when considering design changes and calculation revisions. The project is approximately 98% complete (about 33,000 calculations).
- ◊ Establishing the Material Verification Project (MVP) - This project was initiated in February, 1995. The purpose of the project was to establish assurance that inventory items were consistent with corresponding Material Management System (MMS) descriptions. Also, the project verifies the suitability of material inventory for the known RBS applications.
- ◊ System Design Criteria (SDC) Project - This project includes a design review of selected systems to consolidate and validate the design basis

for each system. (See a more detailed discussion of the SDC Project in Attachment 1.)

The above initiatives have resulted in noted performance improvement for River Bend. Many improvements were noted in the LTPIP effectiveness review. Many of these improvements have also been acknowledged by the NRC[11].

- Improved Technical Specifications

RBS converted to Improved TS based on NUREG-1434 on October 1, 1995. In accordance with the NRC's Final Rule on Technical Specification Improvement, this effort included modifying the TS to clearly reflect the design basis of the plant with a focus on reviewing the TS requirements against the design basis presented in the USAR.

As part of the development effort, the TS Bases were expanded to help insure that the design and licensing basis are understood as they relate to the TS. The expanded Bases also provides plant personnel with easier access to design basis information. This greatly aids personnel when performing various evaluations (e.g., operability evaluations, engineering evaluations, safety evaluations per 10CFR50.59).

As part of the project to prepare for implementation, approximately 340 procedures were reviewed and revised as needed to ensure proper implementation of the TS requirements. This review included a review of the method of performing logic system functional tests (LSFTs) by comparing the procedures to the system logic drawing(s) and ensuring that the logic required to be tested was tested. Changes were made where appropriate.

- Procedure Upgrade Project

Beginning in 1995, RBS embarked on a project to upgrade approximately 2200 technical procedures. The upgrade process elements applied during the upgrade process re-validated design and licensing basis criteria in the upgraded procedures. Plant walkdowns were used extensively throughout this validation effort. The types of procedures which were included in the upgrade were:

[11] NRC Inspection Report 96-27, "Engineering and Technical Support" (RBC-47183)

- ◊ Maintenance and Operations STPs
- ◊ Corrective Maintenance Procedures
- ◊ Chemistry and Radiation Protection Procedures
- ◊ Operations System Operating Procedures
- ◊ General Maintenance Procedures
- ◊ Fire Protection Procedures

During the project, discrepancies were identified which affected both procedures and design basis documents. These discrepancies were corrected as they were identified.

There are procedures which were not included in the Procedure Upgrade Project. However, the change requirements specified in RBNP-001, "Control and Use of RBS Procedures," ensure that changes made to these procedures are subjected to the same level of review, validation, and approval as those in the Procedure Upgrade Project. These requirements ensure that the process for design and licensing basis reviews are applied.

In addition to the Procedure Upgrade Project, a project was completed in 1993 which developed a matrix of STPs involving TS-required logic system functional tests (LSFTs)[12]. As part of this project, procedures were compared to the TS, USAR, and plant drawings to ensure that the TS requirements for each LSFT were met. During the development of the matrix, discrepancies between procedures and design basis documents were identified and corrected.

- <u>10CFR50.59 Program Improvements</u>

  In 1995, RBS implemented improvements to its 10CFR50.59 program resulting from a company-wide improvement initiative. These improvements include incorporating a three-tiered approach for evaluating changes to the facility and procedures, and tests and experiments. This approach involves:

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[12] This project was the basis for RBS's response to NRC Generic Letter 96-01, "Testing of Safety-Related Logic Circuits." This response was documented in letter RBG-42811, dated 4/19/96.

◊ A pre-screening evaluation to determine if the change can be excluded from further reviews (e.g., the change is editorial, has been approved by the NRC, etc.)

◊ A screening evaluation to determine 10CFR50.59 applicability

◊ A safety evaluation which determined the presence or absence of an unreviewed safety question by asking the "seven questions"

Comprehensive training is required to qualify individuals as 50.59 preparers and reviewers.

The computer-based Licensing Research System (LRS) provides access to license basis documents with search capabilities. This system is a tool which aids the preparer and reviewer when performing 50.59 program activities.

As required by the Technical Requirements Manual (TRM), the onsite safety review committee [Facility Review Committee (FRC)] reviews safety evaluations. The offsite safety review committee [Nuclear Review Board (NRB)] provides oversight of the program via periodic audits. Also, a standing subcommittee reviews safety evaluations and provides feedback to the NRB. Such review activities have indicated a marked increase in quality of safety evaluations over the past few years. For example, the preparer now provides an extensive discussion of the change along with in-depth bases for answering the safety evaluation questions.

- <u>Maintenance Infrastructure Improvements</u>

Several initiatives have been implemented within the Maintenance department which aid individuals with identifying and retrieving design information. These include:

◊ Work Management System/Electronic Maintenance System

◊ Component Database

◊ Bill of Materials

◊ On-Line Lubrication Manual

◊ Materials Management and Inventory System

These databases and documents are accessible via the site-wide computer network system.

Also, major Maintenance department administrative procedures have been revised to strengthen the process and incorporate feedback loops to configuration management. Procedures which are being revised or upgraded are reviewed in accordance with RBNP-001, "Control and Use of RBS Procedures."

- Maintenance Integration Project

  In order to further improve the Preventive Maintenance (PM) Program, substantial resources are being dedicated. A major element of this effort is the Maintenance Integration Project which includes:

  ◊ Complete and document a streamlined Reliability Centered Maintenance (RCM) on 85 systems significant to safety and operations.

  ◊ Develop component PM profiles for approximately 36 types of components to establish PM consistency across systems.

  ◊ Analyze the remaining systems by applying the component PM profiles

  ◊ Perform anomaly review to identify possible missing components or PM tasks

  ◊ Upgrade PM work instructions with a frequency of 24 months or less in a new improved format

  ◊ Implement an improved feedback method to continuously upgrade the program

- Maintenance Department Improvement Plan

  The Maintenance Department Improvement Plan was established as a result of internal and external audits and assessments. The purpose of this plan is to improve performance in every maintenance functional area. Key areas relevant to configuration control during maintenance activities include:

  ◊ Improved "self-checking" utilizing a simulator to provide practical exercises for personnel involved with control switch manipulation

◊ Additional focus to raise the level of understanding regarding equipment operability requirements (to be implemented)

◊ Reviews of STPs (STPs were reviewed as part of the Procedure Upgrade Project.)

◊ Continuous communication of management expectations regarding procedure adherence

- Welding Program Review

  RBS reviewed the Welding Program to ensure it contained the necessary site-specific ASME requirements and commitments. Deficiencies were identified and reconciled.

- Simulator Configuration Management

  RBS has established a simulator configuration management system to maintain the simulator for effective training support per ANS/ANSI 3.5-1985. Configuration management requires controlling the simulator design and design data. This control ensures that, as reasonably achievable, the simulator reflects the plant in performance and appearance. This program implements simulator configuration management by defining the process required to maintain and update the simulator, associated equipment and documentation.

  The simulator configuration management system, among other things, verifies the current simulator configuration complies with the functional and physical fidelity specifications described in the simulator design data. Approved design changes are reviewed for simulator impact and incorporated into the simulator following field installation and simulator testing.

Other Supporting Information

RBS conducted reviews of Licensee Event Reports (LERs), NRC inspection reports, Condition Reports, and Employee Concerns issues submitted/identified since the merger for configuration control-related items. These reviews are discussed below.

- LERs

Since the merger, RBS has submitted 61 LERs. Of these, several involved some aspect of configuration control; i.e., failure to reflect a design change in the TS, valve and handswitch mispositioning. Each incident was determined to have little safety significance.

- NRC Inspection Reports

The NRC has conducted approximately 79 routine and special inspections at RBS since the merger. Violations have been issued on configuration controls issues. For each violation, actions were identified and entered into corrective action processes to address these issues and prevent recurrence.

Weaknesses were identified involving valve and handswitch mispositioning, and failure to properly translate design basis information into procedures. RBS has received several violations in these areas and initiated actions to prevent recurrence.

- Condition Reports

RBS management encourages plant personnel to use the Corrective Action Process, of which CRs are an integral part, to identify issues of even minor significance. This low threshold of condition reporting allows early identification of trends, thereby reducing the number of significant conditions identified. Numerous minor deficiencies have been identified since January 1994, some of which were escalated in significance when taken collectively. These resulted in formal root cause analysis.

- Employee Concerns

The Employee Concerns Coordinator reviewed concerns from the merger to identify any items pertaining to configuration control. He found none pertaining to this subject area.

Several of the LERs and violations involving configuration control involved human error. RBS management is presently undertaking actions to address the overall human performance issue at the plant.

Conclusion

Based on the activities discussed above, we have reasonable assurance that the overall configuration of RBS systems, structures, and components (SSCs) is consistent with the design basis. Also, we have reasonable assurance that design basis information is translated into plant procedures.

The activities discussed above have identified opportunities for improvement. RBS has initiated a number of self-improvement programs to address these items. These program enhancements are in various stages of completion and are being pursued to completion. When fully implemented, the improved processes and programs are expected to assure continued consistency between plant configuration and design and licensing basis documents.

VIII. RESPONSE TO QUESTION (d)

Question (d) requests the following information:

> Processes for identification of problems and implementation of corrective actions, including actions to determine the extent of problems, action to prevent recurrence, and reporting to NRC;

As in the response to Question (a), there are two key aspects to addressing this question - identification of the processes which could affect corrective action, and identification of the elements necessary for process effectiveness.

Unlike the processes examined in response to Question (a), there is only one corrective action program. Most critical is the link between the corrective action process and those processes which could affect configuration management. We confirm that link exists by explicitly including "deficiency identification and resolution" (i.e., corrective action) as one of the essential elements (Table 2) for configuration management.

We cannot overstate the importance of the corrective action process for effectively managing plant configuration (or any other process important to nuclear safety). It is the self-correcting mechanism that leads to the continuing health of whatever process to which it is applied.

It is essential, therefore, that the process effectiveness elements for corrective action be well-defined and understood. At EOI facilities, those elements (contained in Table 3) are largely common.

Each element is described in more detail in Appendix B.

The corrective action process at each EOI facility is regularly reviewed through vehicles such as quality assurance audits and self-assessments. While process deficiencies have been identified over the years, they have invariably resulted in programmatic enhancements.

Much of the evolution of corrective action processes at EOI facilities is due to the recognition of the unique importance of this process to plant safety and future performance. Each site has gone through one or several conscious efforts to lower the threshold on problem identification and increase the quality of various elements of the corrective action process, particularly root cause evaluation.

The Corrective Action process was identified by Entergy Operations executive staff as one of the company's key processes. The Corrective Action Key Process Team was chartered in March, 1993 to analyze the existing processes at each Entergy Operations facility and make recommendations for process improvements.

The team's short-term goal was to identify and address any current program weaknesses and share process strengths. The short term enhancements included various process adjustments, but more importantly, the changes included the development of common terminology, threshold criteria and measurement plans to enhance the capability to measure, trend and compare performance at each facility.

