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U. S. Nuclear Regulatory Commission
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BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS
CONVERSION TO IMPROVED STANDARD TECHNICAL SPECIFICATIONS

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company hereby requests a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. These proposed amendments revise the Brunswick Plant Technical Specifications to a format consistent with NUREG-1433, Revision 1, "Standard Technical Specifications for General Electric Plants, BWR 4." The proposed amendment also extends the frequency of select surveillance Requirements to 24 months to support conversion of the Brunswick Plant to a 24 month fuel cycle.

The detailed description and justification for the proposed Technical Specification amendment consists of 15 volumes. A detailed description of the contents and organization of the 15 volumes is included as Attachments 1 through 4 of this letter. These attachments include:

Attachment 1, Brunswick Unit 1 and Unit 2 Improved Technical Specification (ITS) Submittal Synopsis, which describes the organization and content of the submittal and the organization and content of each of the 15 volumes. This attachment is designed to facilitate distribution of each section within the NRC and to familiarize reviewers with the content and organization of each section.

Attachment 2, Brunswick Unit 1 and Unit 2 ITS Conversion Document Status, which describes and provides the status of pending changes, including changes to be submitted, to the Brunswick Current Technical Specifications (CTS) that are incorporated into this amendment request. This attachment also provides a list of the proposed generic changes to NUREG-1433, Revisions 1, that are incorporated into the Brunswick ITS amendment request. In addition, Attachment 2 includes anticipated changes to the Brunswick CTS that may be submitted during the course of NRC review. This information is intended to facilitate Brunswick and NRC document control during the Brunswick ITS

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review and approval process.

Attachment 3, Significant Deviations From NUREG-1433 and Brunswick CTS. The purpose of this attachment is to identify those changes which are beyond the scope of both NUREG-1433 and the Brunswick CTS and either have or are being submitted separately from this license amendment request.

Attachment 4, Evaluations Used to Justify 24-Month Surveillance Requirement Frequencies. This attachment provides a detailed description of the methodology used to justify the extension of the frequency of selected Surveillance Requirements to 24 months to support conversion of the Brunswick Plant to a 24-month fuel cycle.

As a part of the overall conversion effort, CP&L is adopting numerous new Surveillance Requirements (SRs). The new SRs are grouped into two categories (Category A and Category B SRs). Category A SRs are those SRs which are new in their entirety compared to current Brunswick Plant Technical Specifications. Category B SRs are those current SRs which have been revised with ITS in some manner to be more restrictive than the current Technical Specifications require.

Attachment 5 provides a Listing of More Restrictive and New Surveillance Requirements divided into Category A and Category B types. CP&L will be reviewing each Category A and B SR to determine which will not be current upon ITS implementation, based on the projected Brunswick ITS implementation date. CP&L intends to have as many of these more restrictive surveillances current upon ITS implementation as practical; however, due to difficulties in determining the exact status of the plant and the variables associated with implementation (e.g., whether or not all of the more restrictive changes will be approved as currently written), CP&L proposes that the Category A changes are assumed to be performed and met, in accordance with ITS SR 3.0.1, upon implementation of the ITS. Accordingly, the initial due date for each Category A SR will be determined based on: 1) the ITS implementation date, 2) the ITS frequency of the SR and 3) SR 3.0.2. CP&L also proposes that the more restrictive Category B SRs are assumed to be performed and met, in accordance with ITS SR 3.0.1, upon implementation of the ITS. Accordingly, the due date for each Category B SR will be determined based on: 1) the last completion date of the associated CTS SR, 2) the ITS frequency of the SR and 3) SR 3.0.2.

CP&L has determined that the approach discussed above will maintain compliance with the ITS and also provide the flexibility needed to implement the numerous new and more restrictive SRs which we have included as a part of our conversion to the Improved Standard Technical Specifications.

Attachment 6 provides the proposed changes to the Unit 2 Operating License to allow single recirculation loop operation. Included in this attachment is a mark-up of the Unit 2 license condition and a discussion of the change.

Implementation of the proposed amendments is tentatively scheduled for the fourth quarter of 1997 and is based on: 1) the training schedules for licensed and non-licensed personnel,

2) timing of the implementation with respect to refueling outages, 3) the licensed operator examination schedule, 4) the time required for procedure revisions and development of new programs, 5) implementation of power uprate of both units, and 6) implementation of the Long-Term Thermal Hydraulic Instability resolution at the Brunswick Plant. Brunswick Plant ITS implementation is also predicated on NRC issuance of a Safety Evaluation by July 1997, along with issuance of Safety Evaluations for the pending changes, including those changes to be submitted, which have been incorporated into the ITS (see Attachment 2). CP&L will inform the NRC staff when the ITS implementation actions are complete.

Carolina Power & Light Company has determined that the proposed changes do not involve a significant hazards consideration. The evaluations for making this determination are included with each specification. CP&L has also provided an environmental evaluation for each specification which demonstrates that the proposed amendments meet the eligibility for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed changes is not required.

Carolina Power & Light Company is providing, in accordance with 10 CFR 50.91(b), Mr. Dayne H. Brown of the State of North Carolina with a copy of the proposed license amendments.

Please refer any questions regarding this submittal to Mr. Mark Turkal at (910) 457-3066.

Sincerely,



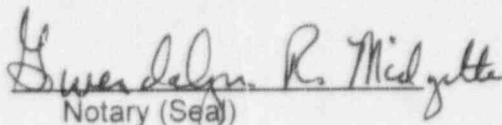
William R. Campbell

KAH/kah

Attachments: 1 Through 6

Enclosure: Improved Technical Specifications Conversion Document - Brunswick Units 1 and 2
(15 Volumes)

William R. Campbell, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, and agents of Carolina Power & Light Company.


Notary (Seal)

My commission expires: *August 12, 2001*

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ATTACHMENT 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

IMPROVED TECHNICAL SPECIFICATION (ITS) SUBMITTAL SYNOPSIS

The CP&L Brunswick Plant Improved Technical Specification (ITS) submittal consists 15 volumes. This attachment describes each component of the Brunswick Plant ITS submittal, and their organization within each volume. This attachment is designed to facilitate distribution of each Brunswick ITS section within the NRC and to familiarize reviewers with the content and organization of each section. A description of each volume included in the Brunswick Plant ITS submittal follows.

Volume 1:

Volume 1 contains the Application of the Technical Specification Selection Criteria and a Relocation Matrix. This document lists each of the Brunswick Plant Current Technical Specifications (CTS) and shows the results of CP&L's application of the 10 CFR 50.36 criteria for retention of requirements in Technical Specifications. For each of the Brunswick Plant CTS, this document identifies whether or not the requirement is retained in the Brunswick ITS, and the basis for its retention or exclusion. For those CTS items that did not meet the selection criteria and have not been retained in the proposed ITS, a detailed explanation of the application of the selection criteria and justification for relocation is provided. The Relocation Matrix provides the document location for each relocated CTS requirement.

Volumes 2 through 15:

Volumes 2 through 15 contain the Brunswick Improved Technical Specifications and associated supporting documentation for the proposed amendment request. The volumes are ordered on a Chapter/Section basis, as follows, to facilitate distribution to NRC staff reviewers:

<u>Volume 2:</u>	Brunswick ITS Chapter 1.0, Use and Application Chapter 2.0, Safety Limits Section 3.0, Limiting Condition for Operation Applicability and Surveillance Requirement Applicability
<u>Volume 3:</u>	Brunswick ITS Sections 3.1, Reactivity Control Systems 3.2, Power Distribution Limits
<u>Volumes 4, 5, & 6:</u>	Brunswick ITS Section 3.3, Instrumentation
<u>Volume 7:</u>	Brunswick ITS Section 3.4, Reactor Coolant System

<u>Volume 8:</u>	Brunswick ITS Section 3.5, Emergency Core Cooling Systems and Reactor Core Isolation Cooling System
<u>Volumes 9 & 10:</u>	Brunswick ITS Section 3.6, Containment Systems
<u>Volume 11:</u>	Brunswick ITS Section 3.7, Plant Systems
<u>Volumes 12 & 13:</u>	Brunswick ITS Section 3.8, Electrical Systems
<u>Volume 14:</u>	Brunswick ITS Sections 3.9, Refueling Operations 3.10, Special Operations
<u>Volume 15:</u>	Brunswick ITS Chapter 4.0, Design Features Chapter 5.0, Administrative Controls

Each volume contains the Unit 1 and Unit 2 Brunswick ITS Specifications and Bases, a mark-up of the Brunswick CTS, a discussion of changes to the Brunswick CTS, the No Significant Hazards Evaluations for each of the changes to the CTS, Environmental Assessments for changes to the CTS, and mark-up of NUREG-1433, Revision 1 to indicate the Brunswick ITS and justifications for deviations from the NUREG. Each Chapter/Section in a volume is organized as follows:

Tab: Brunswick Unit 1 Improved Technical Specifications

This tab contains the proposed Brunswick Unit 1 Improved Technical Specifications.

Tab: Brunswick Unit 1 Improved Technical Specification Bases (as applicable)

This tab contains the proposed Brunswick Unit 1 Improved Technical Specification Bases.

Tab: Brunswick Unit 2 Improved Technical Specifications

This tab contains the proposed Brunswick Unit 2 Improved Technical Specifications.

Tab: Brunswick Unit 2 Improved Technical Specifications Bases (as applicable)

This tab contains the proposed Brunswick Unit 2 Improved Technical Specification Bases.

Tab: Markup of Brunswick Unit 1 and Unit 2 Current Technical Specifications and Discussion of Changes Being Made to the Brunswick CTS

This tab contains a copy of the Brunswick Unit 1 and Unit 2 CTS pages annotated to provide a cross-reference to the equivalent Brunswick ITS requirement, showing the disposition of the existing requirements into the Brunswick ITS.

The annotated copy of the Brunswick CTS pages are marked with sequentially numbered "clouds" which provide a cross-reference to a Discussion of Changes (DOCs) between the Brunswick CTS and the Brunswick ITS. The ITS number is noted on the top right corner of each CTS page, identifying the ITS LCO where the CTS requirement is located. Items on the CTS page that are located in one or more ITS locations or sections have the

appropriate location(s) noted adjacent to the items. When the ITS requirement differs from the CTS requirement, the CTS being revised is annotated with an alpha-numeric designator. This designator relates to the appropriate DOC. Each DOC provides a justification for the proposed change. The DOC for each ITS section immediately follows the marked up CTS pages. The alpha-numeric designator also relates the proposed change to the applicable No Significant Hazards Evaluation (NSHE). An Environmental Assessment is also provided for each specification.

The alpha-numeric designator is based on the category of the change and a sequential number within that category. The changes to the Brunswick CTS are categorized as follows:

- A ADMINISTRATIVE - associated with restructuring, interpretation, and complex rearranging of requirements, and other changes not substantially revising an existing requirement. There is a single No Significant Hazards Evaluation (NSHE) for this category.
- M TECHNICAL CHANGES - MORE RESTRICTIVE - changes to the CTS being proposed in converting to the ITS, resulting in added restrictions or eliminating flexibility. There is a single NSHE for this category.
- L TECHNICAL CHANGES - LESS RESTRICTIVE - changes where requirements are relaxed, relocated, eliminated, or new flexibility is provided. There are two groups of changes - "Generic" and "Specific" in this category. Each "Specific" LESS RESTRICTIVE change has a corresponding unique No Significant Hazards Evaluation (NSHE). The "Generic" LESS RESTRICTIVE changes are subdivided into 6 subcategories, each of which is identified uniquely as either LA, LB, LC, LD, LE, or LF changes. Each subcategory of "Generic" LESS RESTRICTIVE change is justified by a single NSHE. The subcategories and their designation are as follows:

The "LA" changes consist of relocation of details out of the CTS and into the Bases, UFSAR, QA Manual, procedures, or other plant controlled documents. Typically, this involves details of system design and function or procedural details on methods of conducting a surveillance.

The "LB" changes are related to the extension of an instrument Completion Time or Surveillance Frequency in accordance with NRC approved vendor topical reports.

The "LC" changes reflect elimination of various instrumentation requirements, where the instrument is an alarm or an indication-only instrument function that does not otherwise meet the NRC Technical Specification selection criteria.

The "LD" changes reflect extension of the refueling outage surveillance interval from 18 months to 24 months for surveillances other than Channel Calibrations.

The "LE" changes reflect extension of the refueling outage surveillance interval from 18 months to 24 months for Channel Calibration surveillances.

The "LF" changes reflect modifying the instrumentation Allowable Values to be consistent with the current calculations performed in accordance with the plant specific setpoint methodology.

- R RELOCATED - specific requirements that do not meet the NRC Technical Specification selection criteria. These items are being relocated to other plant documents as part of the conversion to ITS. There is a single NSHE for this category.

Tab: Markup of NUREG-1433, Revision 1 Technical Specifications and Justifications for Deviations

This tab contains a copy of NUREG-1433, Revision 1, Technical Specifications which have been annotated to indicate deviations between the NUREG (as modified by generic changes identified in Attachment 2 of this letter) and the proposed Brunswick ITS. Justifications for each of the deviations are provided with the individual ITS Chapters/Sections. The annotated copy of NUREG-1433, Revision 1, and the discussion of the deviations are cross-referenced by "clouds" which are numbered sequentially for each Chapter/Section.

Each line item in the annotated copy of NUREG-1433, Revision 1, Technical Specifications contains a cross-reference to the equivalent Brunswick CTS requirement and/or discussion of change, as appropriate. This cross-reference is intended to provide reviewers with a quick reference to the equivalent CTS section.

Tab: Markup of NUREG-1433, Revision 1 Technical Specifications Bases and Justifications for Deviations

This tab contains a copy of NUREG-1433, Revision 1, Technical Specifications Bases which have been annotated to indicate deviations between the NUREG Bases (as modified by generic changes identified in Attachment 2 of this letter) and the proposed Brunswick ITS Bases. Justifications for the deviations are provided with the individual ITS Chapters/Sections. The annotated copy of NUREG-1433, Revision 1, and the discussion of the deviations are cross-referenced by "clouds" which are numbered sequentially for each Chapter/Section.

Tab: No Significant Hazards Evaluations

This tab contains the required 10 CFR 50.92 No Significant Hazards Evaluations (NSHEs) for the proposed changes and demonstrates that the changes associated with the corresponding ITS section do not constitute a significant hazard consideration. As described for the DOC, the NSHEs are categorized as Administrative, Relocated, More Restrictive, Less Restrictive - Generic, and Less Restrictive - Specific, and are identified by an alpha-numeric designator relating the marked-up CTS and the DOC to the applicable NSHE.

This tab also includes an Environmental Assessment for each ITS specification and demonstrates that the proposed amendments meet the eligibility for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed changes is not required.

ATTACHMENT 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

BRUNSWICK ITS CONVERSION DOCUMENT STATUS

This attachment identifies 1) a listing of CTS changes that are pending approval from the NRC which have been included in the Brunswick Plant ITS submittal, including changes which will be submitted, 2) generic NUREG changes which have been included in the Brunswick Plant ITS submittal, 3) approved generic NUREG changes which have not been included in the Brunswick Plant ITS, and 4) the submittals that CP&L intends to make during the course of the NRC review of the Brunswick Plant ITS which have not been included in the Brunswick Plant ITS submittal.

1. Technical Specification Change Requests Pending NRC Approval Which Have Been Included in the Brunswick Plant ITS Submittal

- TSC 87TSB16: Generic Letter 87-09 Implementation
- TSC 91TSB13: Generic Letter 91-09 Implementation
- TSC 94TSB14: Deletion of Requirements for Suppression Chamber Average Temperature Monitoring Instrumentation
- TSC 94TSB16: Power Uprate
- TSC 95TSB32: Unit 1 Fuel Cycle 11 Reload Licensing
- TSC 96TSB03: Thermal Hydraulic Instability Long-Term Resolution - Enhanced Option I-A Stability Technical Specifications

2. Technical Specification Change Requests Which Have Been Included in the Brunswick Plant ITS Submittal And Are Expected To Be Submitted By November 22, 1996

- TSC 95TSB06: Pressure-Temperature Limits Curves
- TSC 95TSB36: Reactivity Anomalies
- TSC 96TSB01: Drywell Air Temperature
- TSC 96TSB07: Suppression Chamber Water Volume
- TSC 96TSB09: Instrumentation Allowable Value Revision

3. Technical Specification Task Force (TSTF) Generic Changes Incorporated In The Brunswick Plant ITS Submittal

- TSTF-05: Deletes Safety Limit violation notification requirements.
- TSTF-17: Extension of testing frequency of containment airlock interlock mechanism from 184 days to 24 months.
- TSTF-32: Slow/Stuck Control Rod separation criteria.
- TSTF-33: Specification 3.1.3, Required Action A.2 Completion Time Note.
- TSTF-34: Delete requirements to disarm the associated CRD when two or more withdrawn control rods are stuck.
- TSTF-35: Recirculation pump start RPV temperature limits verification Note.
- TSTF-36: Addition of LCO 3.0.3 N/A to shutdown electrical power specifications.
- TSTF-38: Revise visual surveillance of batteries to specify that inspection is for performance degradation.

4. TSTF Approved Generic Changes Not Incorporated In The Brunswick ITS Submittal

- TSTF-60: RCS Leakage Detection Instrumentation LCO 3.0.4 N/A Note.
- TSTF-106: Diesel Fuel Oil Testing Program Clarification.

5. Technical Specification Changes Which The Brunswick Plant Currently Plans To Submit To The NRC Staff During The Brunswick ITS Review Period Not Included In The Brunswick Plant ITS Submittal

- 96TSB05: 4.16kV / BOP E-Bus Allowed Outage Time Revision
- 97TSB01: Unit 2 Fuel Cycle 13 Reload Licensing
- 96TSB10: EDG Compliance With Safety Guide 9

ATTACHMENT 3

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS

SIGNIFICANT ITS DEVIATIONS FROM THE BRUNSWICK CTS AND NUREG-1433, REV. 1

This attachment provides a list of the Brunswick Plant ITS changes which represent significant deviations from both NUREG-1433, Revision 1, and the Brunswick Plant current Technical Specifications.

1. Enhanced Option I-A Stability Technical Specifications provided in ITS 3.2.3, 3.3.1.1, 3.3.1.3, and 5.6.5. These changes are also submitted in a separate Technical Specification Change Request (96TSB03).
2. Pressure Temperature Limits Curves are updated in ITS 3.4.9. These changes are also submitted in a separate Technical Specification Change Request (96TSB06).
3. ECCS Allowed Outage Times in ITS 3.5.1 are revised to reflect the current licensing basis SAFER/GESTR analyses described in the UFSAR.
4. CAD System requirements in current Technical Specification 3/4.6.6.2 are relocated based on the current Brunswick Plant specific licensing basis related to Generic Letter 84-09.
5. Service Water System Allowed Outage Times are revised in ITS 3.7.2 to reflect more consistent application of current approved analyses.
6. Ultimate Heat Sink Temperature Limits and Allowed Outage Times in ITS 3.7.2 are provided which are more restrictive than current Technical Specification requirements but which reflect current administrative practice.
7. Control Room Emergency Ventilation System Actions are revised in ITS 3.7.3 to be consistent with existing plant specific analyses.
8. Primary Containment Leakage Rate Testing Program are updated in ITS 5.5.12 to reflect currently approved exemptions to 10 CFR 50, Appendix J.

ATTACHMENT 4

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

JUSTIFICATION OF 24-MONTH SURVEILLANCE REQUIREMENT FREQUENCIES

I. PURPOSE:

To accommodate a planned change to a 24 Month Fuel Cycle for the Brunswick Nuclear Units 1 and 2, Carolina Power & Light (CP&L) is integrating the necessary changes to the BNP Units 1 and 2 Technical Specifications into the documents being used to convert to NUREG 1433, Standard Technical Specification for General Electric BWR 4. To facilitate the review of the 24 Month Fuel Cycle portion of this submittal, the following overview document is being provided to identify the scope of changes and the methodology used to justify the changes.

The proposed Technical Specification changes were evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24 Month Fuel Cycle," dated April 2, 1991.

II. SCOPE:

The 24 Month Fuel Cycle portion of this submittal includes a justification, when the SR Frequency is being changed, for all existing BNP Current Technical Specification (CTS) Surveillance Requirements (SRs) that are being retained in the BNP Improved Technical Specifications (ITS) which have a BNP CTS Frequency of 18 months. In addition, some instrument's which are currently being calibrated on a quarterly basis are also being extended to a 24 month Channel Calibration Frequency using this same methodology.

These changes have been divided into two categories. The categories are: (1) changes involving the Channel Calibration Frequency identified as "Instrumentation Changes" (identified in the ITS Conversion document discussion of changes as "LEs"), and (2) other changes identified as "Non-Instrumentation Changes" (identified in the ITS Conversion document discussion of changes as "LDs").

III. METHODOLOGY:

In Generic Letter 91-04, dated April 2, 1991, the Nuclear Regulatory Commission (NRC) provides generic guidance for evaluating going to a 24 Month Surveillance Test Interval for Technical Specification SRs. Generic Letter 91-04 specifies the steps for the evaluation needed to justify a 24 month surveillance interval. The following defines each step outlined by the NRC and provides a description of the methodology used by CP&L to complete the evaluation for each specific Technical Specification SR line item.

A. Non-Instrumentation (LDs):

Generic Letter 91-04 identifies three steps to evaluate Non-Instrumentation:

STEP 1:

"...licensees should evaluate the effect on safety of the change in surveillance intervals to accommodate a 24 month fuel cycle."

CP&L EVALUATION

CP&L has evaluated each SR being changed. This evaluation provides a specific justification for each BNP CTS non-instrumentation SR which is being retained in BNP ITS. The evaluation is summarized in the discussion of change identified as "LDs". The following information provides a description of the purpose of surveillance testing and a general description of the methodology utilized.

The purpose of surveillance testing is to verify through the performance of the specified SRs that the tested Technical Specification Function/Feature will perform as assumed in the associated safety analysis or in accordance with the associated Function's design. By periodically testing the Technical Specification Function/Feature, the availability of the associated Function/Feature is confirmed. As such, with the extension of BNP's operating cycle and the associated extension of the refueling cycle surveillance test interval (Frequency), a longer period of time will exist between performances of the surveillance test. If a failure resulting in the loss of a Safety Function occurs during the operating cycle and that failure would be detected only by the performance of the periodic Technical Specification SR, then the increase in the surveillance testing interval would result in a decrease in the associated Function's availability and thus have a potential impact on safety.

CP&L evaluated each associated SR to demonstrate that the potential impact, if any, on availability is small as a result of the change to a 24 month Frequency. The evaluations were based on the fact that the Function/Feature is tested on a more frequent basis during the operating cycle (e.g., functionally tested quarterly), is designed to be single failure proof, or is highly reliable.

STEP 2

"Licensees should confirm that historical maintenance and surveillance data do not invalidate this conclusion".

CP&L EVALUATION

CP&L has evaluated the surveillance test history of the affected SRs. This evaluation consisted of a review of the surveillance test results. Only SR test failures were evaluated because failures detected by other plant activities such as Preventative Maintenance Tasks or Surveillance Tests that are more frequent than 18 months were assumed to continue to detect failures. This review of surveillance test history validated the conclusion that the impact, if any, on system availability will be small as a result of the change to a 24 Month Fuel Cycle.

STEP 3

"Licensees should confirm that the performance of surveillance's at the bounding surveillance interval limit provided to accommodate a 24-month fuel cycle would not invalidate any assumption in the plant licensing basis."

CP&L EVALUATION

As part of the evaluation of each SR, CP&L reviewed the impact of these changes against assumptions in BNP licensing basis. In general, these changes have no impact on the plant licensing basis. However, in some cases, the change may require a change to commitments described in the BNP Updated Final Safety Analysis Report (UFSAR). If changes were required they are identified in the associated Discussion of Changes.

B. Instrumentation (Channel Calibrations (LEs)):

Generic Letter 91-04 identifies seven steps for the evaluation of Instrumentation changes (LEs).

STEP 1

"Confirm that instrument drift as determined by as-found and as-left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval."

CP&L EVALUATION

CP&L evaluated the effect of longer calibration intervals on the TS instrumentation by performing a review of the surveillance test history for all instrumentation including, where necessary, instrument drift. The failure history evaluation and drift study demonstrates, except on rare occasion that, instrument drift has not exceeded the current allowable limits. In performing the drift study an effort was made to retrieve all recorded Channel Calibration data for associated instruments, when available, for the past several operating cycles. By obtaining all recorded calibration data for the past several cycles of operation, a true representation of instrument drift can be determined.

STEP 2

"Confirm that the values of drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data."

CP&L EVALUATION

CP&L has performed a drift evaluation, where necessary, using calibration data obtained from surveillance tests of affected BNP ITS instrument by make, model number, and range.

The CP&L drift evaluation was performed using a computer model for drift determination

developed by General Electric (GE) and based on NEDC-31336, "GE Instrument Setpoint Methodology". This document was submitted to the NRC, and approved.

The Boiling Water Reactor Owners' Group (BWROG) committee for Calibration Interval Extension determined that the drift module of the GE Instrument Setpoint Methodology could be used to determine instrument drift for periods longer than 18 months based on actual instrument performance in plant environments. GE, under the direction of the BWROG Calibration Interval Extension committee, developed the "General Electric Instrument Trending Analysis System" (GEITAS). This quality assured program has been used to determine the drift for other plants including Limerick Generating Station and Peach Bottom Atomic Power Station, which both received approval for the extension of Channel Calibration SRs using this program.