The team's long term goal was to converge the various processes towards a "best" process including the development and implementation of the following process improvement examples:

- An integrated database for documenting adverse conditions
- Significant condition sharing between facilities
- A common approach to root cause analysis at each facility
- Common threshold criteria at each facility for identification, significance classifications, and required root cause analysis
- Common performance measures and goals for each facility
- Identification and elimination of excessive processes and process steps

These ongoing initiatives have improved the corrective action process and are expected to lead to further process enhancements in the future.

The primary objective of the RBS Corrective Action Program is to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected as required by 10CFR50 Appendix "B". A secondary objective endorsed by management, is to identify and correct problems at the lowest level possible. It is management's belief that significant problems can be minimized if the minor nonconsequential problems (precursors to more significant events) are identified, documented, corrected, trended and analyzed.

The CR is the primary Corrective Action process at RBS supplemented by the Security Incident Report (SIR) and the Stop Work Directive (SW). Beneath these processes are a group of lower tier "feeder" problem reporting processes which are intended to accomplish the secondary objective (e.g., Maintenance Action Items, drawing change notices). The supplemental Corrective Action Program processes and the "feeder" processes have the potential to cross a threshold where a CR must be generated. Procedure RBNP-030, "Initiation and Processing of Condition Reports," describes the threshold, as does each sub-tier system implementing procedure. Users of each process must write a CR when that threshold is crossed.

EOI management endorses and believes that the backbone of the station is a strong Corrective Action/Problem Reporting Program. Management supports and encourages identifying problems. Identifying the minor nonconsequential problems allows the assignment of a standardized code to problem reports so that they may be trended and analyzed to predict and subsequently preclude the significant problems, as well as allowing for efficient traceable correction action.

The databases for appropriate problem reporting systems resides on a common database management system. Trend and problem codes are assigned and then periodically assessed. The results are provided to management at appropriate intervals. Problem codes are assigned by the department owning each feeder system.

In 1993, the RBS Corrective Action Program was revised to incorporate CR review by a Condition Report Group (CRG), a group comprised of RBS directors and managers (or their designees). The CRG reviews CRs for significance level. A CR may be deemed significant requiring a formal root cause analysis presentation to a management approval committee, the Corrective Action Review Board (CARB). The CARB discusses the root causes and corresponding corrective actions.

Recently, the Corrective Action Program was revised to provide more consistent classification and trending. New CRs are screened by the In-House Evaluation and Assessment (IHEA) group, with input from the trending group, for significance and recurrence and assigned a significance level. The CRs are then presented to the CRG for review and approval of the significance level assigned by IHEA.

As with other processes at RBS, the Corrective Action Program is assessed to determine its effectiveness and identify areas of improvement. Assessment

activities include QA audits and surveillances, and self-assessments. Recent activities are discussed below.

- <u>June, 1996 Corrective Action Audit</u>

  In June, 1996 a six month Corrective Action Audit was conducted. The purpose of this audit was to evaluate the effectiveness of corrective action taken to correct deficiencies affecting nuclear safety that have occurred since December 1995. Condition reports were issued as a result of this audit. The CRs were not considered significant and did not affect plant safety or reliability. The Corrective Action Program was found to be reasonably effective in providing assurance that conditions adverse to quality are promptly identified. It was determined that, based on the number of deficiencies, additional management attention was needed.

- <u>Corrective Action Program Self-Assessment</u>

  During the fourth quarter, 1996 RBS conducted a self-assessment of the Corrective Action Program. The objective of the assessment was to evaluate the program as follows:

  ◊ Evaluate the administration of the condition reporting process (tracking, trending, reporting, etc.)

  ◊ Evaluate the adequacy and completeness of corrective actions

  ◊ Evaluate the adequacy and completeness of root cause analyses

  ◊ Determine willingness of employees to identify and document problems

  Areas for improvement were noted and are being addressed.

  The assessment concluded the Corrective Action Program is effective. The assessment team made several recommendations which would further strengthen the program and improve efficiency.

Based on this self-assessment, the specific process review conducted for this letter (see Appendix B), and other assessment activities, we have reasonable assurance that the Corrective Action Process at RBS is effectively implemented.

Corrective Action
Process Effectiveness Elements
Table 3

1. Problem Identification
    - Defined problem-reporting threshold
    - Problem ID document provided
    - Problem processing
        - Operability determination
        - Reportability determination
            * 50.72
            * 50.73
            * Part 21
        - Significance determination
        - Generic application
        - Management review

2. Cause Determination
    - Apparent/Root Cause analysis
    - Evaluation review

3. Corrective Actions
    - Defined and documented
    - Corrects specific deficiency and apparent/root cause
    - Addresses
        - Generic implications
        - Timeliness of implementation
    - Action responsibilities assigned/accepted

4. Tracking
    - Periodic reporting through closure
    - Additional corrective actions identified (follow-up)

5. Closure
    - Documented completion of corrective actions
    - Review/verification of corrective action closure

6. Link to Problem Trending Process

7. Periodic Effectiveness Review of the Corrective Action Process

IX. RESPONSE TO QUESTION (e)

Question (e) requests the following information:

> The overall effectiveness of your current processes and programs in concluding that the configuration of your plant(s) is consistent with the design basis.

In Section V, we discussed the strategy taken for responding to Questions (a) - (d) by focusing on two key issues: 1) completeness, and 2) effectiveness.

In responding to Questions (a) and (d) (see Sections VI and VIII, respectively), we addressed completeness by identifying the configuration control and corrective action processes which should be present and the key elements these processes should contain. Our process review results indicate the following:

- RBS is employing the identified processes
- The processes, except where noted, contain the key elements necessary to be effective.

We have evaluated the identified deficiencies and have determined they are non-significant and have not led to a significant degradation of design basis information.

In responding to Questions (b) and (c) (see Section VII), we identified and discussed the activities which evaluated and assessed RBS configuration control processes. We also discussed several improvement initiatives which utilized design basis information and supporting information gathered from reviewing LERs, NRC inspections, CRs, and Employee Concerns.

Based on information gained from these activities, we have reasonable assurance that the configuration of the plant is consistent with the design basis.

X. SUMMARY OF FUTURE INITIATIVES

The 50.54(f) letter has provided the opportunity to view as a whole our design basis implementation and initiatives. In the course of conducting an assessment to respond to the letter, we identified certain areas of improvement as well as compiled the ongoing initiatives related to design basis and configuration management.

The following initiatives are a mix of pre-existing activities that were ongoing or planned at the time of the 50.54(f) letter, and new initiatives based upon additional insight gained during our 50.54(f) assessment. We believe the combination will be effective in advancing the RBS design basis beyond the level discussed in response to Question (e), above.

1. River Bend has begun the System Design Criteria (SDC) Project. The SDC Project is currently in progress. The project is discussed in more detail in Attachment 1.

2. Entergy is conducting design basis team evaluations at each facility. The purpose of these evaluations is to determine what additional actions may be needed to improve the linkage and integration of the design basis into plant programs and procedures, and the SAR. The design basis evaluations are expected to yield further insight into useful areas to enhance the design basis. The RBS design basis evaluation has begun and is expected to be completed in February, 1997.

3. As a result of the EOI FSAR Assessment activities, RBS is planning to conduct a USAR Review Program. The objectives of this project are to review the USAR to ensure it:

   - Contains the information required by NRC Regulatory Guide 1.70

   - Accurately reflects design and operating procedures

   The project is a 2-year effort currently scheduled to begin during first quarter, 1997.

In addition to the above activities, RBS is taking actions to address process deficiencies identified in the configuration control process reviews. These deficiencies are discussed in Appendix A.

The design basis initiatives identified in 1 and 2 above represent significant upgrade of the design basis. If design basis discrepancies are identified, they will be documented and resolved through the Corrective Action Program.[13]

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[13] We believe these initiatives and any such discrepancies would qualify for enforcement discretion under Section VII.B.3, "Violations Involving Old Design Issues," of the enforcement policy, with no time limit.

APPENDIX A

PROCESS COMPLETENESS ASSESSMENT

Configuration Control Processes and Process Effectiveness Elements

As discussed in Section VI [Response to Question (a)], in order to make a judgment about the completeness of the processes that could affect plant configuration, it is necessary to identify such processes and determine the configuration management elements that are necessary for effective configuration control. This Appendix provides the results of our completeness review for processes which could affect plant configuration and design in response to Question (a).

Table 1 in Section VI identified the processes which may affect configuration control. Each process in the table is described below as requested by Question (a).

Table 2 in Section VI identified the key design and configuration control process elements necessary for effective configuration management processes. Each element in the table is also described below. As discussed in Section VI, every process element may not be applicable to each configuration control process. Those elements which are applicable to a process are part of the process description (although, for brevity, they are not repeated for each process).

In this Appendix, we combine the configuration control processes (Table 1) with their essential elements (Table 2). Below, we first summarize our findings and conclusions regarding the completeness of site processes necessary to change and maintain plant configuration control. We then review each process, note the procedure(s) that implement that process in whole or in part, and determine if applicable process elements are present in the procedures (should a process element be missing, we also note the plans to repair that omission).

It is important to recognize that processes and procedures have developed separately and under different conditions at each of the EOI sites and, therefore, the mechanism for implementing each of the processes is typically going to be different. In some cases, implementation of a process element may be found in a secondary procedure and therefore, would not be contained in the specific procedure cited. In other cases, a single procedure may be adequate to completely control a process at one site where at another site, it may involve multiple procedures.

Conclusions[1]

We reviewed the applicable processes listed in Table 1 against the key elements listed in Table 2. Based on this process review, we have identified two (2) deficiencies pertaining to the key elements which may lead to inaccuracies in the design basis and licensing basis. These deficiencies and actions to correct them are listed below.

1. A discrepancy was identified in the FSAR Update process in that a license basis review may not be performed for changes made via 10CFR50.54 evaluations.

2. A discrepancy was identified in the FSAR Update process in that there is no mechanism in place to ensure design basis documents are reviewed and updated, if impacted, for USAR changes initiated outside the design change process.

These deficiencies have been entered into the Corrective Action Program for further evaluation and action.

Description of Design and Configuration Control Process Effectiveness Elements (Table 2)

Following are the descriptions of the process effectiveness elements listed in Table 2 for design and configuration control processes. These elements are considered integral parts of the process descriptions discussed in the following section, but, for brevity, are not repeated in the process descriptions.

Element #1 - Design Basis Review

This element sets the expectation that the proposed change will be reviewed to determine if there is an impact on the design basis (both the 10CFR50.2 design basis and the underlying design documents) and, if so, a judgment made as to the acceptability of the change with respect to the design basis. Inherent in this element is a review to determine that the change is compliant with required/committed design codes and standards (which are a subset of the design basis).

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[1] This Appendix contains summary information. The detailed individual site review results and descriptions of site-specific processes are contained in the documentation files located at the RBS site.

Element # 2 - Licensing Basis Review

This element, which begins with a 50.59 review, applies to any process which could change the facility or procedures as described in the SAR, and results in the determination as to whether a proposed change involves an unreviewed safety question.