A copy of the verified and validated GEITAS program was obtained from GE and was used to project the thirty month drift number. The as-found and as-left data was taken from instrument calibration surveillance tests and was analyzed. The analysis included a review of the data points to determine any data points which would not provide a true indication of instrument drift, a change in the input/output relationship over time. If adjustments or elimination of data points were made, these changes were placed into one of the following seven (7) categories: (1) "Clerical Data Entry problem" (Review identified typographical data entry error. Data point was adjusted to correct the error.), (2) "Technician data entry problem" (Review identified an obvious transposition error by the Technician entering the data. Data point was eliminated based on the data entry error.), (3) "New Instrument" (Review identified that new instrument was installed. Data point "As-found" data was zeroed because this data would not be reflective of drift. Any repetitive instrument failures would be identified in the Surveillance Test History Review.), (4) "Chronic instrument problem" (Review of the data indicated repetitive bad data points for a single instrument with excessive changes in the input/output relationship, while all other instruments in the same application did not exhibit the same characteristics. This instrument's data was eliminated based on a unique instrument problem. Any repetitive instrument failures would be identified in the Surveillance Test History Review.), (5) "Out of Calibration Test Equipment" (Review indicated that the instrument was calibrated with an out of calibration instrument. Data point was eliminated based on the fact that any recorded change could not be correlated to the performance of the instrument), (6) "Poor Calibration Methodology", (Review of the calibration methodology identified that the method of calibration would result in inconsistent and untrendable calibration results. Data points calibrated using these techniques were eliminated based on the fact that any recorded change could not be correlated to the performance of the instrument.), and (7) "Poor Calibration Techniques", (Review identified that poor calibration techniques were used. Data point was eliminated based on the fact that any recorded change could not be correlated to the performance of the instrument.) All eliminated data points were individually evaluated and independently verified to meet these categories if they were adjusted or eliminated. Poor Calibration Methodology and Poor Calibration Techniques have been corrected through procedure revisions, training and increased supervisory oversight. The analysis produced values at intervals from one to thirty months or greater. The drift value was then compared with the drift uncertainty associated with the specific instrument setpoint analysis.

The results of the GEITAS evaluations showed acceptable 30 month drift values that were within setpoint analysis drift allowances in those cases where there was a sufficient

amount of historical data to satisfy the computer algorithms and the majority of the as-found and as-left values were within acceptable limits.

In some cases, a different methodology was utilized to demonstrate that the drift was acceptable. These cases included instruments that were recently installed or where the GEITAS program could not be applied. For each instrument where the GE program was not utilized to evaluate the drift data, a summary of the methodology is contained in the specific discussion of change ("LE.x").

STEP 3

"Confirm that the magnitude of instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and application that performs a safety function. Provide a list of the channels by TS section that identifies these instrument applications."

CP&L EVALUATION

In accordance with the methodology described in the previous section, the magnitude of instrument drift has been determined with a high degree of probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument make and model number. As required by the GEITAS software, a review was performed to ensure that there were greater than 30 data points in the data set used to perform the statistical analysis. If less than 30 data points were used in the data set, a discussion is provided in the associated discussion of change (LE.x) to provide further support for the change to a 24 month Channel Calibration frequency. The associated instruments for each affected BNP ITS SR are listed in the corresponding discussion of change ("LEs").

STEP 4

"Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed TS changes to update trip setpoints. If the drift errors result in revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded."

CP&L EVALUATION

The calculated drift value was compared to the allowances for the associated instruments as calculated in the associated setpoint analysis. Some of these analysis were completed during the performance of the 24 month drift evaluation, and therefore, data obtained from the drift study was utilized in the setpoint analysis. Changes to the setpoint values are identified as "LF" discussion of changes. If the calculated drift for an instrument fell outside the allowance for drift, the surveillance test interval was changed to a frequency which was supported by the projected drift or was extended to a 24 month Channel Calibration Frequency based on other justifications. If an instrument was not in service long enough to establish a calculated drift number, the surveillance interval was extended to a 24 month interval based on other, more frequent testing or justification

obtained from the instrument manufacturer.

STEP 5

"Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation."

CP&L EVALUATION

As discussed in the previous sections, the calculated drift values were compared to drift allowances in the setpoint analysis developed in support of the Improved Technical Specification submittal. In all cases, it was found that the calculated drift fell within the assumptions of the setpoint analysis or the SR Frequency was not increased, or the SR Frequency was increased based on other justification. Therefore, in no case was it necessary to change the existing safe shutdown analysis to accommodate a larger drift error.

STEP 6

"Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for Channel Checks, Channel Functional Tests, and Channel Calibrations."

CP&L EVALUATION

As part of the implementation of the Improved Technical Specification project, all surveillance test procedures are being reviewed and updated to incorporate the necessary changes to the surveillance test procedures. The changes implemented as a result of the development of new setpoint analysis will also be incorporated into the surveillance procedure prior to the implementation of the Improved Technical Specifications and the 24 month operating cycle surveillance test frequency.

STEP 7

"Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety."

CP&L EVALUATION

Instruments with Technical Specification calibration surveillance frequencies extended to 24 months will be monitored to identify occurrences of instruments found outside of Allowable Value. As-found and as-left calibration data will be recorded for each calibration activity. When as-found conditions are outside allowable value, an evaluation will be performed to determine if the assumptions made to extend the calibration frequency are still valid and to evaluate the effect on plant safety.

As described in the above discussion, CP&L has completed the evaluations necessary to justify a change in surveillance intervals needed to support a 24 Month Fuel Cycle, and CP&L

has determined that these evaluations conform to guidance provided in Generic Letter 91-04. The specific evaluations for each BNP CTS SR being changed is contained in the associated ITS conversion discussion of change identified as "LD.x" and "LE.x". In addition, a No Significant Hazards Evaluation, in accordance with 10 CFR 50.92, has been performed for the changes annotated as "LDs" and "LEs".

ATTACHMENT 5

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

NEW ITS AND MORE RESTRICTIVE CTS SURVEILLANCE REQUIREMENTS

As a part of the overall conversion effort, CP&L is volunteering to adopt numerous new Surveillance Requirements (SRs). The new SRs are grouped into two categories (Category A and Category B SRs). Category A SRs are those SRs which are new in their entirety compared to current Brunswick Plant Technical Specifications. Category B SRs are those current SRs which have been revised with ITS in some manner to be more restrictive than the current Technical Specifications require. This attachment provides a Listing of More Restrictive Surveillance Requirements divided into Category A and Category B types.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.1.4.3	Control Rod Scram Timing at any Reactor Pressure	ITS SR 3.1.4.3 is added which requires scram time testing of the affected control rods with any reactor steam dome pressure be performed prior to declaring the control rods OPERABLE.
3.1.6.1	Banked Position Withdrawal Sequence Verification	Verifies control rods comply with the BPWS.
3.3.1.1.7	APRM to IRM Overlap Test Requirements	A Surveillance is added (ITS SR 3.3.1.1.7) to CTS Table 4.3.1-1 for the IRM Neutron Flux — High Function and the APRM Neutron Flux — High, Startup Function. This Surveillance verifies proper overlap between the APRMs and IRMs when entering MODE 2 from MODE 1 (during a plant shutdown).
3.3.1.1.14	APRM Flow Biased Filter Time Constant Verification	A Surveillance is added (ITS SR 3.3.1.1.14) to CTS Table 4.3.1-1 for the APRM Flow Biased Simulated Thermal Power — High Function (Function 2.b). This surveillance verifies the APRM filter time constant is ≤ 7 seconds once per 24 months.
3.3.1.2.7	SRM CHANNEL CALIBRATION Requirement during Refueling	A requirement to perform a CHANNEL CALIBRATION every 24 months on SRM instrumentation (ITS SR 3.3.2.1.7) is added for SRMs during MODE 5.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.3.2.1.4	RBM Upscale Function Interlock Surveillance Requirement	A Surveillance is added (ITS SR 3.3.2.1.4) to verify each RBM Upscale Function is automatically enabled at the correct power level.
3.3.2.1.5	RWM Function Interlock Surveillance Requirement	A Surveillance is added (ITS SR 3.3.2.1.5) to verify the RWM Function is automatically enabled at the correct power level.
3.3.2.1.6	Reactor Mode Switch - Shutdown Position Surveillance Requirement	ITS SR 3.3.2.1.6 is added to provide appropriate Surveillance Requirements for the Reactor Mode Switch in Shutdown Position Function.
3.3.2.2.1	FW and Main Turbine High Level Instrumentation CHANNEL CHECK	Added CHANNEL CHECK Surveillance.
3.3.2.2.2	FW and Main Turbine High Level Instrumentation CHANNEL CALIBRATION	Added CHANNEL CALIBRATION Surveillance.
3.3.2.2.3	FW and Main Turbine High Level Instrumentation LOGIC SYSTEM FUNCTIONAL TEST	Added LOGIC SYSTEM FUNCTIONAL TEST Surveillance.
3.3.3.1.1	Post Accident Monitoring Instrumentation CHANNEL CHECK	Added CHANNEL CHECK Surveillance for Suppression Chamber Pressure and PCIV Position Functions in PAM Instrumentation Technical Specification.
3.3.3.1.3	Post Accident Monitoring Instrumentation CHANNEL CALIBRATION	Added CHANNEL CALIBRATION Surveillance for Suppression Chamber Pressure and PCIV Position Functions in PAM Instrumentation Technical Specification.
3.3.3.1.1	Drywell and Suppression Chamber Hydrogen and Oxygen Analyzers CHANNEL CHECK	A CHANNEL CHECK requirement is added (ITS SR 3.3.3.1.1) for the drywell and suppression chamber hydrogen and oxygen analyzers.
3.3.5.1.1	ECCS Instrumentation CHANNEL CHECK	Added 24 hour CHANNEL CHECK Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.3.5.1.2	ECCS Instrumentation CHANNEL FUNCTIONAL TEST	Added 92 day CHANNEL FUNCTIONAL TEST Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.3.5.1.3	ECCS Instrumentation Trip Unit Calibration	Added 92 day Trip Unit Calibration Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.3.5.1.4	ECCS Instrumentation CHANNEL CALIBRATION	Added 24 month CHANNEL CALIBRATION Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.3.5.1.5	ECCS Instrumentation LOGIC SYSTEM FUNCTIONAL TEST	Added LOGIC SYSTEM FUNCTIONAL TEST Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.4.1.1	Recirculation Pump Speed Match Criteria Verification	ITS SR 3.4.1.1 is provided to define what constitutes "matched speeds" and to verify that recirculation loop speeds meet the required match criteria once per 24 hours.
3.4.3.2	SRV Manual Actuation	A new Surveillance Requirement (ITS SR 3.4.3.2) is added which requires the SRVs to be manually actuated every 24 months.
3.4.7.1	RHR Shutdown Cooling - Hot Shutdown Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation or one recirculation pump is in operation.
3.4.8.1	RHR Shutdown Cooling - Cold Shutdown Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation or one recirculation pump is in operation.
3.4.9.6	Verification of Vessel Head Tensioning	ITS SR 3.4.9.6 is added to ensure the vessel head is not tensioned at too low a temperature once per 30 minutes.
3.4.9.7	Verification of Vessel Head Temperature	ITS SR 3.4.9.7 is added to ensure the vessel head temperature does not exceed the minimum allowed temperature once per 30 minutes.
3.4.9.8	Verification of Vessel Flange Temperature	ITS SR 3.4.9.8 is added to ensure the vessel flange temperature does not exceed the minimum allowed temperature once per 12 hours.
3.5.1.3	Verification of ADS Pneumatic Supply Pressure	A new Surveillance Requirement (ITS SR 3.5.1.3) which verifies the ADS pneumatic supply header pressure is ≥ 95 psig every 31 days is added.
3.5.2.1	Verification of LPCI pump NPSH during shutdown	ITS SR 3.5.2.1 is added to verify every 12 hours that the suppression pool level is adequate to maintain net positive suction head (NPSH) to the required LPCI subsystem.
3.6.1.3.3	TIP Shear Valve Continuity Test	ITS SR 3.6.1.3.3 verifies circuit continuity of the transversing incore probe (TIP) shear isolation valve explosive charges.