The 50.59 programs for the four Entergy Operations sites have undergone significant improvement in the last six years and continue to incorporate new and improved means to understand, identify and document 50.59 reviews. The 50.59 programs at each of the Entergy Operations facilities are very similar, and primarily only differ in the documentation process. Each of the site 50.59 programs contain the following elements:

- Applicability Screening: A detailed screening (screening or pre-screening) is performed on facility changes, temporary changes, procedure changes, tests and experiments and SAR discrepancies against designated licensing basis documents including NRC SERs. These screenings include a review of SAR text, figures and tables that is documented on established 50.59 forms and retained in permanent records for retrievability. In general, documentation consists of identifying what documents were searched, the means of how the search was conducted, the computerized search criteria and a summary of findings (although there are some site-specific differences).

- Electronic Search Capability: The licensing basis documents are primarily searched using a comprehensive full text searchable computerized database. This database uses an indexing system that allows complete searching of the documents for potential impact by use of individual, multiple word strings or Boolean searches. Searches can be performed typically in a matter of seconds. This SAR search system provides a highly reliable tool in finding potential text areas where the SAR can be impacted.

- Application of USQ criteria: With only a few exceptions, the criteria for determining an unreviewed safety question (USQ) are identical at each EOI site. In most cases, the guidance is similar to, or based on, that provided by NSAC-125. The evaluations for determining a USQ are documented and receive on-site safety committee review.

- 50.59 Reviewer Training: Each of the sites has a detailed two to three day 50.59 training program that involves both theory and direct application

study. Each trainee is required to take an examination in order to become qualified to perform 50.59 applicability screenings and reviews.

- Periodic Review: The 50.59 process is periodically reviewed to determine process effectiveness and compliance to regulatory requirements. This review includes both the applicability screening and the application of USQ criteria.

EOI facilities also use the 50.59 review as a convenient way to trigger other licensing/design basis control processes. The initial 50.59 review (termed a 50.59 "screening" at EOI facilities) determines if the following additional process sub-elements (all of which are considered a part of Element #2) should be invoked:

- 10CFR50.90 - A license amendment request for prior NRC approval of a change will be generated if a Technical Specification change is necessary or should the proposed change constitute an unreviewed safety question

- 10CFR50.54 - Acceptability of a proposed change to the QA Program, the Emergency Plan, the Security Plan or certain aspects of the Training Program will be evaluated under the appropriate requirements of 10CFR50.54 and may result in a request for NRC approval prior to implementation

- 10CFR50.71(e) - Potential changes to the SAR due to the proposed change are identified in the course of determining if 10CFR50.59 applies to the change (i.e., does the proposed activity change the facility or procedures as described in the SAR?). If there is an impact on the SAR, the SAR change process is invoked, resulting in an update to the SAR following implementation of the change (and on a schedule consistent with the requirements of 10CFR50.71(e)).

Element #3 - Review and Approval Process

This element provides review of a process product by person(s) other than the executors of the process to identify any deficiencies, inconsistencies, inaccuracies or other problems before the product is approved and issued. It applies to any process that could change the plant configuration. It offers additional assurance that no mistakes have been made during the execution of the process that could compromise the effectiveness of the product and also that the process has not adversely affected the design basis of the plant. This may

include independent verification required for design control and peer, supervisor, management, plant safety committee review, etc. for process control changes.

Element #4 - Document Update Controls

This element requires that, when changes in the plant are made, whether physical or operational, the design basis is updated to reflect the changes in a timely manner. Applicable processes contain appropriate feedback mechanisms to ensure that the design authority is notified of changes to the design basis that have been implemented (i.e., installed in the plant, implemented in plant operational procedures, etc.). Applicable processes also contain controls to maintain the pedigree of design basis information affected by a change (i.e., identification, distribution, document update and record storage).

Element #5 - Interface Controls

This element ensures that the process contains instructions to notify or interface with all appropriate organizations/functions when the plant configuration is being changed. This may be either a specific reference for interface to a function/organization or a general consideration of the organization/function that could be impacted, and may include either distribution of information or direct contact. This element is essential to ensure that applicable organizations revise appropriate documentation in a timely and consistent manner to operate and maintain the plant and train personnel in accordance with the as-built configuration.

Element #6 - Restoration Controls

Applicable processes contain appropriate steps to verify that the product of the process meets the design basis expectations, and that controls exist, as needed, to ensure that plant changes undergo a confirmation test. This may include post-modification, post-maintenance or performance testing of plant systems, structures and components to verify that they will perform as expected, or other confirmation activities such as validating computer software (i.e. is there a means to ensure that the change meets the expectations for which it was designed?) Failure of the plant to function per the design could invalidate the design basis.

Element #7 - Deficiency Controls

As discussed in 10CFR50, Appendix B, Criterion XVI, deficiency controls are needed to ensure that conditions adverse to quality (e.g., failures, malfunctions,

deficiencies, deviations, defective material and equipment, and nonconformances) are promptly identified and corrected. Each EOI facility has implemented a corrective action program to satisfy this criterion. The corrective action program itself consists of key elements which are described in detail following Table 3.

As required by each facility's policy, the provisions of the corrective action program are applicable to any site activity potentially affecting nuclear safety. This element ensures that a process contains provisions for documenting, correcting and reporting products that do not conform to the acceptance criteria for the process. If the process does not require a condition report, is there a specific mechanism to address and correct the condition (i.e. drawing revisions, SAR errors, inaccuracies in design documents, procedure improvements, etc.)? Inherent in this element is the expectation that the process must have acceptance standards by which the product can be evaluated. It may also include acceptance standards that must be met during the process in order for the process to continue.

Element #8 - Revisiting Temporary Changes

By their nature, temporary changes (such as temporary alterations) typically receive a safety review (e.g., Element #1, Element #2) applicable only for a limited period of time. In order to ensure that the design and licensing basis review assumptions are maintained for temporary changes, as well as to confirm the continuing safety of the change, it is necessary to revisit such changes prior to expiration of the time period for which the review is applicable. This element is relevant only to those processes which can generate or control temporary changes.

Process Completeness Review

Each process identified in Table 1 is described, and examined against the applicable criteria of Table 2 to determine if the process is present and if the applicable process effectiveness elements are implemented. Where omissions are identified, they are so noted along with a brief description of plans to correct the deficiency. Procedures which implement the process are also noted.

The matrices below contain one of three potential values:

- "Y" - the configuration management process element should be, and is, contained in relevant site procedures

- "N" - the configuration management process element should be, but is not, contained in relevant site procedures

- "NA" - the configuration management process element is inapplicable to the subject process.

In general, the procedures listed below are those procedures that control each process. In some cases, however, every controlling procedure may not be listed. For example, the corrective action program procedure is not listed for every process even though that process is available for reporting all deficiencies. There are also cases in which other processes that have already been evaluated actually control the process. In this case, references are made to the other process. In other cases, details may not be present in the procedures, but are understood to exist based on site training or expectations (e.g., issuing changes for SAR accuracy).

CONTROL OF CONFIGURATION DOCUMENTS:

Design configuration documents are of various types and classes that define the design bases and criteria; translate those bases and criteria into the final design; and depict the final design that is installed, operated and maintained. A design configuration document may be used as input to any process or activity affecting plant configuration. Most design configuration documents are considered to be "living" documents in that they are maintained current with the physical plant.

Design documents fall into 3 broad categories[2]:

- Design Input - which document design criteria, parameters, bases, and other requirements upon which the detailed final design is based,

- Design Process - which document the design practices and activities that substantiate the final design, and

- Design Output - which depict final design, and define technical and configuration characteristics for systems, structures and components.

Design configuration documents constitute the "Why" and the "What" of the plant. These documents provide the technical bases for the various activities of design,

[2] These categories are used only as a convenient framework to illustrate the design process. Design is an iterative processm - as such, there will be times when process and output documents will be used as input documents.

installation, operation, maintenance, and testing, all of which affect plant configuration. The level of control required for any document is dependent on the extent to which its information is relied upon by any activity, and, the potential of that activity to adversely affect plant configuration as required by design and licensing bases.

Control of design configuration documents is required by 10CFR50 Appendix B and ANSI N45.2.11. Control of design documents covers activities that could affect the content of design documents , and their use in plant activity. These activities include preparation, revision, review, approval, release, distribution, maintenance and retrieval.

Design Input Documents

Design input documents identify system design criteria. Sources of design criteria include regulatory documents, applicable industry codes and standards, and static ("non-living") documents such as closed Design Change Packages and correspondence. Design input information may be contained in such documents as Design Basis Documents, Upper Level Documents, System Design Criteria, Analysis Basis Documents, and Topicals.

Configuration Management Process Elements - Design Input Documents							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures: 1. EDP-AA-81, "Design Inputs"
2. ENG-3-037, "Engineering Request Process"

Notes: At RBS, this process is captured in the Design Change Process.

Design Process Documents:

Calculations

A calculation is a design analysis or documented engineering evaluation performed by a technically qualified individual, using the necessary design inputs, assumptions, and appropriate methodology to provide a conclusion. Calculations may include the formal documentation of test results, research, or other engineering work.

Configuration Management Process Elements - Calculations							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	NA	Y	NA

Procedures: 1. EDP-AA-20, "Engineering Calculations"

Engineering Standards/Guides

An Engineering standard is a document that establishes technical requirements for the accomplishment of various tasks. Standards are developed to provide uniformity in task performance. Standards are also used as source documents for engineering programs. (The standard described here is a document within the control of EOI as differentiated from an Industry Standard, which is not within EOI control. Industry Standards are part of the design input process.) An Engineering guide is a document that presents particular provisions which are considered good engineering practices.

Configuration Management Process Elements - Standards / Guides							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures:
1. EDP-AA-58, "Design Verification"
2. EDP-AA-81, "Design Inputs"
3. EDS-AA-001, "Engineering Standards"
4. PMC-22-004, "Design Change Implementation Package"
5. RBNP-057, "Safety and Environmental Evaluations"

Notes: At RBS, a Standard may be used to revise design basis documents and change plant as-built configuration. Therefore, Element #6, "Restoration Controls," is applicable.

Software

Software consists of computer programs, procedures, rules, databases, macros, firmware, and data, guiding or controlling the operation of a computer system. Software is classified based on the application for which it is used. Each site has established controls for the classification, documentation, and maintenance of designated software that can impact the plant design basis.

Configuration Management Process Elements - Software Control							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures: 1. EDP-AA-20, "Engineering Calculations"
2. EDP-AA-74, "Engineering Software Management"
3. RBNP-041, "Computer Software Management"

Notes: Elements 1 and 2 are captured in the design change process when software codes and programs are applied to support plant changes.

Design Output Documents:

Specifications

A specification is an engineering document that defines technical or quality requirements to be satisfied by systems, structures, components, processes, or materials. Primarily used for procurement of items, specifications may also be used for design, installation, and testing. By establishing the basis for design and/or installation, a specification may document existing plant configuration or authorize alternatives to existing plant configuration.