CATEGORY A
NEW SURVEILLANCE REQUIREMENTS

SR NUMBER	TITLE	CHANGE
3.6.1.3.8	TIP Shear Valve Explosive Squib Test	ITS SR 3.6.1.3.8 functionally tests the TIP shear valve explosive squib.
3.6.1.5.2	Verification of Suppression Chamber-to-Drywell Vacuum Breaker Position	ITS SR 3.6.1.5.2 is provided to verify each vacuum breaker is closed every 14 days.
3.7.2.1	Ultimate Heat Sink Level Verification	ITS SR 3.7.2.1 is added to verify UHS level.
3.7.2.2	Ultimate Heat Sink Temperature Verification	ITS SR 3.7.2.2 is added to verify UHS temperature.
3.7.4.1	Control Room AC System OPERABILITY Verification	Surveillance Requirement is added to verify every 24 months that each control room AC subsystem is capable of maintaining the assumed humidity and removing the assumed heat load.
3.7.6.1	Main Turbine Bypass System Surveillance Requirements	Surveillance Requirement is added to verify monthly that each turbine bypass valve will open.
3.7.6.2	Main Turbine Bypass System Functional Test	Surveillance Requirement is added to verify every 24 months that the Main Turbine Bypass System is functionally OPERABLE.
3.7.6.3	TURBINE BYPASS SYSTEM RESPONSE TIME Test	Surveillance Requirement is added to verify every 24 months that the Main Turbine Bypass System can respond in the time assumed in the safety analyses.
3.8.1.5	Check For Water Accumulation in DG Fuel Oil Engine Mounted Tanks	ITS SR 3.8.1.5 is added to check for and remove any water accumulation in each DG fuel oil engine mounted tank once every 31 days.
3.8.1.8.a	Automatic Transfer Test from the Main Generator to the SAT	ITS SR 3.8.1.8.a is added to verify every 24 months that on a main generator trip, the automatic transfer from the UAT (normal mode) to the SAT will occur.
3.8.1.12	DG Test Mode Override Test	A new SR, ITS SR 3.8.1.12, is added for the test mode override feature associated with each DG once per 24 months.
3.8.3.2	Diesel Fuel Oil Particulate Testing	A new requirement to verify total particulates are ≤ 10 mg/l every 31 days has been added to the Diesel Fuel Oil Testing Program (ITS 5.5.9.c).
3.8.3.3	Check For Water Accumulation in DG Day Fuel Oil Storage and the Main Fuel Oil Storage Tanks	ITS SR 3.8.3.3 is added to check for and remove any water accumulation in each DG day fuel oil storage tank and the main fuel oil storage tank once every 31 days.

**CATEGORY A
NEW SURVEILLANCE REQUIREMENTS**

SR NUMBER	TITLE	CHANGE
3.8.4.8	Verification of Opposite Unit Surveillance Performance Associated with DC Sources- Operating	ITS SR 3.8.4.8 is added to ensure that the opposite unit's DC sources are properly tested during MODES 1, 2, and 3; and that the proper SRs are applicable for each unit's DC sources.
3.8.5.2	Verification of Opposite Unit Surveillance Performance Associated with DC Sources- Shutdown	ITS SR 3.8.5.2 is added to ensure that the opposite unit's DC sources are properly tested during MODES 4 and 5, and during movement of irradiated fuel in secondary containment; and that the proper SRs are applicable for each unit's DC sources.
3.9.5.1	Control Rod Notch Insertion Test During Refueling	ITS SR 3.9.5.1 is added to verify weekly that any withdrawn control rods are capable of inserting.
3.9.7.1	RHR- High Water Level Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation during refueling with the reactor level high.
3.9.8.1	RHR- Low Water Level Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation during refueling with the reactor level low.
3.10.2.1	Fully Inserted Control Rod Verification during Mode Switch Testing	Surveillance added to verify every 12 hours, during reactor mode switch interlock testing, all control rods inserted in core cells containing one or more fuel assemblies.
3.10.2.2	Verification of No Core Alterations during Mode Switch Testing	Surveillance added to verify every 24 hours, during reactor mode switch interlock testing, no CORE ALTERATIONS in progress.
3.10.3.1	Performance of Appropriate SRs during Single Control Rod Withdrawal - Hot Shutdown	Added a Surveillance Requirement to perform applicable Surveillance Requirements for LCO 3.9.2, LCO 3.9.4, LCO 3.9.5, LCC 3.3.8.2, and LCO 3.3.1.1.
3.10.3.2	Disarmed Control Rod Verification during Single Control Rod Withdrawal - Hot Shutdown	Added a Surveillance to verify every 24 hours that all control rods in the 5X5 array centered on the withdrawn control rod are disarmed when withdrawing a control rod during hot shutdown.
3.10.3.3	Fully Inserted Control Rod Verification during Single Control Rod Withdrawal - Hot Shutdown	Added a Surveillance to verify every 24 hours that all control rods, except the one withdrawn control rod, are fully inserted when withdrawing a control rod during hot shutdown.
3.10.4.1	Performance of Appropriate SRs during Single Control Rod Withdrawal - Cold Shutdown	Added a Surveillance Requirement to perform applicable Surveillance Requirements for LCO 3.9.4 and LCO 3.9.5, and Function 7 of LCO 3.3.1.1.

CATEGORY A
NEW SURVEILLANCE REQUIREMENTS

SR NUMBER	TITLE	CHANGE
3.10.5.3	Control Rod Block Verification during Single Control Rod Removal - Refueling	Added a Surveillance to verify every 24 hours that a control rod block is inserted when removing a single control rod during refueling.
3.10.5.5	Verification of No Core Alterations during Single Control Rod Removal - Refueling	Surveillance added to verify every 24 hours, when removing a single control rod during refueling, no CORE ALTERATIONS in progress.
3.10.6.3	Spiral Reload Sequence Verification	Surveillance added every 24 hours, when removing multiple control rods during refueling, to verify compliance with an approved spiral reload sequence.
3.10.8.4	Verification of No Core Alterations during SDM Test - Refueling	Surveillance added to verify every 12 hours, when performing a SDM test during refueling, no CORE ALTERATIONS in progress.
3.10.8.6	CRD Charging Header Pressure Verification during SDM Test - Refueling	Surveillance added to verify every 12 hours, when performing a SDM test during refueling, CRD charging header pressure.

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.1.1.1	SDM Verification	An additional Surveillance Frequency for SDM verification (Prior to each in-vessel fuel movement during fuel loading sequence) is also added to CTS 4.1.1.a (ITS SR 3.1.1.1).
3.1.1.1	SDM Verification	CTS 4.1.1.a allows the option of verifying SHUTDOWN MARGIN 12 hours (Unit 1) and 24 hours (Unit 2) prior to the first startup after completing CORE ALTERATIONS instead of during the startup. ITS requires once within 4 hours after criticality following fuel movement within the reactor pressure vessel or control rod replacement.
3.1.4.1	Control Rod Scram Time Testing All Control Rods	ITS SR 3.1.4.1 requires control rod scram time testing for all control rods following each reactor shutdown \geq 120 days instead of $>$ 120 days as allowed by CTS 4.1.3.2.a.
3.1.4.1	Control Rod Scram Time Testing All Control Rods	A Note is added to CTS 4.1.3.2 (ITS SR 3.1.4.1) that requires the CRD pumps be isolated from the associated control rod scram accumulator during a single control rod time scram time surveillance.
3.1.4.2	Control Rod Scram Time Testing Of Representative Sample	A Note is added to CTS 4.1.3.3 (ITS SR 3.1.4.2) that requires the CRD pumps be isolated from the associated control rod scram accumulator during a single control rod time scram time surveillance.
3.1.4.4	Control Rod Scram Time Testing Affected Control Rods	A Note is added to CTS 4.1.3.4 (ITS SR 3.1.4.4) that requires the CRD pumps be isolated from the associated control rod scram accumulator during a single control rod time scram time surveillance.
3.1.4.1, 3.1.4.2, and 3.1.4.4	Control Rod Scram Time Tests	The acceptance criteria associated with the control rod scram times (ITS Table 3.1.4-1) have been made more restrictive.
3.1.5.1	Weekly Control Rod scram Accumulator Test	ITS SR 3.1.5.1 includes the acceptance criteria ($>$ 940 psig) to the weekly control rod scram accumulator test consistent with current Brunswick plant practice.
3.1.7.2	Standby Liquid Control Solution Temperature Verification	The test acceptance criteria has been made more restrictive

CATEGORY B
MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS

SR NUMBER	TITLE	CHANGE
3.1.7.5	Standby Liquid Control Boron Solution Concentration Verification	The Surveillance (ITS SR 3.1.7.5) that determines boron solution concentration anytime water or boron is added to the SLC solution or when the solution temperature drops below the limit is modified to include a 24 hour time period to perform the Surveillance. ITS SR 3.1.7.5 also more clearly defines the Frequency of CTS 4.1.5.b.3 associated with solution temperature outside limits by requiring verification that boron concentration is within limits 24 hours after restoring temperature to within limits.
3.1.7.6	SLC Pump Flow and Pressure Test	The SLC pump flow and pressure are currently tested per the IST Program once per 92 days. Therefore, the Frequency of this Surveillance (in ITS SR 3.1.7.6) is revised to be "in accordance with the Inservice Testing Program" instead of once per 18 months.
3.3.1.1.4	Weekly APRM CHANNEL FUNCTIONAL TEST	CTS Table 4.3.1-1 Notes (m) and (n) that allow the reactor mode switch to be moved to another position without making a MODE change for the purpose of performing Surveillances on the APRM Startup High Function (Function 2.a) and APRM Inoperative Function (Function 2.d) are eliminated in ITS.
3.3.1.1.9	Quarterly APRM CHANNEL FUNCTIONAL TEST	CTS Table 4.3.1-1 Notes (m) and (n) that allow the reactor mode switch to be moved to another position without making a MODE change for the purpose of performing Surveillances on the APRM Startup High Function (Function 2.a) and APRM Inoperative Function (Function 2.d) are eliminated in ITS.
3.3.1.1.16	30% Bypass Verification associated with RPS TSV and TCV Closure Functions	A Surveillance is added (ITS SR 3.3.1.1.16) to verify the automatic enabling of the Turbine Stop Valve — Closure RPS Function and Turbine Control Valve Fast Closure, Control Oil Pressure — Low RPS Function at $\geq 30\%$ RTP.
3.3.1.2.4	SRM Count Rate Verification	CTS 4.3.5.4.b verifies SRM count rate is ≥ 3 cps prior to withdrawal of control rods. A requirement to perform the SRM count rate within 24 hours prior to control rod withdrawal (ITS SR 3.3.1.2.4) is added to ensure the surveillance data is reasonably current.
3.3.1.2.4	SRM Count Rate Verification	The allowance to waive verifying SRM count rate has been modified to only allow the note to be used when no other fuel assemblies are in the associated core quadrant.

CATEGORY B
MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS

SR NUMBER	TITLE	CHANGE
3.3.2.1.2	RWM CHANNEL FUNCTIONAL TEST	CTS 4.1.4.1.1 requires a CHANNEL FUNCTIONAL TEST to be performed on the RWM prior to withdrawal of control rods for the purpose of making the reactor critical. The Note to ITS SR 3.3.2.1.2 requires a CHANNEL FUNCTIONAL TEST to be performed on the RWM after withdrawal of any control rod when RTP is $\leq 10\%$, not just when the withdrawal is for the purpose of making the reactor critical.
3.3.3.1.2	Drywell and Suppression Chamber Hydrogen and Oxygen Analyzer CHANNEL CALIBRATION	The CHANNEL CALIBRATION requirement (SR 3.3.3.1.2) for the drywell and suppression chamber hydrogen and oxygen analyzers is specified as once per 92 days.
3.3.6.1.4	Primary Containment Isolation Instrumentation CHANNEL CALIBRATION	The Frequency of performing the CHANNEL CALIBRATION for Functions 3.c and 6.a of ITS Table 3.3.6.1-1 has been changed from every 18 months to every 92 days.
3.4.6.1	Dose Equivalent I-131 Isotopic Analysis	This change modifies current Item 2 and Item 4.a of CTS Table 4.4.5-1 (ITS SR 3.4.6.1) to change the frequency for isotopic analysis for Dose Equivalent I-131 concentration from at least once per 31 days to at least once per 7 days.
3.5.1.5	Recirculation Pump Discharge and Bypass Valve Functional Test	CTS 4.4.1.1.1 only requires performance of the recirculation pump discharge valve and bypass valve functional tests during a Cold Shutdown which exceeds 48 hours if not performed in the previous 31 days. The ITS frequency of SR 3.5.1.5 requires the valves to be tested prior to each startup (before exceeding 25% RTP) if not tested within the previous 31 days (the frequency stated in ITS SR 3.5.1.5).
3.5.2.2.b	CST Level Verification for Core Spray	A Note is added to CTS 4.5.3.1.a (ITS SR 3.5.2.2.b) that only allows one CS subsystem to be aligned to the CST during operations with the potential for draining the vessel (OPDRVs).
3.5.3.4	RCIC Flow Test	The requirement to verify the RCIC pump flow rate in CTS 4.7.4.c.2 is modified in ITS SR 3.5.3.4 to include the criteria of verifying pump flow against a system head corresponding to reactor operating pressure.