Configuration Management Process Elements - Specifications							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures: 1. EDP-AA-25, "Equipment, Material, and Installation Specifications"
2. EDP-AA-58, "Design Verification"
3. EDP-AA-81, "Design Inputs"
4. ES-P-002-00, "Design Verification"
5. PMC-22-004, "Design Change Implementation Package"

Drawings

A drawing is a document that provides technical or configuration details about systems, structures, or components, usually in a graphical format. Drawings are used for design, installation, procurement, operating, testing and maintenance activities. Drawings are categorized by the priority of their application in plant activities.

Configuration Management Process Elements - Drawings							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	NA	Y	NA

Procedures:
1. EDG-AA-37-01, "Engineering Request - Part 1: Engineering Reply, Administrative Change"
2. EDP-AA-22, "Drafting Activities for Engineering Diagrams"
3. ENG-3-026, "Document Change Notice"
4. ENG-3-037, "Engineering Request Process"

Vendor Documents

These constitute the various documents, drawings, manuals, correspondence, update bulletins and the like that originate from a vendor and are applicable to plant systems and components. These documents are used in various design, installation, testing and maintenance activities. Vendor documents are maintained in a Vendor Technical Manual program. Changes to vendor documents, on their own, cannot be used to make permanent configuration changes or authorize physical plant changes.

Configuration Management Process Elements - Vendor Documents							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	NA	Y	Y

Procedures:
1. EDP-AA-65, "Review and Processing of Vendor Technical Information"
2. RBNP-032, "Processing of Vendor Technical Information"

Databases

Plant technical data is often stored in computer databases, and used for various design, installation, operating, maintenance and testing activities. Controls on databases are established for their application. The primary databases used in configuration management may include the Component Database, the Station Information Management System (SIMS), the Cable and Conduit List, the EQ Database, the Setpoint Database and the Instrument List.

Configuration Management Process Elements - Databases							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	NA	Y	NA

Procedures:
1. ENG-3-034, "Equipment Quality Classification"
2. ENG-3-038, "Component Database Data Maintenance"
3. RBNP-051, "Component Data Base"

PLANT CONFIGURATION CHANGE CONTROL

Design Change

A design change is a change to those technical requirements which govern performance of a structure, system or component's design bases. Design bases is defined as information that identifies the specific functions to be performed by a structure, system or component of a facility and the specific values, or ranges of values, chosen for controlling parameters as reference bounds for design. Design change includes the entire process from initial conceptual design through installation, testing, close-out, and document updates.

Configuration Management Process Elements - Design Change							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	Y	Y	NA

Procedures:
1. EDG-AA-37-01, "Engineering Request - Part 1: Engineering Reply, Administrative Change"
2. EDP-AA-58, "Design Verification"
3. EDP-AA-80, "Modification Forms"
4. EDP-AA-81, "Design Inputs"
5. ENG-3-037, "Engineering Request Process"
6. ES-P-002-00, "Design Verification"
7. PMC-22-004, "Design Change Implementation Package"

Repair or Use-As-Is

Repair is the process of restoring a degraded or non-conforming condition such that the capability of an item to function reliably and safely is unimpaired, even though the item still may not conform to the original requirements. Use-As-Is is a material disposition which may be assigned to a deficient part, component or material when it can be established that the deficiency will result in no adverse conditions and that the item under consideration will continue to meet engineering functional requirements including performance, maintainability, fit and safety.

Configuration Management Process Elements - Repair or Use-As-Is							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	Y	Y	Y

Procedures:
1. EDP-AA-30, "Evaluation of Repair and Use-As-Is Dispositions on Condition Reports"

2. RBNP-030, "Initiation and Processing of Condition Reports"

Part Equivalency

Part equivalency is a technical evaluation performed to confirm that a replacement item, not identical to the original, will perform its intended function. An identical part is the same part, make and model, which exhibits the same technical and physical characteristics.

Configuration Management Process Elements - Part Equivalency							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures: 1. EDP-PE-09, "Part Interchangeability Evaluation"

Notes: Element #7, "Deficiency Controls," is captured generically through the Corrective Action Process via RBNP-030, "Initiation and Processing of Condition Reports"

Setpoint Change

Setpoints required for plant operations are documented and controlled at each site. Setpoint Changes are developed, approved, and implemented in accordance with the appropriate configuration change process. Setpoint Changes affecting design bases of a component and/or its interfaces are processed as design changes.

Configuration Management Process Elements - Setpoint Change							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures: 1. EDP-EE-12, "Setpoint Change Control"
2. ENG-3-037, "Engineering Request Process"

Temporary Alteration

A temporary alteration is a change that places a SSC in use in a condition that deviates from plant configuration documentation. Temporary Alterations are intended to be returned to normal or converted to a permanent design change at some later date.

Configuration Management Process Elements - Temporary Alterations							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	Y

Procedures:
1. ADM-031, "Temporary Alterations"
2. RBNP-027, "Initiation of a Change to a Licensing Document"
3. RBNP-057, "Safety and Environmental Evaluations"

Software Control (Plant)

Software is the code (executable, object and source), database information, command language structure, etc. used to control the operation of the plant or provides on-line information to plant operators. Software is categorized as safety-related software or other controlled software. Examples of controlled software are the Safety Parameter Display System (SPDS), Security, Emergency Response Data System (ERDS), Plant Monitoring and Fire Protection.

Configuration Management Process Elements - Software Control (Plant)							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures:
1. CSG-21-001. "Non-Critical Computer System Software Configuration Control"
2. RBNP-041, "Computer Software Management"

Reload

Reload design involves analysis to evaluate the changes to the fuel and reactor core design each fuel cycle. Cycle design objectives, including key plant operating parameters, are set early in the reload process. The key design inputs to the reload process are re-evaluated for each cycle based on the expected plant design configuration and are transmitted to the fuel vendor. NRC-approved methodologies are employed in the reload licensing analyses. The results of each cycle's reload licensing analyses are reviewed to ensure conformance with the plant's Technical Specifications. The plant's licensing basis is updated to reflect the new reload design. Key core design parameters are verified during startup testing at the beginning of each cycle.

Configuration Management Process Elements - Reload							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	Y	Y	NA

Procedures:
1. EDP-AN-07, "Fuel Reload Analysis Review Procedure"
2. EDP-CA-01, "Core Operating Limits Report"
3. REP-0018, "Fuel Cycle Operations"
4. REP-0031, "Core Verification and Inspection"
5. RBNP-057, "Safety and Environmental Evaluations"
6. NF-101, "Nuclear Fuel Program and Division of Responsibility"

MATERIALS/PROCUREMENT

Commercial Grade Item (CGI)

Commercial Grade Item (CGI) dedication is a process to evaluate the acceptability of a commercial grade item for a safety-related application and to prepare the documentation needed to demonstrate that the CGI is equivalent in its safety function performance to a similar item designed and manufactured under a 10CFR50 Appendix B program. CGI dedication involves testing and/or analysis to verify the item's ability to perform its intended functions.

Configuration Management Process Elements - Dedication (CGI)							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	NA	NA	Y	Y	NA

Procedures:
1. EDP-EQ-01, "Technical Quality and Documentation Requirements for Procurement Documents"
2. EDP-PE-03, "Evaluation and Justification of Commercial Grade Items for Use in Safety Related Applications"
3. EDP-PE-22, "Items with Special Considerations for Procurement or Use"
4. MHP-15-001, "Materials Receiving, Inspection, and Shipping"
5. MTP-24-001, "Technical Quality and Documentation Requirements for Procurement Documents"
6. RBNP-054, "Technical and Quality Requirements for Procured Items"

Material Technical Evaluation

This process focuses on evaluating and analyzing an item to be procured or transferred; determining its Safety classification; identifying technical and quality requirements; assigning inspection attributes; and evaluating material related discrepancies.

Configuration Management Process Elements - Material Technical Evaluations							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	NA	Y	NA

Procedures:
1. EDP-EQ-01, "Technical Quality and Documentation Requirements for Procurement Documents"
2. EDP-PE-22, "Items with Special Considerations for Procurement or Use"
3. MHP-15-001, "Materials Receiving, Inspection, and Shipping"
4. MTP-24-001, "Technical Quality and Documentation Requirements for Procurement Documents"
5. RBNP-003, "Procurement and Management of Materials"
6. RBNP-054, "Technical and Quality Requirements for Procured Items"

Storage/Inventory Controls

The process of receiving, inspecting, and storing material in an environment that ensures its control and suitability for use in the plant. This process includes such activities as receipt inspection, storage, environmental controls, and shelf life controls.

Configuration Management Process Elements - Storage/Inventory Control							
#1	#2	#3	#4	#5	#6	#7	#8
NA	NA	Y	NA	NA	Y	Y	NA

Procedures:
1. EDP-PE-15, "Shelf Life Evaluation"
2. MHP-15-001, "Materials Receiving, Inspection, and Shipping"
3. MHP-15-002, "Materials Storage"
4. MHP-15-006, "Issue, Cannibalization and Return of Material"
5. MTP-24-001, "Technical Quality and Documentation Requirements for Procurement Documents"
6. RBNP-003, "Procurement and Management of Materials"

End Use Authorization

This consists of the review of purchase order documentation of the item against the intended application of the item. This review determines if the documentation is technically accurate, complete and of sufficient quality to warrant approval of item for use.

Configuration Management Process Elements - End-Use Authorization							
#1	#2	#3	#4	#5	#6	#7	#8
Y	NA	Y	NA	NA	NA	Y	NA

Procedures:
1. ADM-0023, "Conduct of Maintenance"
2. EDP-PE-05, "Engineering Authorization of Part Numbers"
3. MHP-15-006, "Issue, Cannibalization and Return of Material"
4. MTP-24-001, "Technical Quality and Documentation Requirements for Procurement Documents"
5. MTP-23-002, "Administrative Part Number Changes"
6. MTP-24-008, "Control and Maintenance of the Bill of Material BOM"
7. QAD-7. "Control of Purchase Material, Equipment, and Service"
8. RBNP-003, "Procurement and Management of Materials"

IMPLEMENTING DOCUMENTS

Procedures

Administrative and implementing procedures are those written instructions for performing various activities. Generally, these procedures specify the administrative and quality assurance policies and practices, assign responsibilities, address activities of interest to many plant departments and detail the performance of particular activities.
The issuance of these documents is controlled to ensure that the most recent revisions are used to perform plant activities. The documents are issued in a controlled manner to specified locations or individuals and inserted into the appropriate manuals in a timely manner.

Changes to the documents are controlled to ensure that the information contained in the document is accurate. Procedures dictate the requirements for changing a plant document. The revision process requires the appropriate technical, safety evaluation and interdepartmental reviews and approvals before the document is issued for use.

Configuration Management Process Elements - Procedures							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	NA	Y	Y

Procedures:
1. RBNP-001, "Control and Use of RBS Procedures"
2. RBNP-057, "Safety and Environmental Evaluations"

Guidelines: 1. RBS Procedure Writer's Guide
2. "Guidelines for Development, Revision, and Use of River Bend Station Procedures"

Program Documentation/Standards/Guides

A Standard is a document which establishes technical requirements for work to be accomplished. Standards may be required to establish the requirements for equipment, material, parts, components, processes, spare parts and services. They may also establish the requirements for a specific design change activity that is repetitive in nature.