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.6.4.1.1	Secondary Containment Drawdown Test	The CTS 4.6.5.1.b requires that one Standby Gas Treatment (SGT) subsystem be tested every 18 months to verify the capability to maintain $\geq 1/4$ inch of vacuum in secondary containment. ITS SR 3.6.4.1.1 requires both subsystems be tested in the course of two outages - as represented by the STAGGERED TEST BASIS requirement of the Frequency.
3.6.4.3.2	Standby Gas Treatment Subsystem Filter Testing	The Ventilation Filter Testing Program provides more restrictive acceptance criteria for the SGT System heaters.
3.7.2.5	Service Water System Automatic Actuation Test	A requirement to verify the automatic starting of each NSW pump on an actual or simulated initiation signal is added to CTS 4.7.1.2.b (ITS SR 3.7.2.5).
3.7.3.3	Control Room Positive Pressure Test	CREV subsystem flowrate acceptance criteria are added to CTS 4.7.2.d.4 (ITS SR 3.7.3.3) and the radiation/smoke protection mode is specified.
3.7.5.1	Main Condenser Air Ejector Release Rate Verification	CTS 4.1.1.2.7.2.c requires verification that the release rate from noble gases from the main condenser air ejector is within limits within 4 hours following an increase of greater than 50%. The amount of increase is changed from greater than 50% to also include an increase equivalent to 50% in ITS SR 3.7.5.1.
3.8.1.2	Monthly DG Start Test	Note * to CTS 4.8.1.1.2.a.4 allows the option to either precede the start with a prelube period or use other warmup procedures during DG starts. ITS SR 3.8.1.2 Note 1 (CTS 4.8.1.1.2.a.4 Note *) requires that if a slow start is performed, it will be preceded by a prelube period and a warmup period.
3.8.1.2	Monthly DG Start Test	Voltage and frequency requirements are added to DG tests required by CTS 4.8.1.1.2.a.4 (and * Note) and 4.8.1.1.2.d.3.b).
3.8.1.3	Monthly DG Load Run	Two Notes are added to CTS 4.8.1.1.2.a.5 (ITS SR 3.8.1.3). Note 3 precludes this surveillance from being performed on more than one DG at a time. Note 4 requires this SR to be immediately preceded by a successful performance of ITS SR 3.8.1.2 or SR 3.8.1.7 (DG start Surveillances).

CATEGORY B
MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS

SR NUMBER	TITLE	CHANGE
3.8.1.3	Monthly DG Load Run	The DG loading requirement associated with CTS 4.8.1.1.2.a.5 (ITS SR 3.8.1.3) is increased from 1750 kW to a range of ≥ 2800 kW and ≤ 3500 kW. Also, the DG run time for CTS 4.8.1.1.2.a.5 (ITS SR 3.8.1.3) is increased from 15 minutes to 60 minutes.
3.8.1.4	DG Engine-mounted Tank Level Verification	The test acceptance criteria has been made more restrictive.
3.8.1.7	DG Timed Start Test	Voltage and frequency requirements are added to DG tests required by CTS 4.8.1.1.2.a.4 (and * Note) and 4.8.1.1.2.d.3.b).
3.8.1.9	DG Load Reject Test	Limitations on the operating power factor are added to CTS 4.8.1.1.2.d.2, single load rejection test (as Note 2 to SR 3.8.1.9).
3.8.1.11	DG Full Load Run	An upper DG load limit is added to ITS SR 3.8.1.11 (CTS 4.8.1.1.2.d.5).
3.8.1.11	DG Full Load Run	Limitations on the operating power factor are added to CTS 4.8.1.1.2.d.5, the full load run test (SR 3.8.1.11).
3.8.1.13	DG Load Sequence Interval Test	The wording associated with CTS 4.8.1.1.2.d.7 is changed from "load sequence time within 10% of the required value" to "load sequence time within 10% of design interval." in ITS SR 3.8.1.13.
3.8.1.14	LOCA/LOOP Test	Voltage and frequency requirements are added to DG tests required by CTS 4.8.1.1.2.a.4 (and * Note) and 4.8.1.1.2.d.3.b).
3.8.1.14.c	LOCA/LOOP Test	The DG 10 second start time is added to CTS 4.8.1.1.2.d.3.b (ITS SR 3.8.1.14.c).
3.8.3.1	DG Fuel Oil Storage and Day Tank Volume Verification	The test acceptance criteria has been made more restrictive.
3.8.4.1	Weekly Battery Voltage Check	CTS 4.8.2.3.2 requires verification that the total battery terminal voltage is greater than or equal to 129 volts on float charge. ITS SR 3.8.4.1 requires verification that the total battery terminal voltage is ≥ 130 V on float charge.

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.8.4.2	Quarterly Battery Cell Interconnection Determination	CTS 4.8.2.3.2.b.2 requires verification that inter-cell and terminal connection resistance is less than 150×10^{-6} ohms. Discussion of Change LA.2 relocates these limits to the Bases. However, these limits are revised in the Bases such the connection resistance during the verification must be less than 20% above the established benchmark value for inter-cell and terminal connections.
3.8.4.7	Battery Performance Discharge Test	Additional Frequencies are added and state "12 months when battery shows degradation or has reached 85% of the expected life with capacity < 100% of manufacturer's rating" and "24 months when battery has reached 85% of the expected life with capacity \geq 100% of manufacturer's rating."
3.8.6.1	Weekly Battery Pilot Cell Parameter Verification	Additional limitations are imposed on CTS Table 4.8.2.3.2-1 footnote (b) (ITS Table 3.8.6-1, footnote (c)). These new limitations restrict the use of replacing specific gravity checks with charging current checks to 7 days when the battery is on float charge following a battery charge only.
3.8.6.2	Quarterly Battery Cell Parameter Verification	Additional limitations are imposed on CTS Table 4.8.2.3.2-1 footnote (b) (ITS Table 3.8.6-1, footnote (c)). These new limitations restrict the use of replacing specific gravity checks with charging current checks to 7 days when the battery is on float charge following a battery charge only.
3.8.6.2	Quarterly Battery Cell Parameter Verification	The CTS Table 4.8.2.3.2-1 footnote (c) allowance to correct the Category B float voltage limit for temperature is deleted.
3.9.1.1	Refuel Interlock CHANNEL FUNCTIONAL TEST	ITS SR 3.9.1.1 requires the performance of a CHANNEL FUNCTIONAL TEST to demonstrate the OPERABILITY of the refuel position interlocks.
3.9.2.2	Refuel Position One-Rod-Out Interlock CHANNEL FUNCTIONAL TEST	CTS 4.9.1.2 requires the refueling interlocks to be demonstrated OPERABLE but does not provide specific testing requirements. ITS SR 3.9.2.2 requires a weekly CHANNEL FUNCTIONAL TEST.
3.9.5.2	Control Rod Scram Accumulator Pressure Verification During Refueling	CTS 4.1.3.5 requires the control rod scram accumulators be determined OPERABLE once per 7 days. ITS SR 3.9.5.2 includes the acceptance criteria (\geq 940 psig) consistent with current Brunswick plant practice.

ATTACHMENT 6

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

REVISION TO UNIT 2 OPERATING LICENSE

This attachment provides the proposed changes to the Unit 2 Operating License to allow single recirculation loop operation. The proposed change would delete the Unit 2 license condition that currently does not allow single recirculation loop operation for an extended period. The basis for this proposed change is provided in the L.1 Discussion of Change (DOC) for ITS Specification 3.4.1. A copy of the marked-up and typed Unit 2 Operating License are also attached.

described within the program within the two year monitoring period, or Phase III following initiation of Phase II, is required the licensee will either comply with a request to proceed to Phase II (or Phase III) or immediately request and be granted a hearing on the issue of whether the data on which the staff's request is based justifies the initiation of Phase II (or Phase III) under the program for seismic monitoring agreed to by the licensee and the NRC staff. Nothing herein will be construed as precluding changes in the program by the licensee which do not adversely affect the quantity of information derived from the monitoring program. NRC will be informed of any such changes in the quarterly report.

(4) Equalizer Valve Restriction

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operations.

(5) Recirculation Loop Inoperable

Deleted by Amendment No. []

The reactor shall not be made critical unless both recirculation loops are in service. With the reactor operating, if one recirculation loop becomes out of service, the plant shall be placed in a hot shutdown condition within 24 hours. Testing conditions shall be allowed in which one or both recirculation loops are out of service for the purposes of tests (not to exceed 24 hours).

- (6) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10CFR73.55 (51 FR 27817 and 27822) and to the authority of 10CFR50.90 and 10CFR50.54(p). The plans, which contain Safeguards Information protected under 10CFR73.21 are entitled: "Brunswick Steam Electric Plant Industrial Security Plan," with revisions submitted through September 23, 1987; "Brunswick Steam Electric Plant Security Personnel Training and Qualification Plan," with revisions through January 20, 1987; and "Brunswick Steam Electric Plant Safeguards Contingency Plan," with revisions submitted through March 27, 1986. Changes made in accordance with 10CFR73.55 shall be implemented in accordance with the schedule set forth therein.

described within the program within the two year monitoring period, or Phase III following initiation of Phase II, is required the licensee will either comply with a request to proceed to Phase II (or Phase III) or immediately request and be granted a hearing on the issue of whether the data on which the staff's request is based justifies the initiation of Phase II (or Phase III) under the program for seismic monitoring agreed to by the licensee and the NRC staff. Nothing herein will be construed as precluding changes in the program by the licensee which do not adversely affect the quantity of information derived from the monitoring program. NRC will be informed of any such changes in the quarterly report.

(4) Equalizer Valve Restriction

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operations.

(5) Deleted by Amendment No. []

- (6) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10CFR73.55 (51 FR 27817 and 27822) and to the authority of 10CFR50.90 and 10CFR50.54(p). The plans, which contain Safeguards Information protected under 10CFR73.21 are entitled: "Brunswick Steam Electric Plant Industrial Security Plan," with revisions submitted through September 23, 1987; "Brunswick Steam Electric Plant Security Personnel Training and Qualification Plan," with revisions through January 20, 1987; and "Brunswick Steam Electric Plant Safeguards Contingency Plan," with revisions submitted through March 27, 1986. Changes made in accordance with 10CFR73.55 shall be implemented in accordance with the schedule set forth therein.



Carolina Power & Light Company
PO Box 10429
Southport NC 28461-0429

William R. Campbell
Vice President
Brunswick Nuclear Plant

SERIAL: BSEP 96-0414
10 CFR 50.90
TSC 96TSB02

NOV 01 1996

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS
CONVERSION TO IMPROVED STANDARD TECHNICAL SPECIFICATIONS

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company hereby requests a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. These proposed amendments revise the Brunswick Plant Technical Specifications to a format consistent with NUREG-1433, Revision 1, "Standard Technical Specifications for General Electric Plants, BWR 4." The proposed amendment also extends the frequency of selected Surveillance Requirements to 24 months to support conversion of the Brunswick Plant to a 24-month fuel cycle.

The detailed description and justification for the proposed Technical Specification amendment consists of 15 volumes. A detailed description of the contents and organization of the 15 volumes is included as Attachments 1 through 4 of this letter. These attachments include:

Attachment 1, Brunswick Unit 1 and Unit 2 Improved Technical Specification (ITS) Submittal Synopsis, which describes the organization and content of the submittal and the organization and content of each of the 15 volumes. This attachment is designed to facilitate distribution of each section within the NRC and to familiarize reviewers with the content and organization of each section.

Attachment 2, Brunswick Unit 1 and Unit 2 ITS Conversion Document Status, which describes and provides the status of pending changes, including changes to be submitted, to the Brunswick Current Technical Specifications (CTS) that are incorporated into this amendment request. This attachment also provides a list of the proposed generic changes to NUREG-1433, Revisions 1, that are incorporated into the Brunswick ITS amendment request. In addition, Attachment 2 includes anticipated changes to the Brunswick CTS that may be submitted during the course of NRC review. This information is intended to facilitate Brunswick and NRC document control during the Brunswick ITS

review and approval process.

Attachment 3, Significant Deviations From NUREG-1433 and Brunswick CTS. The purpose of this attachment is to identify those changes which are beyond the scope of both NUREG-1433 and the Brunswick CTS and either have or are being submitted separately from this license amendment request.

Attachment 4, Evaluations Used to Justify 24-Month Surveillance Requirement Frequencies. This attachment provides a detailed description of the methodology used to justify the extension of the frequency of selected Surveillance Requirements to 24 months to support conversion of the Brunswick Plant to a 24-month fuel cycle.

As a part of the overall conversion effort, CP&L is adopting numerous new Surveillance Requirements (SRs). The new SRs are grouped into two categories (Category A and Category B SRs). Category A SRs are those SRs which are new in their entirety compared to current Brunswick Plant Technical Specifications. Category B SRs are those current SRs which have been revised with ITS in some manner to be more restrictive than the current Technical Specifications require.

Attachment 5 provides a Listing of More Restrictive and New Surveillance Requirements divided into Category A and Category B types. CP&L will be reviewing each Category A and B SR to determine which will not be current upon ITS implementation, based on the projected Brunswick ITS implementation date. CP&L intends to have as many of these more restrictive surveillances current upon ITS implementation as practical; however, due to difficulties in determining the exact status of the plant and the variables associated with implementation (e.g., whether or not all of the more restrictive changes will be approved as currently written), CP&L proposes that the Category A changes are assumed to be performed and met, in accordance with ITS SR 3.0.1, upon implementation of the ITS. Accordingly, the initial due date for each Category A SR will be determined based on: 1) the ITS implementation date, 2) the ITS frequency of the SR and 3) SR 3.0.2. CP&L also proposes that the more restrictive Category B SRs are assumed to be performed and met, in accordance with ITS SR 3.0.1, upon implementation of the ITS. Accordingly, the due date for each Category B SR will be determined based on: 1) the last completion date of the associated CTS SR, 2) the ITS frequency of the SR and 3) SR 3.0.2.

CP&L has determined that the approach discussed above will maintain compliance with the ITS and also provide the flexibility needed to implement the numerous new and more restrictive SRs which we have included as a part of our conversion to the Improved Standard Technical Specifications.

Attachment 6 provides the proposed changes to the Unit 2 Operating License to allow single recirculation loop operation. Included in this attachment is a mark-up of the Unit 2 license condition and a discussion of the change.

Implementation of the proposed amendments is tentatively scheduled for the fourth quarter of 1997 and is based on: 1) the training schedules for licensed and non-licensed personnel,

2) timing of the implementation with respect to refueling outages, 3) the licensed operator examination schedule, 4) the time required for procedure revisions and development of new programs, 5) implementation of power uprate of both units, and 6) implementation of the Long-Term Thermal Hydraulic Instability resolution at the Brunswick Plant. Brunswick Plant ITS implementation is also predicated on NRC issuance of a Safety Evaluation by July 1997, along with issuance of Safety Evaluations for the pending changes, including those changes to be submitted, which have been incorporated into the ITS (see Attachment 2). CP&L will inform the NRC staff when the ITS implementation actions are complete.

Carolina Power & Light Company has determined that the proposed changes do not involve a significant hazards consideration. The evaluations for making this determination are included with each specification. CP&L has also provided an environmental evaluation for each specification which demonstrates that the proposed amendments meet the eligibility for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed changes is not required.

Carolina Power & Light Company is providing, in accordance with 10 CFR 50.91(b), Mr. Dayne H. Brown of the State of North Carolina with a copy of the proposed license amendments.

Please refer any questions regarding this submittal to Mr. Mark Turkal at (910) 457-3066.

Sincerely,



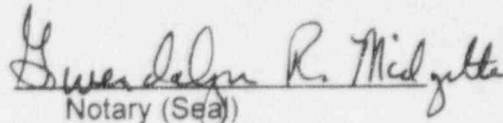
William R. Campbell

KAH/kah

Attachments: 1 Through 6

Enclosure: Improved Technical Specifications Conversion Document - Brunswick Units 1 and 2
(15 Volumes)

William R. Campbell, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief, and the sources of his information are officers, employees, and agents of Carolina Power & Light Company.


Notary (Seal)

My commission expires: *August 12, 2001*

pc: U. S. Nuclear Regulatory Commission
ATTN.: Mr. Stewart D. Ebnetter, Regional Administrator
101 Marietta Street, N.W., Suite 2900
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Mr. C. A. Patterson
NRC Senior Resident Inspector - Brunswick Units 1 and 2:

U.S. Nuclear Regulatory Commission
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11555 Rockville Pike
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The Honorable H. Wells
Chairman - North Carolina Utilities Commission
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Mr. Dayne H. Brown
Director - Division of Radiation Protection
North Carolina Department of Environment, Health, and Natural Resources
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11555 Rockville Pike
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ATTACHMENT 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

IMPROVED TECHNICAL SPECIFICATION (ITS) SUBMITTAL SYNOPSIS

The CP&L Brunswick Plant Improved Technical Specification (ITS) submittal consists 15 volumes. This attachment describes each component of the Brunswick Plant ITS submittal, and their organization within each volume. This attachment is designed to facilitate distribution of each Brunswick ITS section within the NRC and to familiarize reviewers with the content and organization of each section. A description of each volume included in the Brunswick Plant ITS submittal follows.

Volume 1:

Volume 1 contains the Application of the Technical Specification Selection Criteria and a Relocation Matrix. This document lists each of the Brunswick Plant Current Technical Specifications (CTS) and shows the results of CP&L's application of the 10 CFR 50.36 criteria for retention of requirements in Technical Specifications. For each of the Brunswick Plant CTS, this document identifies whether or not the requirement is retained in the Brunswick ITS, and the basis for its retention or exclusion. For those CTS items that did not meet the selection criteria and have not been retained in the proposed ITS, a detailed explanation of the application of the selection criteria and justification for relocation is provided. The Relocation Matrix provides the document location for each relocated CTS requirement.

Volumes 2 through 15:

Volumes 2 through 15 contain the Brunswick Improved Technical Specifications and associated supporting documentation for the proposed amendment request. The volumes are ordered on a Chapter/Section basis, as follows, to facilitate distribution to NRC staff reviewers:

Volume 2: Brunswick ITS Chapter 1.0, Use and Application
Chapter 2.0, Safety Limits
Section 3.0, Limiting Condition for Operation
Applicability and Surveillance Requirement
Applicability

Volume 3: Brunswick ITS Sections 3.1, Reactivity Control Systems
3.2, Power Distribution Limits

Volumes 4, 5, & 6: Brunswick ITS Section 3.3, Instrumentation

Volume 7: Brunswick ITS Section 3.4, Reactor Coolant System

<u>Volume 8:</u>	Brunswick ITS Section 3.5, Emergency Core Cooling Systems and Reactor Core Isolation Cooling System
<u>Volumes 9 & 10:</u>	Brunswick ITS Section 3.6, Containment Systems
<u>Volume 11:</u>	Brunswick ITS Section 3.7, Plant Systems
<u>Volumes 12 & 13:</u>	Brunswick ITS Section 3.8, Electrical Systems
<u>Volume 14:</u>	Brunswick ITS Sections 3.9, Refueling Operations 3.10, Special Operations
<u>Volume 15:</u>	Brunswick ITS Chapter 4.0, Design Features Chapter 5.0, Administrative Controls

Each volume contains the Unit 1 and Unit 2 Brunswick ITS Specifications and Bases, a mark-up of the Brunswick CTS, a discussion of changes to the Brunswick CTS, the No Significant Hazards Evaluations for each of the changes to the CTS, Environmental Assessments for changes to the CTS, and mark-up of NUREG-1433, Revision 1 to indicate the Brunswick ITS and justifications for deviations from the NUREG. Each Chapter/Section in a volume is organized as follows:

Tab: Brunswick Unit 1 Improved Technical Specifications

This tab contains the proposed Brunswick Unit 1 Improved Technical Specifications.

Tab: Brunswick Unit 1 Improved Technical Specification Bases (as applicable)

This tab contains the proposed Brunswick Unit 1 Improved Technical Specification Bases.

Tab: Brunswick Unit 2 Improved Technical Specifications

This tab contains the proposed Brunswick Unit 2 Improved Technical Specifications.

Tab: Brunswick Unit 2 Improved Technical Specifications Bases (as applicable)

This tab contains the proposed Brunswick Unit 2 Improved Technical Specification Bases.

Tab: Markup of Brunswick Unit 1 and Unit 2 Current Technical Specifications and Discussion of Changes Being Made to the Brunswick CTS

This tab contains a copy of the Brunswick Unit 1 and Unit 2 CTS pages annotated to provide a cross-reference to the equivalent Brunswick ITS requirement, showing the disposition of the existing requirements into the Brunswick ITS.

The annotated copy of the Brunswick CTS pages are marked with sequentially numbered "clouds" which provide a cross-reference to a Discussion of Changes (DOCs) between the Brunswick CTS and the Brunswick ITS. The ITS number is noted on the top right corner of each CTS page, identifying the ITS LCO where the CTS requirement is located. Items on the CTS page that are located in one or more ITS locations or sections have the

appropriate location(s) noted adjacent to the items. When the ITS requirement differs from the CTS requirement, the CTS being revised is annotated with an alpha-numeric designator. This designator relates to the appropriate DOC. Each DOC provides a justification for the proposed change. The DOC for each ITS section immediately follows the marked up CTS pages. The alpha-numeric designator also relates the proposed change to the applicable No Significant Hazards Evaluation (NSHE). An Environmental Assessment is also provided for each specification.

The alpha-numeric designator is based on the category of the change and a sequential number within that category. The changes to the Brunswick CTS are categorized as follows:

- A ADMINISTRATIVE - associated with restructuring, interpretation, and complex rearranging of requirements, and other changes not substantially revising an existing requirement. There is a single No Significant Hazards Evaluation (NSHE) for this category.
- M TECHNICAL CHANGES - MORE RESTRICTIVE - changes to the CTS being proposed in converting to the ITS, resulting in added restrictions or eliminating flexibility. There is a single NSHE for this category.
- L TECHNICAL CHANGES - LESS RESTRICTIVE - changes where requirements are relaxed, relocated, eliminated, or new flexibility is provided. There are two groups of changes - "Generic" and "Specific" in this category. Each "Specific" LESS RESTRICTIVE change has a corresponding unique No Significant Hazards Evaluation (NSHE). The "Generic" LESS RESTRICTIVE changes are subdivided into 6 subcategories, each of which is identified uniquely as either LA, LB, LC, LD, LE, or LF changes. Each subcategory of "Generic" LESS RESTRICTIVE change is justified by a single NSHE. The subcategories and their designation are as follows:

The "LA" changes consist of relocation of details out of the CTS and into the Bases, UFSAR, QA Manual, procedures, or other plant controlled documents. Typically, this involves details of system design and function or procedural details on methods of conducting a surveillance.

The "LB" changes are related to the extension of an instrument Completion Time or Surveillance Frequency in accordance with NRC approved vendor topical reports.

The "LC" changes reflect elimination of various instrumentation requirements, where the instrument is an alarm or an indication-only instrument function that does not otherwise meet the NRC Technical Specification selection criteria.

The "LD" changes reflect extension of the refueling outage surveillance interval from 18 months to 24 months for surveillances other than Channel Calibrations.

The "LE" changes reflect extension of the refueling outage surveillance interval from 18 months to 24 months for Channel Calibration surveillances.

The "LF" changes reflect modifying the instrumentation Allowable Values to be consistent with the current calculations performed in accordance with the plant specific setpoint methodology.

- R RELOCATED - specific requirements that do not meet the NRC Technical Specification selection criteria. These items are being relocated to other plant documents as part of the conversion to ITS. There is a single NSHE for this category.

Tab: Markup of NUREG-1433, Revision 1 Technical Specifications and Justifications for Deviations

This tab contains a copy of NUREG-1433, Revision 1, Technical Specifications which have been annotated to indicate deviations between the NUREG (as modified by generic changes identified in Attachment 2 of this letter) and the proposed Brunswick ITS. Justifications for each of the deviations are provided with the individual ITS Chapters/Sections. The annotated copy of NUREG-1433, Revision 1, and the discussion of the deviations are cross-referenced by "clouds" which are numbered sequentially for each Chapter/Section.

Each line item in the annotated copy of NUREG-1433, Revision 1, Technical Specifications contains a cross-reference to the equivalent Brunswick CTS requirement and/or discussion of change, as appropriate. This cross-reference is intended to provide reviewers with a quick reference to the equivalent CTS section.

Tab: Markup of NUREG-1433, Revision 1 Technical Specifications Bases and Justifications for Deviations

This tab contains a copy of NUREG-1433, Revision 1, Technical Specifications Bases which have been annotated to indicate deviations between the NUREG Bases (as modified by generic changes identified in Attachment 2 of this letter) and the proposed Brunswick ITS Bases. Justifications for the deviations are provided with the individual ITS Chapters/Sections. The annotated copy of NUREG-1433, Revision 1, and the discussion of the deviations are cross-referenced by "clouds" which are numbered sequentially for each Chapter/Section.

Tab: No Significant Hazards Evaluations

This tab contains the required 10 CFR 50.92 No Significant Hazards Evaluations (NSHEs) for the proposed changes and demonstrates that the changes associated with the corresponding ITS section do not constitute a significant hazard consideration. As described for the DOC, the NSHEs are categorized as Administrative, Relocated, More Restrictive, Less Restrictive - Generic, and Less Restrictive - Specific, and are identified by an alpha-numeric designator relating the marked-up CTS and the DOC to the applicable NSHE.

This tab also includes an Environmental Assessment for each ITS specification and demonstrates that the proposed amendments meet the eligibility for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed changes is not required.

ATTACHMENT 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

BRUNSWICK ITS CONVERSION DOCUMENT STATUS

This attachment identifies 1) a listing of CTS changes that are pending approval from the NRC which have been included in the Brunswick Plant ITS submittal, including changes which will be submitted, 2) generic NUREG changes which have been included in the Brunswick Plant ITS submittal, 3) approved generic NUREG changes which have not been included in the Brunswick Plant ITS, and 4) the submittals that CP&L intends to make during the course of the NRC review of the Brunswick Plant ITS which have not been included in the Brunswick Plant ITS submittal.