A Guide is a document that presents particular provisions which are considered good practices, i.e., options or recommendations, but which are not mandatory. Adherence to a guide is expected, unless there exists a good reason not to comply.

A Program Plan is a non-design output document containing the details for a particular inspection, testing or other program including requirements for specific equipment/components or conditions. A Program Plan may include a compilation of various technical information upon which the requirements are based. In the case of ASME code related programs, justification for altered test frequency and/or requests for relief from testing are also included.

These documents are procedurally controlled for development and revision.

Configuration Management Process Elements - Program Documentation/Standards/Guides							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	NA	Y	NA

Procedures: 1. RBNP-001, "Control and Use of RBS Procedures"
2. RBNP-057, "Safety and Environmental Evaluations"

Guidelines: 1. RBS Procedure Writer's Guide
2. "Guidelines for Development, Revision, and Use of River Bend Station Procedures"

CONTROL OF LICENSING DOCUMENTS:

FSAR Update

The FSAR is periodically updated in accordance with 10CFR50.71(e) to include the effects of changes to the facility or procedures as described in the FSAR, safety evaluations performed in support of requested license amendments, and analyses of new safety issues performed at the request of the Commission.

The primary mechanism for initiating identification of FSAR changes is the 10CFR50.59 process. As noted in the description of Process Element #2, the 50.59 process provides a convenient trigger point for FSAR updating since the initial step of the 50.59 process requires that a facility or procedure change be evaluated to determine its impact on the FSAR. Having identified an impact to the FSAR, the responsible individual identifies any other potential FSAR changes, documents the proposed changes to the FSAR and transmits the proposed change(s) to the licensing organization.

Provided that no unreviewed safety question exists, the licensing organization makes an internal update to the FSAR following implementation of the proposed change. Periodically (on a nominal refueling cycle schedule, not to exceed 24 months), the accumulated internal changes to the FSAR are required to be transmitted to the NRC and other controlled document holders, and reflect facility changes up to a maximum of 6 months prior to the submittal date.

Configuration Management Process Elements - FSAR Update							
#1	#2	#3	#4	#5	#6	#7	#8
N	N	Y	N	Y	NA	Y	NA

Procedures:
1. NLP-10-008, "Processing and Review of Draft Sections or Revisions to a Licensing Document"
2. RBNP-027, "Initiation of a Change to a Licensing Document"
3. RBNP-057, "Safety and Environmental Evaluations"
4. RBNP-075, "10CFR50.54 Evaluations"

Notes:
1. Element #2, "License Document Review," is weak for this process because there is no procedural guidance, other than that provided in RBNP-057, "Safety and Environmental Evaluations," which identifies the license basis documents to be reviewed (e.g., Operational Quality Assurance Manual, Emergency Plan, Security Plan, Offsite Dose Calculations Manual). This review may not be performed for changes made

via 10CFR50.54 evaluations (controlled per RBNP-075, "10CFR50.54 Evaluations").

2. There is no mechanism in place to ensure design basis documents are reviewed and updated, if impacted, for changes initiated outside the design change process (Element #1, "Design Basis Review," and Element #4, "Document Update Control").

Technical Specifications Change

Technical Specifications (and the broader category of the Operating License) are changed through application of the requirements of 10CFR50.90 and 10CFR50.91. A license amendment request is prepared by responsible personnel, describing the proposed change and addressing the standard "no significant hazards consideration" questions. Upon approval by the on-site and off-site safety review committees, the license amendment request is transmitted to the NRC for approval. Implementation of the proposed change is held pending NRC approval. This process also applies to any unreviewed safety questions identified during a 10CFR50.59 evaluation.

Configuration Management Process Elements - Technical Specifications Change							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	NA	Y	NA

Procedures: 1. RBNP-027, "Initiation of a Change to a Licensing Document"

Technical Requirements Manual Change

The Technical Requirements Manual (TRM) in general contains those requirements that have been relocated from the Technical Specifications or Operating License. Usually, relocation occurs due to implementation of a generic letter line item improvement or implementation of the improved technical specifications.

Initial relocation of a technical specification (and its consequent inclusion in the TRM) requires prior NRC approval under the provisions of 10CFR50.90 through a license amendment (as discussed above). Subsequent changes to material contained within the TRM are controlled through the 10CFR50.59 process [with the exception of a few unique TRM items that are changed through evaluation under 10CFR50.54(a)].

Configuration Management Process Elements - Technical Requirements Manual Change							
#1	#2	#3	#4	#5	#6	#7	#8
Y	N	Y	Y	Y	NA	Y	NA

Procedures:
1. RBNP-027, "Initiation of a Change to a Licensing Document"
2. RBNP-057, "Safety and Environmental Evaluations"
3. RBNP-075, "10CFR50.54 Evaluations"

Notes: Element #2, "License Document Review," is weak for this process because there is no procedural guidance, other than that provided in RBNP-057, "Safety and Environmental Evaluations," which identifies the license basis documents to be reviewed (e.g., Operational Quality Assurance Manual, Emergency Plan, Security Plan, Offsite Dose Calculations Manual). This review may not be performed for changes made via 10CFR50.54 evaluations (controlled per RBNP-075, "10CFR50.54 Evaluations").

Commitment Management

The commitment management process ensures the timely implementation of regulatory commitments and provides a point of control to ensure that, once implemented, commitments remain implemented. It is this latter characteristic of commitment management that is important to configuration control.

Commitments related to design control and configuration management may be made in response to notices of violation, reportable events, generic letters, and the like. Implementation of a commitment may be through procedure or design changes. Regardless of the vehicle for implementing a commitment, the commitment management process provides a means for ensuring that an implemented commitment cannot be reversed at a later time without proper evaluation. Evaluation of commitment changes is controlled by the site specific application of the NEI "Guidelines for Managing NRC Commitments."

Configuration Management Process Elements - Commitment Management							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	NA	Y	NA	Y	NA

Procedures:
1. NLP-10-016, "Commitment Management"
2. RBNP-029, "Commitment Management System"
3. RBNP-057, "Safety and Environmental Evaluations"
4. RBNP-075, "10CFR50.54 Evaluations"

5. "Commitment Database Desktop Guidelines" document

OPERATIONS:

Normal, Off-Normal, and Alarm Response

Throughout plant life, the plant experiences different types of conditions which require equipment operation to ensure safety and reliability. These conditions generally fall into the following categories:

- Normal operation
- Off-Normal (or abnormal) operation
- Response to degrading/changing system conditions (alarm response)

Procedures exist which instruct operations personnel regarding proper equipment manipulation to respond to the specific condition. These procedures, which are the primary means of altering plant configuration, are written and updated in accordance with plant design.

Configuration Management Process Elements - Normal, Off-Normal and Alarm Response Procedure Changes							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	NA	Y	NA	Y	NA

Procedures: 1. ADM-0022, "Conduct of Operations"
2. RBNP-001, "Control and Use of RBS Procedures"

Emergency Operating Procedures

During the life of a plant, there may be times when the plant is found to be in a condition outside the boundaries of normal operation, as defined by its design basis. During such times, emergency actions are taken by Operations personnel to ensure the plant is returned to a stable condition. These actions are governed by emergency operating procedures.

Configuration Management Process Elements - Emergency Operating Procedures Changes							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	Y	Y	NA	Y	NA

Procedures: 1. OSP-0008, "Validation and Verification of Emergency Operating Procedures"

2. OSP-0009, "Author's Guide/Control and Use of Emergency Operating Procedures"
3. RBNP-001, "Control and Use of RBS Procedures"

Tagouts / Caution Tags

A protective tagging system establishes an administrative control for equipment status to prevent operating components which may cause personnel injury or equipment damage. Through protective tagging, equipment normally operating or available for service may be removed from service to perform maintenance activities.

Configuration Management Process Elements - Tagouts							
#1	#2	#3	#4	#5	#6	#7	#8
Y	Y	Y	NA	Y	Y	Y	Y

Procedures:
1. ADM-0027, "Protective Tagging"
2. ADM-0076, "Verification"
3. RBNP-001, "Control and Use of RBS Procedures"

Technical Specifications Interpretations

A TS Interpretation may be used to document a position clarifying the meaning of a TS which, because of vague or imprecise wording, may otherwise lead to inconsistent application. The TS Interpretation provides the consistency to ensure the TS requirement is properly met. The TS Interpretation process is not intended to circumvent the TS amendment process (10CFR50.90), nor may it be used to change a TS. (Note: EOI facilities that have implemented improved TS (i.e., Grand Gulf and River Bend) no longer use Interpretations; rather, such positions are incorporated into the applicable section of the TS Bases and evaluated in accordance with 10CFR50.59. Also, because of the vast improvement in format and wording clarity, the vagueness common with older TS no longer exists in improved TS.)

Configuration Management Process Elements - Tech Spec Interpretations							
#1	#2	#3	#4	#5	#6	#7	#8
NA	NA	NA	NA	NA	NA	NA	NA

Notes: RBS has implemented Improved TS; therefore, TS Interpretations are no longer applicable.

Operator Work-Arounds

An operator work-around is a condition resulting from degraded plant equipment or a shortcoming in plant design. Operator Work-Arounds are expected to be of limited scope and duration, while a corrective action plan is implemented to resolve the underlying problem.

Configuration Management Process Elements - Operator Work-Arounds							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	NA	Y	Y

Procedures:
1. "Operations Work Around Program" document
2. ADM-0031, "Temporary Alterations"
3. ENG-3-006, "Design and Modification Control""

Night Orders / Standing Orders

Night Orders are generated to inform the operating shifts of work schedule activities, industry events, and departmental issues. Standing orders are typically generated to provide additional operational considerations until long-term resolutions are obtained. Neither night or standing orders can contradict existing plant procedures.

Configuration Management Process Elements - Night Orders / Standing Orders							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
NA	NA	NA	NA	NA	NA	Y	NA

Procedures:
1. ADM-0022, "Conduct of Operations"
2. Operations Department policy statement on Night Orders/Standing Orders

Notes: Night Orders and Standing Orders are communications devices, only. They cannot be used to supersede any plant procedure, and as such cannot cause configuration changes that are outside the design or license bases. None of the process elements are applicable.

A Condition Report is initiated for any discovered deficiency via RBNP-030, "Initiation and Processing of Condition Reports." This action captures Element #7, "Deficiency Controls."

MAINTENANCE:

Maintenance Work Orders

The maintenance work order is the primary vehicle used to initiate and conduct preventive maintenance and corrective maintenance activities on plant systems, structures, and components (SSCs). The maintenance work order package is composed of drawings, instructions, procedures, forms, and other appropriate information necessary to perform the identified activity. Prior to beginning work, the maintenance work order package is assessed to determine impact on plant safety by Operations department personnel. Post-maintenance tests are performed as needed to ensure equipment performs its intended function.