1. Technical Specification Change Requests Pending NRC Approval Which Have Been Included in the Brunswick Plant ITS Submittal

- TSC 87TSB16: Generic Letter 87-09 Implementation
- TSC 91TSB13: Generic Letter 91-09 Implementation
- TSC 94TSB14: Deletion of Requirements for Suppression Chamber Average Temperature Monitoring Instrumentation
- TSC 94TSB16: Power Uprate
- TSC 95TSB32: Unit 1 Fuel Cycle 11 Reload Licensing
- TSC 96TSB03: Thermal Hydraulic Instability Long-Term Resolution - Enhanced Option I-A Stability Technical Specifications

2. Technical Specification Change Requests Which Have Been Included in the Brunswick Plant ITS Submittal And Are Expected To Be Submitted By November 22, 1996

- TSC 95TSB06: Pressure-Temperature Limits Curves
- TSC 95TSB36: Reactivity Anomalies
- TSC 96TSB01: Drywell Air Temperature
- TSC 96TSB07: Suppression Chamber Water Volume
- TSC 96TSB09: Instrumentation Allowable Value Revision

3. Technical Specification Task Force (TSTF) Generic Changes Incorporated In The Brunswick Plant ITS Submittal

- TSTF-05: Deletes Safety Limit violation notification requirements.
- TSTF-17: Extension of testing frequency of containment airlock interlock mechanism from 184 days to 24 months.
- TSTF-32: Slow/Stuck Control Rod separation criteria.
- TSTF-33: Specification 3.1.3, Required Action A.2 Completion Time Note.
- TSTF-34: Delete requirements to disarm the associated CRD when two or more withdrawn control rods are stuck.
- TSTF-35: Recirculation pump start RPV temperature limits verification Note.
- TSTF-36: Addition of LCO 3.0.3 N/A to shutdown electrical power specifications.
- TSTF-38: Revise visual surveillance of batteries to specify that inspection is for performance degradation.

4. TSTF Approved Generic Changes Not Incorporated In The Brunswick ITS Submittal

- TSTF-60: RCS Leakage Detection Instrumentation LCO 3.0.4 N/A Note.
- TSTF-106: Diesel Fuel Oil Testing Program Clarification.

5. Technical Specification Changes Which The Brunswick Plant Currently Plans To Submit To The NRC Staff During The Brunswick ITS Review Period Not Included In The Brunswick Plant ITS Submittal

- 96TSB05: 4.16kV / BOP E-Bus Allowed Outage Time Revision
- 97TSB01: Unit 2 Fuel Cycle 13 Reload Licensing
- 96TSB10: EDG Compliance With Safety Guide 9

ATTACHMENT 3

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS

SIGNIFICANT ITS DEVIATIONS FROM THE BRUNSWICK CTS AND NUREG-1433, REV. 1

This attachment provides a list of the Brunswick Plant ITS changes which represent significant deviations from both NUREG-1433, Revision 1, and the Brunswick Plant current Technical Specifications.

1. Enhanced Option I-A Stability Technical Specifications provided in ITS 3.2.3, 3.3.1.1, 3.3.1.3, and 5.6.5. These changes are also submitted in a separate Technical Specification Change Request (96TSB03).
2. Pressure Temperature Limits Curves are updated in ITS 3.4.9. These changes are also submitted in a separate Technical Specification Change Request (96TSB06)
3. ECCS Allowed Outage Times in ITS 3.5.1 are revised to reflect the current licensing basis SAFER/GESTR analyses described in the UFSAR.
4. CAD System requirements in current Technical Specification 3/4.6.6.2 are relocated based on the current Brunswick Plant specific licensing basis related to Generic Letter 84-09.
5. Service Water System Allowed Outage Times are revised in ITS 3.7.2 to reflect more consistent application of current approved analyses.
6. Ultimate Heat Sink Temperature Limits and Allowed Outage Times in ITS 3.7.2 are provided which are more restrictive than current Technical Specification requirements but which reflect current administrative practice.
7. Control Room Emergency Ventilation System Actions are revised in ITS 3.7.3 to be consistent with existing plant specific analyses.
8. Primary Containment Leakage Rate Testing Program are updated in ITS 5.5.12 to reflect currently approved exemptions to 10 CFR 50, Appendix J.

ATTACHMENT 4

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

JUSTIFICATION OF 24-MONTH SURVEILLANCE REQUIREMENT FREQUENCIES

I. PURPOSE:

To accommodate a planned change to a 24 Month Fuel Cycle for the Brunswick Nuclear Units 1 and 2, Carolina Power & Light (CP&L) is integrating the necessary changes to the BNP Units 1 and 2 Technical Specifications into the documents being used to convert to NUREG 1433, Standard Technical Specification for General Electric BWR 4. To facilitate the review of the 24 Month Fuel Cycle portion of this submittal, the following overview document is being provided to identify the scope of changes and the methodology used to justify the changes.

The proposed Technical Specification changes were evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24 Month Fuel Cycle," dated April 2, 1991.

II. SCOPE:

The 24 Month Fuel Cycle portion of this submittal includes a justification, when the SR Frequency is being changed, for all existing BNP Current Technical Specification (CTS) Surveillance Requirements (SRs) that are being retained in the BNP Improved Technical Specifications (ITS) which have a BNP CTS Frequency of 18 months. In addition, some instrument's which are currently being calibrated on a quarterly basis are also being extended to a 24 month Channel Calibration Frequency using this same methodology.

These changes have been divided into two categories. The categories are: (1) changes involving the Channel Calibration Frequency identified as "Instrumentation Changes" (identified in the ITS Conversion document discussion of changes as "LEs"), and (2) other changes identified as "Non-Instrumentation Changes" (identified in the ITS Conversion document discussion of changes as "LDs").

III. METHODOLOGY:

In Generic Letter 91-04, dated April 2, 1991, the Nuclear Regulatory Commission (NRC) provides generic guidance for evaluating going to a 24 Month Surveillance Test Interval for Technical Specification SRs. Generic Letter 91-04 specifies the steps for the evaluation needed to justify a 24 month surveillance interval. The following defines each step outlined by the NRC and provides a description of the methodology used by CP&L to complete the evaluation for each specific Technical Specification SR line item.

A. Non-Instrumentation (LDs):

Generic Letter 91-04 identifies three steps to evaluate Non-Instrumentation:

STEP 1:

"...licensees should evaluate the effect on safety of the change in surveillance intervals to accommodate a 24 month fuel cycle."

CP&L EVALUATION

CP&L has evaluated each SR being changed. This evaluation provides a specific justification for each BNP CTS non-instrumentation SR which is being retained in BNP ITS. The evaluation is summarized in the discussion of change identified as "LDs". The following information provides a description of the purpose of surveillance testing and a general description of the methodology utilized.

The purpose of surveillance testing is to verify through the performance of the specified SRs that the tested Technical Specification Function/Feature will perform as assumed in the associated safety analysis or in accordance with the associated Function's design. By periodically testing the Technical Specification Function/Feature, the availability of the associated Function/Feature is confirmed. As such, with the extension of BNP's operating cycle and the associated extension of the refueling cycle surveillance test interval (Frequency), a longer period of time will exist between performances of the surveillance test. If a failure resulting in the loss of a Safety Function occurs during the operating cycle and that failure would be detected only by the performance of the periodic Technical Specification SR, then the increase in the surveillance testing interval would result in a decrease in the associated Function's availability and thus have a potential impact on safety.

CP&L evaluated each associated SR to demonstrate that the potential impact, if any, on availability is small as a result of the change to a 24 month Frequency. The evaluations were based on the fact that the Function/Feature is tested on a more frequent basis during the operating cycle (e.g., functionally tested quarterly), is designed to be single failure proof, or is highly reliable.

STEP 2

"Licensees should confirm that historical maintenance and surveillance data do not invalidate this conclusion".

CP&L EVALUATION

CP&L has evaluated the surveillance test history of the affected SRs. This evaluation consisted of a review of the surveillance test results. Only SR test failures were evaluated because failures detected by other plant activities such as Preventative Maintenance Tasks or Surveillance Tests that are more frequent than 18 months were assumed to continue to detect failures. This review of surveillance test history validated the conclusion that the impact, if any, on system availability will be small as a result of the change to a 24 Month Fuel Cycle.

STEP 3

"Licensees should confirm that the performance of surveillance's at the bounding surveillance interval limit provided to accommodate a 24-month fuel cycle would not invalidate any assumption in the plant licensing basis."

CP&L EVALUATION

As part of the evaluation of each SR, CP&L reviewed the impact of these changes against assumptions in BNP licensing basis. In general, these changes have no impact on the plant licensing basis. However, in some cases, the change may require a change to commitments described in the BNP Updated Final Safety Analysis Report (UFSAR). If changes were required they are identified in the associated Discussion of Changes.

B. Instrumentation (Channel Calibrations (LEs)):

Generic Letter 91-04 identifies seven steps for the evaluation of Instrumentation changes (LEs).

STEP 1

"Confirm that instrument drift as determined by as-found and as-left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval."

CP&L EVALUATION

CP&L evaluated the effect of longer calibration intervals on the TS instrumentation by performing a review of the surveillance test history for all instrumentation including, where necessary, instrument drift. The failure history evaluation and drift study demonstrates, except on rare occasion that, instrument drift has not exceeded the current allowable limits. In performing the drift study an effort was made to retrieve all recorded Channel Calibration data for associated instruments, when available, for the past several operating cycles. By obtaining all recorded calibration data for the past several cycles of operation, a true representation of instrument drift can be determined.

STEP 2

"Confirm that the values of drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data."

CP&L EVALUATION

CP&L has performed a drift evaluation, where necessary, using calibration data obtained from surveillance tests of affected BNP ITS instrument by make, model number, and range.

The CP&L drift evaluation was performed using a computer model for drift determination

developed by General Electric (GE) and based on NEDC-31336, "GE Instrument Setpoint Methodology". This document was submitted to the NRC, and approved.

The Boiling Water Reactor Owners' Group (BWROG) committee for Calibration Interval Extension determined that the drift module of the GE Instrument Setpoint Methodology could be used to determine instrument drift for periods longer than 18 months based on actual instrument performance in plant environments. GE, under the direction of the BWROG Calibration Interval Extension committee, developed the "General Electric Instrument Trending Analysis System" (GEITAS). This quality assured program has been used to determine the drift for other plants including Limerick Generating Station and Peach Bottom Atomic Power Station, which both received approval for the extension of Channel Calibration SRs using this program.

A copy of the verified and validated GEITAS program was obtained from GE and was used to project the thirty month drift number. The as-found and as-left data was taken from instrument calibration surveillance tests and was analyzed. The analysis included a review of the data points to determine any data points which would not provide a true indication of instrument drift, a change in the input/output relationship over time. If adjustments or elimination of data points were made, these changes were placed into one of the following seven (7) categories: (1) "Clerical Data Entry problem" (Review identified typographical data entry error. Data point was adjusted to correct the error.), (2) "Technician data entry problem" (Review identified an obvious transposition error by the Technician entering the data. Data point was eliminated based on the data entry error.), (3) "New Instrument" (Review identified that new instrument was installed. Data point "As-found" data was zeroed because this data would not be reflective of drift. Any repetitive instrument failures would be identified in the Surveillance Test History Review.), (4) "Chronic instrument problem" (Review of the data indicated repetitive bad data points for a single instrument with excessive changes in the input/output relationship, while all other instruments in the same application did not exhibit the same characteristics. This instrument's data was eliminated based on a unique instrument problem. Any repetitive instrument failures would be identified in the Surveillance Test History Review.), (5) "Out of Calibration Test Equipment" (Review indicated that the instrument was calibrated with an out of calibration instrument. Data point was eliminated based on the fact that any recorded change could not be correlated to the performance of the instrument), (6) "Poor Calibration Methodology", (Review of the calibration methodology identified that the method of calibration would result in inconsistent and untrendable calibration results. Data points calibrated using these techniques were eliminated based on the fact that any recorded change could not be correlated to the performance of the instrument.), and (7) "Poor Calibration Techniques", (Review identified that poor calibration techniques were used. Data point was eliminated based on the fact that any recorded change could not be correlated to the performance of the instrument.) All eliminated data points were individually evaluated and independently verified to meet these categories if they were adjusted or eliminated. Poor Calibration Methodology and Poor Calibration Techniques have been corrected through procedure revisions, training and increased supervisory oversight. The analysis produced values at intervals from one to thirty months or greater. The drift value was then compared with the drift uncertainty associated with the specific instrument setpoint analysis.

The results of the GEITAS evaluations showed acceptable 30 month drift values that were within setpoint analysis drift allowances in those cases where there was a sufficient

amount of historical data to satisfy the computer algorithms and the majority of the as-found and as-left values were within acceptable limits.

In some cases, a different methodology was utilized to demonstrate that the drift was acceptable. These cases included instruments that were recently installed or where the GEITAS program could not be applied. For each instrument where the GE program was not utilized to evaluate the drift data, a summary of the methodology is contained in the specific discussion of change ("LE.x").