Configuration Management Process Elements - Maintenance Work Orders							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	Y	Y	Y

Procedures:
1. ADM-0028, "Corrective Maintenance"
2. ADM-0085, "Preventive Maintenance"
3. RBNP-001, "Control and Use of RBS Procedures"

Notes: The Maintenance Work Order vehicle used at RBS is the Maintenance Action Item (MAI).

Preventive Maintenance

In order to ensure systems, structures, and components are available to perform their function(s), a Preventive Maintenance (PM) program has been established, covering three areas: predictive maintenance, periodic maintenance, and planned maintenance.

- Predictive Maintenance:

  Predictive maintenance involves continuous or periodic monitoring and diagnosis of equipment and components in order to forecast equipment failure. Predictive maintenance results are used to trend and monitor equipment performance so that planned maintenance can be performed prior to equipment failure.

- Periodic Maintenance

  Periodic maintenance involves activities accomplished on a routine basis, such as operating hours or calendar time, and include any combination of external inspections, alignments or calibrations, internal inspections, overhauls, and component or equipment replacements.

- Planned Maintenance

  Planned maintenance involves activities performed prior to equipment failure. The activities can be initiated by predictive or periodic maintenance results, by vendor recommendations or by experience.

Configuration Management Process Elements - Preventive Maintenance							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
NA	NA	NA	NA	NA	Y	Y	Y

Procedures: 1. ADM-0085, "Preventive Maintenance"
2. RBNP-001, "Control and Use of RBS Procedures"

Notes: The PM process does not allow changes to plant configuration. Such changes are implemented via the design change processes.

Corrective Maintenance

Corrective maintenance involves activities which repair or restore equipment or components which have failed or are malfunctioning and not performing their intended function(s).

Configuration Management Process Elements - Corrective Maintenance							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	Y	Y	Y	Y	Y	Y	Y

Procedures: 1. ADM-0028, "Corrective Maintenance"
2. RBNP-001, "Control and Use of RBS Procedures"

Repair and Replacement

The Repair and Replacement Program determines the ASME Code requirements during task planning, and ensures those requirements have been met and documented after task completion. The Repair and Replacement

Program has controls to prevent unauthorized repairs and replacements of ASME Code systems, structures, and components. These controls also help ensure original design is maintained on ASME Section III systems, structures, and components. The Repair and Replacement Program is not a design change process. The program enables field work to be performed, in accordance with applicable Code requirements, to approved design change implementation packages.

Configuration Management Process Elements - Repair and Replacement							
#1	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Y	NA	Y	NA	Y	Y	Y	NA

Procedures:
1. ADM-0023, "Conduct of Maintenance"
2. ADM-0028, "Corrective Maintenance"
3. RBNP-001, "Control and Use of RBS Procedures"
4. TSP-0043, "Repair/Replacement Procedure"

Notes:
1. The Repair and Replacement program complies with the requirements of ASME Section XI. This program does not allow changes to the plant or deviations from ASME requirements.

   Any changes to the Repair and Replacement program are initiated via the design change process. It is through the design change process Elements 2, "Licensing Basis Review," and 4, "Document Update Controls," are realized.

2. The Repair and Replacement Process does not address temporary alterations. Any temporary alterations are initiated via the Temporary Alteration process; therefore, Element #8 is captured by that process.

<u>Calibration Performance</u>

Selected plant instrumentation is periodically calibrated to ensure it properly performs its intended function(s) and meets the range and resolution assumptions of the design basis. Calibration includes activities which check and set instrument range, setpoints, alarm functions, trip and isolation functions, etc., as appropriate. The frequency intervals for calibration activities are determined via the plant design basis and TS/TRM (as applicable) for the specific instrument and the function(s) performed.

Configuration Management Process Elements - Calibration Performance							
#1	#2	#3	#4	#5	#6	#7	#8
NA	NA	Y	NA	NA	Y	Y	Y

Procedures:
1. ADM-0015, "Station Surveillance Test Program"
2. ADM-0085, "Preventive Maintenance"
3. RBNP-001, "Control and Use of RBS Procedures"
4. Loop Calibration Reports
5. EDP-EE-03, "Preparation, Review, Approval, and Control of Loop Calibration Reports"
6. ADM-0029, "Control of M&TE"

Notes: This process is not the implementation process for design changes. It uses design output to perform calibrations in accordance with process procedures. Therefore, Elements 1, 2, 4, and 5 are captured in the design change process.

PERFORMANCE MONITORING

Performance monitoring is a set of processes that provide a feedback mechanism to ensure that the plant is performing in accordance with design basis and other assumptions. Performance monitoring processes are not utilized to introduce a permanent plant configuration change.

For this set of processes, our evaluation focus is on how the results of the monitoring activity are used to confirm that the plant performs consistent with the design basis. While we recognize that the reason for monitoring activities is founded upon the design and licensing bases, we have chosen to restrict our review to those process elements (Table 2) associated with the monitoring output:

4. Document update controls
5. Interface controls - for communicating the results of the monitoring,
6. Restoration controls - for restoring any plant configuration changes needed to perform the monitoring, and
7. Deficiency controls - for documenting and resolving any monitoring results which exceed acceptance criteria.

Surveillances

Operations, Maintenance, and Engineering have a variety of surveillance tests and rework procedures that ensure various components are capable of performing their intended function. The scheduling of surveillances is based on a Technical Specification or other requirement.

Configuration Management Process Elements - Surveillances			
#4	#5	#6	#7
NA	NA	Y	Y

Procedures:
1. ADM-0015, "Station Surveillance Test Program"
2. RBNP-001, "Control and Use of RBS Procedures"
3. STP-XXX-XXXX series procedures

Notes: Surveillances are performed via the Surveillance Test Program which is implemented via Surveillance Test Procedures (STPs).

The STP process does not implement configuration changes. Elements 4 and 5 are captured in the design change process.

In-Service Testing

In-Service Testing (IST) is an ASME Code driven testing program for ASME Section III Class I, II, and III and other selected safety-related pumps and valves. IST is a prescriptive program of routine tests designed to confirm the continued ability of these components to perform designated safety-related functions.

Configuration Management Process Elements - In-Service Testing			
#4	#5	#6	#7
Y	Y	Y	Y

Procedures:
1. ENG-3-041, "ASME Section XI, Inservice Testing Program"
2. RBNP-001, "Control and Use of RBS Procedures"

Special Tests

Special Tests are conducted when a system or component must be tested for conditions not addressed in current procedures. This may be the result of a design change, a question on the actual performance of the piece of equipment, or some other reason. To insure this test is properly performed and that no safety concerns are involved, a special test procedure is prepared.

Configuration Management Process Elements - Special Tests			
#4	#5	#6	#7
NA	NA	Y	Y

Procedures: 1. RBNP-001, "Control and Use of RBS Procedures"
2. RBS Site Policy R-PL-011, "Conduct of Infrequent Performed Tests or Evolutions"

Notes: Special tests are conducted via procedures developed, reviewed, and approved per RBNP-001. RBS makes no distinction between special test procedures and other testing procedures as they relate to design and license bases control. Each must meet requirements specified in RBNP-001.

This process does not implement changes to the plant using special test procedures alone. Elements 4 and 5 are captured in the design change process.

Retests

Whenever equipment or systems undergo maintenance or configuration change activities, a retest is conducted. The intent of the retest is to verify the component will meet the design basis parameters. The complexity of the retest depends on the complexity of the work performed or the extent that the normal configuration was changed.

Configuration Management Process Elements - Retests			
#4	#5	#6	#7
NA	NA	Y	Y

Procedures: 1. ADM-0023, "Conduct of Maintenance"
2. ADM-0028, "Corrective Maintenance"
3. ADM-0080, "Post Maintenance Testing"
4. ADM-0085, "Preventive Maintenance"
5. TSP-0049, "Post Modification Testing"

Notes: Permanent plant changes are not implemented via this process. Elements 4 and 5 are captured in the design change process.

MOV/AOV/Check Valve Testing

Motor operated valves receive testing to verify their operation in accordance with commitments to Generic Letter 89-10. Testing includes periodic static testing and limited dynamic testing. This test data is used to trend the valve performance and look for degradation in the valve operator. A program for selected air operated valves is being developed and implemented similar to the MOV program at each site. Since this testing is relatively new, some baseline data is still being obtained. Check valves that perform safety functions are tested to verify that they will perform their required design basis functions.

Configuration Management Process Elements - MOV/AOV/Check Valve Testing			
#4	#5	#6	#7
Y	Y	Y	Y

Procedures:
1. EDP-AA-20, "Engineering Calculations"
2. EDP-ME-25, "Design Basis Review for Motor Operated Valves"
3. EDP-ME-26, "Stem Thrust/Torque Evaluation for Motor Operated Valves"
4. EDP-ME-27, "Design Engineering Review of MOV Test Data"
5. PEP-0054, "RBS Check Valve Program"
6. PEP-0057, "Votes Signature Testing Procedure"
7. PEP-0058, "Limitorque Spring Pack Testing"
8. PEP-0059, "Motor Operated Valve Trending"
9. PEP-0221, "MOV Static Test Data Evaluation"
10. PEP-0222, "MOV Flow Test Data Evaluation"
11. PEP-0223, "Quarter Turn Votes Signature Testing Procedure"
12. RBNP-001, "Control and Use of RBS Procedures"
13. RBNP-030, "Initiation and Processing of Condition Reports"
14. Generic Letter 89-10 MOV Program

Notes: The valve testing programs are controlled and implemented under many plant procedures (the procedures listed above being only a represented sample). These procedures specify testing acceptance criteria required to be met.

In case of a failure, a CR is written and appropriate actions taken to correct the deficiency. Changes to design basis information would result through actions taken via the Corrective Action Program and the design change process. It is through these programs Element #4, "Document Update Controls," and Element #7, "Deficiency

Controls" are captured.

Heat Exchanger Testing

Testing for safety-related heat exchangers is performed in accordance with NRC Generic Letter 89-13. Initial and periodic testing of safety-related heat exchangers cooled by service water is accomplished to confirm their heat transfer capability meets its intended design function.

Configuration Management Process Elements - Heat Exchanger Testing			
#4	#5	#6	#7
Y	Y	Y	Y

Procedures:
1. ADM-0088, "RBS Heat Exchanger Performance Monitoring Program"
2. RBNP-001, "Control and Use of RBS Procedures"

Snubber Testing

Snubbers are tested per requirements specified in the individual site Technical Specifications. The snubbers are tested for free motion and activation. Free motion tests verify that the snubber will allow for thermal growth. The activation tests verify that the snubber will restrain movement in a transient condition.

Configuration Management Process Elements - Snubber Testing			
#4	#5	#6	#7
Y	Y	Y	Y

Procedures:
1. INS-17-006, "RBS Snubber Inspection Program"
2. RBNP-001, "Control and Use of RBS Procedures"
3. RBNP-042, "Control of ASME and Welding Code Programs"

Integrated and Local Leak Rate Testing

In accordance with 10CFR50, Appendix J, integrated and local leak rate testing is conducted periodically for the containment as a whole (integrated testing) and individual containment penetrations (local testing).

Configuration Management Process Elements - Integrated and Local Leak Rate Testing			
#4	#5	#6	#7
Y	Y	Y	Y

Procedures:
1. ADM-0006, "Control of Plant Records"
2. ADM-0050, "Primary Containment Leakage Rate Testing Program"
3. PEP-0219, "Reliability Monitoring Program"
4. RBNP-001, "Control and Use of RBS Procedures"
5. STP-057-3700, "Containment Structural Integrity Verification/Report"
6. STP-057-3701, " Drywell Structural Integrity Verification/Report"
7. STP-057-3703, "Primary Reactor Containment Integrated Leak Rate Test"
8. STP-057-3704, "Primary Containment Air Locks Overall Leakage Rate Test"
9. STP-057-3705, "Primary Containment Air Locks Seal Leakage Rate Test"
10. STP-057-3800, "Local Leak Rate Test"
11. STP-057-3900, "LLRT - Non Refueling Summation"
12. TSP-0043, "Repair/Replacement Procedure"

Notes: In case of a failure, a Condition Report is written and appropriate actions taken to correct the deficiency. Changes to design basis information would result through actions taken via the Corrective Action Program and the design change process. Element #4, "Document Update Controls," is caputred through these programs.

Ventilation/Filter Testing

The engineered safety feature filters are tested to ensure that they will perform their function of removing radionuclides from air before it is exhausted to the atmosphere. This testing is per Reg Guide 1.52 and ANSI 510.

Configuration Management Process Elements - Ventilation/Filter Testing			
#4	#5	#6	#7
Y	Y	Y	Y

Procedures:
1. RBNP-001, "Control and Use of RBS Procedures"

Notes: Ventilation/Filter Testing is controlled and implemented through approximately 40 plant procedures. These procedures were developed, reviewed, and approved per the requirements of RBNP-001. Revisions to these procedures are also controlled per RBNP-

001.

Pressure Testing

In service pressure testing is performed on ASME Section III Class I, II, and III piping and components over a specified period. This testing consists of a visual inspection of the piping while it is at normal operating pressure.

Configuration Management Process Elements - Pressure Testing			
#4	**#5**	**#6**	**#7**
Y	Y	Y	Y

Procedures:
1. INS-17-005, "ASME Section XI Pressure Testing Program"
2. RBNP-001, "Control and Use of RBS Procedures"
3. RBNP-042, "Control of ASME and Welding Code Programs"

Fire Protection Testing

The fire protection system consists of several sub-systems such as fire barriers, fire detection equipment, and fire prevention equipment. They each receive testing to ensure their performance is within the design requirements established for the system or component.

Configuration Management Process Elements - Fire Protection Testing			
#4	**#5**	**#6**	**#7**
NA	Y	Y	Y

Procedures:
1. ADM-0009, "Station Fire Protection Program"
2. RBNP-038, "River Bend Station Site Fire Protection Program"

CONDITION MONITORING

As with performance monitoring, condition monitoring ensures design parameters have been maintained. Condition monitoring processes are not utilized to introduce a permanent plant configuration change.

For this set of processes, our evaluation focus is on how the results of the monitoring activity are used to confirm that the plant condition is maintained consistent with the design basis. While we recognize that the reason for monitoring activities is founded upon the design and licensing bases, we have

chosen to restrict our review to those process control elements (Table 2) associated with the monitoring output:

4. Document Update Controls
5. Interface controls - for communicating the results of the monitoring,
6. Restoration controls - for restoring any plant configuration changes needed to perform the monitoring, and
7. Deficiency controls - for documenting and resolving any monitoring results which exceed acceptance criteria.

Inservice Inspection (ISI) Program

The purpose of ISI is to ensure the continued structural integrity of the pressure-retaining boundary of ASME Section III Class I, II, and III mechanical systems. This is accomplished by performing regularly-scheduled non-destructive examinations (NDE). ISI activities are performed in accordance with requirements published in 10CFR50.55a(g) and ASME Section XI.

ISI Program activities include the development and submittal to the NRC of a 10-Year ISI Plan which details the scope of ISI examinations for each nuclear unit. These Plans include the selection of components for examination to comply with mandated requirements as well as relief requests whenever compliance with ASME Code requirements is not practical. Reports are filed periodically with the NRC to document completion of the examinations as well as compliance with other requirements, such as proper selection of components, calibration of equipment, and qualification of examination personnel.

Configuration Management Process Elements - In-Service Inspection			
#4	**#5**	**#6**	**#7**
Y	Y	Y	Y

Procedures:
1. INS-17-002, "RBS Inservice Inspection Program"
2. RBNP-001, "Control and Use of RBS Procedures"
3. RBNP-042, "Control of ASME and Welding Code Programs"

Corrosion Monitoring

The purpose of corrosion monitoring is to routinely inspect systems that have some indication of susceptibility to one or more forms of corrosion such as Flow Accelerated Corrosion, Boric Acid Corrosion, and Micro-biologically Influenced Corrosion. This information is regularly trended and evaluated to identify

degrading conditions before they prevent the system from performing its intended function.

Configuration Management Process Elements - Corrosion Monitoring			
#4	#5	#6	#7
Y	Y	Y	Y

Procedures:
1. ENG-3-036, "Implementing Procedure for RBS Flow Accelerated Corrosion (FAC) Program"
2. RBNP-001, "Control and Use of RBS Procedures"
3. RBNP-081, "RBS Flow Accelerated Program"
4. TSP-0042, "Inspection of Steel Piping and Components for Flow Accelerated Corrosion"

Non-Destructive Examination (NDE)

The NDE program consists of testing to detect internal or concealed defects in materials. This program uses non-intrusive techniques and is performed as a subset of other programs such as ISI, surveillances, retests, corrective action etc.

Configuration Management Process Elements - Non-Destructive Examination			
#4	#5	#6	#7
NA	NA	Y	Y

Procedures:
1. NDE-4.10, "Liquid Penetrant Examination (PT)"
2. NDE-4.11, "Fluorescent Penetrant Examination (PT)"
3. NDE-4.12, "Magnetic Particle Examination(MT)"
4. NDE-4.13, "Magnetic Particle Examination(MT) Fluorescent Method"
5. NDE-4.14, "Radiographic Examination Requirements"
6. NDE-4.15, "Ultrasonic thickness Measurement"
7. NDE-4.16, "Ultrasonic Examination of Similar and Dissimilar Pipe Welds"
8. NDE-4.17, "Manual Ultrasonic Examination for the Detection of Intergranular Stress Corrosion Cracking"
9. NDE-4.18, "Ultrasonic Examination Procedure for the Sizing of IGSCC"
10. NDE-4.19, "Bubble Testing"
11. NDE-4.32, "Water Washable Fluorescent Penetrant Examination (PT)"

12. NDE-4.8, "Visual Welding Inspection ASME ANSI B31.1"
13. NDE-4.9, "AWS Visual Welding Inspection"

Notes: NDE activities are used to verify the integrity of plant configuration. Any changes are implemented via the design change process.

Welding Program

10CFR50, Appendix B, 10CFR50.55a, and ASME Sections III and IX form the basis for the EOI welding program. The EOI welding program consists of one administrative procedure - EP-P-001, thirty-one standards, and numerous Welding Procedure Specifications (WPSs). Procedure qualification testing, performance qualification testing, production welding, and heat treatment are performed in accordance with these documents.

Configuration Management Process Elements - Welding Program			
#4	**#5**	**#6**	**#7**
Y	Y	Y	Y

Procedures:
1. ENG-3-037, "Engineering Request Process"
2. ENG-3-040, "RBS Welding Program"
3. RBNP-001, "Control and Use of RBS Procedures"
4. RBNP-042, "Control of ASME and Welding Code Programs"
5. Design Engineering Administrative Manual, Appendix 2

System/Component Trending

System engineers collect available operating data on the plant computer and on system instruments. The computerized operations log is reviewed by engineers for significant events and subtle operating changes. Engineers review the Inservice Testing data and predictive maintenance adverse trend information. Some systems are reviewed daily, while others are reviewed only when an adverse trend appears.

Configuration Management Process Elements - System/Component Trending			
#4	**#5**	**#6**	**#7**
Y	Y	Y	Y

Procedures:
1. RBNP-001, "Control and Use of RBS Procedures"

Notes: System and component trending activities are governed by many plant procedures and guidelines. These procedures were developed, reviewed, and approved per the requirements of RBNP-001. Revisions to these procedures are also controlled per RBNP-001.

Steam Generator Integrity/Eddy Current Testing Program

Steam Generator eddy current testing ensures that the structural integrity of this portion of the reactor coolant system will be maintained in accordance with USNRC Regulatory Guide 1.83, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes, Rev. 1 July 1975."

Configuration Management Process Elements - Steam Generator Integrity/Eddy Current Testing Program			
#4	**#5**	**#6**	**#7**
NA	NA	NA	NA

Notes: Steam Generator Integrity / Eddy Current Testing Program applies to PWR plants. RBS is a BWR.

[3] These categories are used only as a convenient framework to illustrate the design process. Design is an iterative process - as such, there will be times when process and output documents will be used as input documents.

APPENDIX B

CORRECTIVE ACTION PROCESS EFFECTIVENESS ELEMENTS

As discussed in Section VI [Response to Question (a)], in order to make a judgment about the completeness of the process(es) that could affect corrective action, it is necessary to identify such processes and determine the configuration management elements that are necessary for effective corrective action. Unlike configuration management, corrective action is a single process, therefore, [as noted in Section VIII, Response to Question (d)] it is only necessary to identify the process effectiveness elements in order to make a judgment about the completeness of the corrective action process.

Table 3 in Section VIII identified the corrective action process elements necessary for an effective corrective action process. Each element in the table is described below. (It is worthwhile to note that reportability, which is specifically addressed in Question (d), is discussed as a subset of Element #1, below.)

Element #1 - Problem Identification

Conditions adverse to quality (10CFR50 Appendix B, Criterion 16) must be formally identified and documented for processing within the corrective action program. The threshold for problem identification should be sufficiently low that if an individual is in doubt as to whether to document a condition, it will be documented.

The initial problem identification step triggers other related processes:

- Operability - A degraded or non-conforming condition should receive a prompt determination of operability (i.e., a judgment as to whether the affected structure, system or component can perform its safety function).

- Reportability - A condition adverse to quality should be evaluated to determine if the condition is reportable to the NRC in accordance with various regulations. The primary regulations governing reportability are 10CFR50.72 (1 and 4 hour verbal reports), 10CFR50.73 (Licensee Event Reports) and 10CFR21 (Basic Component Defects). Other regulations (e.g., 10CFR50.46) also contain reporting requirements which must be considered.

As part of the problem identification element, it should be determined if the condition constitutes a significant condition adverse to quality (within the meaning of 10CFR50, Appendix B, Criterion 16). This determination will be used in the next element to decide upon the depth of cause analysis necessary.

An important aspect of the problem identification element is a determination of generic applicability - i.e., is the deficiency unique or could it apply to related components or processes? If generic, the scope of subsequent corrective action must take this into account.

Element #2 - Cause Determination

Those deficiencies that are determined to be a significant condition adverse to quality receive a formal root cause evaluation. The technique chosen for the evaluation (e.g., barrier analysis, HPES, etc.) is a function of the type of deficiency to be addressed. The root cause evaluation (including problem statement, analysis and root cause(s)) is documented and distributed for management review.

Those deficiencies that are determined to not be a significant condition adverse to quality receive an apparent cause determination. Apparent cause is determined by the assigned individual and documented on the appropriate deficiency document.

Element #3 - Corrective Actions

Corrective actions are developed to address both the immediate deficiency and the root/apparent cause(s). With respect to cause, corrective actions are intended to prevent recurrence of the identified cause(s). Once developed, corrective actions are documented on the associated deficiency document.

Corrective actions should address generic implications (if any) through an expansion of activity beyond the immediate deficiency. Priority of corrective action implementation is addressed through development of an implementation schedule commensurate with the safety significance of the deficiency. Each action is assigned to a responsible individual and/or group, and acknowledged.

Element #4 - Tracking

Corrective actions, once identified and assigned, are tracked to completion. A tracking system exists that can be periodically updated concerning corrective action status, and can identify near-due and past-due corrective actions.

Responsible individuals/groups are notified of past-due corrective actions and are expected to take early action to implement the corrective action or provide justification for extending the implementation schedule. Schedule extensions include confirmation that the new schedule remains consistent with the safety significance of the deficiency.

As corrective action implementation proceeds, additional corrective actions may be identified. Such corrective actions should be added to the deficiency document and treated as discussed under Element #3, above.

Element #5 - Closure

Closure of corrective action consists of documentation of completion of corrective action and confirmation that corrective action was implemented and effective. Documentation of completion of corrective action is generally supplied by the assigned individual/group. Confirmation of corrective action implementation is generally conducted by an independent group/individual.

Element #6 - Link to Trending

The corrective action problem statements and cause(s) are periodically entered into a trending process for the purpose of identifying adverse repetitive trends. The trending process, upon identifying a condition adverse to quality, documents the condition in accordance with Element #1, above.

Element #7 - Periodic Effectiveness Review

The corrective action process is periodically reviewed to determine the effectiveness of the process. Process deficiencies are documented and addressed through the corrective action process.

As was done in Appendix A for configuration management processes, the remainder of this Appendix notes the procedure(s) that implement the corrective action process elements and determines if applicable process elements are present in the procedures - should a process element be missing, we also note the plans to repair that omission.

Corrective Action Process Elements						
#1	#2	#3	#4	#5	#6	#7
Y	Y	Y	Y	Y	Y	Y

Procedures: 1. RBNP-030, "Initiation and Processing of Condition Reports"

ATTACHMENT 1

RIVER BEND STATION
DESIGN BASIS DOCUMENTATION DISCUSSION

I. SCOPE

RBS has initiated the System Design Criteria (SDC) Project to address design basis issues. This project includes a design review of selected systems to consolidate and validate the current design basis for each system. Systems are selected, reviewed, and prioritized in accordance with their importance to safety (based on PRA). The process includes a review of the existing uncontrolled (information only) System Design Requirements Documents [developed in 1988 by the architect-engineering firm (A/E)], and a review of applicable documents including:

- Design and configuration basis documents
- Licensing basis documents
- Design change documents
- CRs
- Safety evaluations
- Vendor technical information
- NSSS vendor and A/E correspondence
- Any other applicable documentation that would yield, verify, or validate the current system design basis information.

The initial phase of the project (Phase I) is currently in progress and scheduled for completion by mid-1997.

The table below titled "Phase I" indicates the systems that are being addressed in the initial phase of the project. The table below titled "Proposed Phase II" identifies the systems that are currently scheduled for review after completion of Phase I.

PHASE I SDCs	
• Low Pressure Core Spray	• NSR 4.16 KV Electric Distr. 13.8 KV Electric Distribution
• Safety Related 125 VDC	• Reactor Core Isolation Cooling
• Non-Safety Related 125 VDC Non-Safety Related 48 VDC	• Reactor Plant Component Cooling Water
• Service Water Normal Service Water Standby	• High Pressure Core Spray
• HVAC Control Building HVAC Chilled Water Ventilation Chilled Water	• Residual Heat Removal
• Feedwater	• HVAC Auxiliary Building HVAC Containment Building
• 230 KV Electric Distribution Substation Yard	• SR 480 V Electric Distr.
• Main Steam Main Steam Drains Automatic Depressurization Safety Relief Valves	• NSR 480 V Electric Distribution
• SR 4.16 KV Electric Distr.	• Control Rod Drive Hydraulic
• Div I & II Diesel Generators Start-Up Air Fuel Oil and Transfer Lube and Temperature Control Diesel Gen. Bldg. Ventilation	• Reactor Protection System Standby Liquid Control System
• Div III Diesel Generator	• Alternate Decay Heat Removal

PROPOSED PHASE II SDCs	
• Leak Detection System	• Service and Instrument Air
• Fire Protection Water Fire Pump Fuel Oil Fire Protection Halon & CO_2	• Reactor Coolant Recirculation
• Containment Atmosphere & Leakage Monitoring Containment Hydrogen Control Hydrogen Recombiner	• Reactor Water Cleanup
• Condensate Condensate Demineralizers Condensate Makeup & Draw-off	• Fuel Pool Cooling and Cleanup
• Condenser Air Removal Offgas	• Fuel Building Ventilation
• Circulating Water Circulating Water Auxiliaries Cooling Tower Makeup	• 120 VAC
• Standby Gas Treatment	• Refueling Equipment/Systems

II. METHODOLOGY

The process for developing a SDC is comprised of nine tasks, as follows:

1. Data Retrieval Process

   Includes collection of all data necessary to complete the SDC.

2. USAR Review

   Includes a review of the USAR to identify sections which apply to the subject system. Results are tabulated for use with USAR review. Identified parameters and requirements are verified for accuracy and

accuracy and consistency. 10CFR50.59 and TS changes are checked for incorporation of changes to USAR.

3. <u>Calculation Review</u>

Calculations identified in the Data Retrieval Process are screened and reviewed for applicability. The calculations that affect the design basis of the subject system are identified. Methodology and design inputs are reviewed for technical adequacy. Results of the calculation review are documented in a Calculation Review Report. The calculation review is also coordinated with the Calculation Index Upgrade Effort, currently in process.

4. <u>Modification Review</u>

All design, configuration, and documentation changes with potential to impact the design basis of the subject system are identified and reviewed. Modifications are reviewed for technical adequacy, addressing the following aspects: Design Input Assessment, Condition Reports, Methodology, ISEE/SAEE Review, Post-Modification Testing, Surveillance Requirements, and Margins. The USAR is reviewed relative to modifications to determine whether it is in conformance with the changes. Open modifications with potential to impact the design basis of the subject system are identified as open items in the SDC. Results are documented in a Modifications Request (MR) Review Report.

5. <u>SDRD/SDC Conversion</u>

SDRDs are converted into SDCs (as applicable) using the format and content requirements of the RBS SDRD Upgrade Project specification.

6. <u>Component Data Base (CDB) Preparation/Population</u>

CDB information associated with major components of the subject system is verified and updated.

7. <u>SDC and CDB Validation</u>

Information in the SDC and CDB for the subject system is validated to ensure that plant configuration meets the requirements specified in the documentation.

8. <u>USAR Review</u>

A USAR verification review is performed in accordance with the requirements of Regulatory Guide 1.70 and NUREG-0800. Key objectives include:

- Review of applicable USAR sections against line designation tables, level 1 and 2 drawings, NSSS vendor or A/E specifications, TS, and SDCs.
- Correcting technical inaccuracies
- Verifying consistency of nomenclature
- Identifying non-essential and historical information
- Reviewing 10CFR50.59 safety evaluations and TS changes for incorporating design changes into the USAR.

9. <u>Open Items</u>

Open items are identified. Processes necessary to resolve design document discrepancies and administrative issues are initiated. Missing or discrepant design information is reviewed for potential operability concerns and resolved accordingly. Deficiencies that could affect safety, quality, reliability, or efficiency of the plant are documented in a CR.

Each SDC is reviewed by a multi-discipline team of Entergy engineers for accuracy and completeness prior to issuance.

III. SDC CONTENTS

Each SDC contains a cover sheet, a table of contents, and the following sections:

A. <u>System Functional Requirements</u>

1. Scope

This subsection presents the design background, outlines the scope of the system, and identifies system boundaries. It discusses the original division of responsibilities of the A/E and NSSS vendor with regards to the design and construction of the

system. It also identifies the scope and limitations of the SDC and establishes references for the information provided under this section.

2. Process Functions

This subsection includes a brief description of the system and contains a system overview, a list of system functions and operating modes, and a brief discussion of each. References are provided for all stated requirements.

B. <u>System Operational Requirements</u>

1. System Operational Modes

This subsection describes the various system modes of operation during normal, standby, and emergency plant operations. It also discusses system test modes of operation. Bases and references are provided relative to the stated requirements.

2. Design Requirements

This subsection includes all as-built design basis requirements by incorporating applicable plant modifications which may have altered the original requirements. Specifications and calculations that support system design are referenced. All operational functions, active and passive, are described. Key parameters that directly support system (or sub-system) functions are identified (such as time, pressure, flow, temperature, volume, chemistry, and electrical distribution parameters). Items considered include:

- System level operational requirements
- Special operational actions to be taken in the event of component failure or unusual operating conditions
- Special system interlock requirements
- System limitations
- Key considerations for equipment and personnel protection
- Unusual startup or shutdown requirements

- Post operating license requirements not in original bases

C. Configuration Requirements

This section discusses specific design or licensing basis requirements relative to equipment layout and/or arrangement. Pcssible design basis configuration may be based on radiation security, seismic, separation criteria, etc.

D. Instrument and Control (I&C) Requirements

This section describes the I&C requirements for the system, and to the extent possible, references RBS control system documents. It also discusses applicability of specific I&C codes and standards.

E. Interfacing System Requirements

This section describes the interfaces between the subject system and other systems supporting and supported by the subject system.

F. Codes, Standards, and Regulatory Requirements

1. Codes and Standards

   This subsection lists the specific industry codes and standards that are applicable to the design, fabrication, testing, and inspection of the subject system. Such codes and standards may include those by ASME, ANSI, and IEEE.

2. Regulatory Documents

   This subsection lists the specific regulatory requirements that are applicable to the design, fabrication, testing, and inspection of the subject system. Licensing documents, such as the SER, NRC Q&As, licensing submittals, and other regulatory transmittals, are reviewed. Pertinent information is referenced. Information may include requirements outlined in documents such as the Code of Federal Regulations, General Design Criteria, NRC Regulatory Guides, etc. Regulatory initiatives for safety class, redundancy, separation, radiological requirements, etc., are also addressed.

G References

Source documents used as references are uniquely identified by document or letter numbers, titles dates, revision numbers (if applicable), etc.