STEP 3

"Confirm that the magnitude of instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and application that performs a safety function. Provide a list of the channels by TS section that identifies these instrument applications."

CP&L EVALUATION

In accordance with the methodology described in the previous section, the magnitude of instrument drift has been determined with a high degree of probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument make and model number. As required by the GEITAS software, a review was performed to ensure that there were greater than 30 data points in the data set used to perform the statistical analysis. If less than 30 data points were used in the data set, a discussion is provided in the associated discussion of change (LE.x) to provide further support for the change to a 24 month Channel Calibration frequency. The associated instruments for each affected BNP ITS SR are listed in the corresponding discussion of change ("LEs").

STEP 4

"Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed TS changes to update trip setpoints. If the drift errors result in revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded."

CP&L EVALUATION

The calculated drift value was compared to the allowances for the associated instruments as calculated in the associated setpoint analysis. Some of these analysis were completed during the performance of the 24 month drift evaluation, and therefore, data obtained from the drift study was utilized in the setpoint analysis. Changes to the setpoint values are identified as "LF" discussion of changes. If the calculated drift for an instrument fell outside the allowance for drift, the surveillance test interval was changed to a frequency which was supported by the projected drift or was extended to a 24 month Channel Calibration Frequency based on other justifications. If an instrument was not in service long enough to establish a calculated drift number, the surveillance interval was extended to a 24 month interval based on other, more frequent testing or justification

obtained from the instrument manufacturer.

STEP 5

"Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation."

CP&L EVALUATION

As discussed in the previous sections, the calculated drift values were compared to drift allowances in the setpoint analysis developed in support of the Improved Technical Specification submittal. In all cases, it was found that the calculated drift fell within the assumptions of the setpoint analysis or the SR Frequency was not increased, or the SR Frequency was increased based on other justification. Therefore, in no case was it necessary to change the existing safe shutdown analysis to accommodate a larger drift error.

STEP 6

"Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for Channel Checks, Channel Functional Tests, and Channel Calibrations."

CP&L EVALUATION

As part of the implementation of the Improved Technical Specification project, all surveillance test procedures are being reviewed and updated to incorporate the necessary changes to the surveillance test procedures. The changes implemented as a result of the development of new setpoint analysis will also be incorporated into the surveillance procedure prior to the implementation of the Improved Technical Specifications and the 24 month operating cycle surveillance test frequency.

STEP 7

"Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety."

CP&L EVALUATION

Instruments with Technical Specification calibration surveillance frequencies extended to 24 months will be monitored to identify occurrences of instruments found outside of Allowable Value. As-found and as-left calibration data will be recorded for each calibration activity. When as-found conditions are outside allowable value, an evaluation will be performed to determine if the assumptions made to extend the calibration frequency are still valid and to evaluate the effect on plant safety.

As described in the above discussion, CP&L has completed the evaluations necessary to justify a change in surveillance intervals needed to support a 24 Month Fuel Cycle, and CP&L

has determined that these evaluations conform to guidance provided in Generic Letter 91-04. The specific evaluations for each BNP CTS SR being changed is contained in the associated ITS conversion discussion of change identified as "LD.x" and "LE.x". In addition, a No Significant Hazards Evaluation, in accordance with 10 CFR 50.92, has been performed for the changes annotated as "LDs" and "LEs".

ATTACHMENT 5

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 NRC DOCKET NOS. 50-325 AND 50-324 OPERATING LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR LICENSE AMENDMENTS

NEW ITS AND MORE RESTRICTIVE CTS SURVEILLANCE REQUIREMENTS

As a part of the overall conversion effort, CP&L is volunteering to adopt numerous new Surveillance Requirements (SRs). The new SRs are grouped into two categories (Category A and Category B SRs). Category A SRs are those SRs which are new in their entirety compared to current Brunswick Plant Technical Specifications. Category B SRs are those current SRs which have been revised with ITS in some manner to be more restrictive than the current Technical Specifications require. This attachment provides a Listing of More Restrictive Surveillance Requirements divided into Category A and Category B types.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.1.4.3	Control Rod Scram Timing at any Reactor Pressure	ITS SR 3.1.4.3 is added which requires scram time testing of the affected control rods with any reactor steam dome pressure be performed prior to declaring the control rods OPERABLE.
3.1.6.1	Banked Position Withdrawal Sequence Verification	Verifies control rods comply with the BPWS.
3.3.1.1.7	APRM to IRM Overlap Test Requirements	A Surveillance is added (ITS SR 3.3.1.1.7) to CTS Table 4.3.1-1 for the IRM Neutron Flux — High Function and the APRM Neutron Flux — High, Startup Function. This Surveillance verifies proper overlap between the APRMs and IRMs when entering MODE 2 from MODE 1 (during a plant shutdown).
3.3.1.1.14	APRM Flow Biased Filter Time Constant Verification	A Surveillance is added (ITS SR 3.3.1.1.14) to CTS Table 4.3.1-1 for the APRM Flow Biased Simulated Thermal Power — High Function (Function 2.b). This surveillance verifies the APRM filter time constant is ≤ 7 seconds once per 24 months.
3.3.1.2.7	SRM CHANNEL CALIBRATION Requirement during Refueling	A requirement to perform a CHANNEL CALIBRATION every 24 months on SRM instrumentation (ITS SR 3.3.2.1.7) is added for SRMs during MODE 5.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.3.2.1.4	RBM Upscale Function Interlock Surveillance Requirement	A Surveillance is added (ITS SR 3.3.2.1.4) to verify each RBM Upscale Function is automatically enabled at the correct power level.
3.3.2.1.5	RWM Function Interlock Surveillance Requirement	A Surveillance is added (ITS SR 3.3.2.1.5) to verify the RWM Function is automatically enabled at the correct power level.
3.3.2.1.6	Reactor Mode Switch - Shutdown Position Surveillance Requirement	ITS SR 3.3.2.1.6 is added to provide appropriate Surveillance Requirements for the Reactor Mode Switch in Shutdown Position Function.
3.3.2.2.1	FW and Main Turbine High Level Instrumentation CHANNEL CHECK	Added CHANNEL CHECK Surveillance.
3.3.2.2.2	FW and Main Turbine High Level Instrumentation CHANNEL CALIBRATION	Added CHANNEL CALIBRATION Surveillance.
3.3.2.2.3	FW and Main Turbine High Level Instrumentation LOGIC SYSTEM FUNCTIONAL TEST	Added LOGIC SYSTEM FUNCTIONAL TEST Surveillance.
3.3.3.1.1	Post Accident Monitoring Instrumentation CHANNEL CHECK	Added CHANNEL CHECK Surveillance for Suppression Chamber Pressure and PCIV Position Functions in PAM Instrumentation Technical Specification.
3.3.3.1.3	Post Accident Monitoring Instrumentation CHANNEL CALIBRATION	Added CHANNEL CALIBRATION Surveillance for Suppression Chamber Pressure and PCIV Position Functions in PAM Instrumentation Technical Specification.
3.3.3.1.1	Drywell and Suppression Chamber Hydrogen and Oxygen Analyzers CHANNEL CHECK	A CHANNEL CHECK requirement is added (ITS SR 3.3.3.1.1) for the drywell and suppression chamber hydrogen and oxygen analyzers.
3.3.5.1.1	ECCS Instrumentation CHANNEL CHECK	Added 24 hour CHANNEL CHECK Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.3.5.1.2	ECCS Instrumentation CHANNEL FUNCTIONAL TEST	Added 92 day CHANNEL FUNCTIONAL TEST Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.3.5.1.3	ECCS Instrumentation Trip Unit Calibration	Added 92 day Trip Unit Calibration Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.3.5.1.4	ECCS Instrumentation CHANNEL CALIBRATION	Added 24 month CHANNEL CALIBRATION Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.3.5.1.5	ECCS Instrumentation LOGIC SYSTEM FUNCTIONAL TEST	Added LOGIC SYSTEM FUNCTIONAL TEST Surveillance for HPCI High Water Level Function in the ECCS Instrumentation Technical Specification.
3.4.1.1	Recirculation Pump Speed Match Criteria Verification	ITS SR 3.4.1.1 is provided to define what constitutes "matched speeds" and to verify that recirculation loop speeds meet the required match criteria once per 24 hours.
3.4.3.2	SRV Manual Actuation	A new Surveillance Requirement (ITS SR 3.4.3.2) is added which requires the SRVs to be manually actuated every 24 months.
3.4.7.1	RHR Shutdown Cooling - Hot Shutdown Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation or one recirculation pump is in operation.
3.4.8.1	RHR Shutdown Cooling - Cold Shutdown Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation or one recirculation pump is in operation.
3.4.9.6	Verification of Vessel Head Tensioning	ITS SR 3.4.9.6 is added to ensure the vessel head is not tensioned at too low a temperature once per 30 minutes.
3.4.9.7	Verification of Vessel Head Temperature	ITS SR 3.4.9.7 is added to ensure the vessel head temperature does not exceed the minimum allowed temperature once per 30 minutes.
3.4.9.8	Verification of Vessel Flange Temperature	ITS SR 3.4.9.8 is added to ensure the vessel flange temperature does not exceed the minimum allowed temperature once per 12 hours.
3.5.1.3	Verification of ADS Pneumatic Supply Pressure	A new Surveillance Requirement (ITS SR 3.5.1.3) which verifies the ADS pneumatic supply header pressure is ≥ 95 psig every 31 days is added.
3.5.2.1	Verification of LPCI pump NPSH during shutdown	ITS SR 3.5.2.1 is added to verify every 12 hours that the suppression pool level is adequate to maintain net positive suction head (NPSH) to the required LPCI subsystem.
3.6.1.3.3	TIP Shear Valve Continuity Test	ITS SR 3.6.1.3.3 verifies circuit continuity of the transversing incore probe (TIP) shear isolation valve explosive charges.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.6.1.3.8	TIP Shear Valve Explosive Squib Test	ITS SR 3.6.1.3.8 functionally tests the TIP shear valve explosive squib.
3.6.1.5.2	Verification of Suppression Chamber-to-Drywell Vacuum Breaker Position	ITS SR 3.6.1.5.2 is provided to verify each vacuum breaker is closed every 14 days.
3.7.2.1	Ultimate Heat Sink Level Verification	ITS SR 3.7.2.1 is added to verify UHS level.
3.7.2.2	Ultimate Heat Sink Temperature Verification	ITS SR 3.7.2.2 is added to verify UHS temperature.
3.7.4.1	Control Room AC System OPERABILITY Verification	Surveillance Requirement is added to verify every 24 months that each control room AC subsystem is capable of maintaining the assumed humidity and removing the assumed heat load.
3.7.6.1	Main Turbine Bypass System Surveillance Requirements	Surveillance Requirement is added to verify monthly that each turbine bypass valve will open.
3.7.6.2	Main Turbine Bypass System Functional Test	Surveillance Requirement is added to verify every 24 months that the Main Turbine Bypass System is functionally OPERABLE.
3.7.6.3	TURBINE BYPASS SYSTEM RESPONSE TIME Test	Surveillance Requirement is added to verify every 24 months that the Main Turbine Bypass System can respond in the time assumed in the safety analyses.
3.8.1.5	Check For Water Accumulation in DG Fuel Oil Engine Mounted Tanks	ITS SR 3.8.1.5 is added to check for and remove any water accumulation in each DG fuel oil engine mounted tank once every 31 days.
3.8.1.8.a	Automatic Transfer Test from the Main Generator to the SAT	ITS SR 3.8.1.8.a is added to verify every 24 months that on a main generator trip, the automatic transfer from the UAT (normal mode) to the SAT will occur.
3.8.1.12	DG Test Mode Override Test	A new SR, ITS SR 3.8.1.12, is added for the test mode override feature associated with each DG once per 24 months.
3.8.3.2	Diesel Fuel Oil Particulate Testing	A new requirement to verify total particulates are ≤ 10 mg/l every 31 days has been added to the Diesel Fuel Oil Testing Program (ITS 5.5.9.c).
3.8.3.3	Check For Water Accumulation in DG Day Fuel Oil Storage and the Main Fuel Oil Storage Tanks	ITS SR 3.8.3.3 is added to check for and remove any water accumulation in each DG day fuel oil storage tank and the main fuel oil storage tank once every 31 days.

CATEGORY A NEW SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.8.4.8	Verification of Opposite Unit Surveillance Performance Associated with DC Sources- Operating	ITS SR 3.8.4.8 is added to ensure that the opposite unit's DC sources are properly tested during MODES 1, 2, and 3; and that the proper SRs are applicable for each unit's DC sources.
3.8.5.2	Verification of Opposite Unit Surveillance Performance Associated with DC Sources- Shutdown	ITS SR 3.8.5.2 is added to ensure that the opposite unit's DC sources are properly tested during MODES 4 and 5, and during movement of irradiated fuel in secondary containment; and that the proper SRs are applicable for each unit's DC sources.
3.9.5.1	Control Rod Notch Insertion Test During Refueling	ITS SR 3.9.5.1 is added to verify weekly that any withdrawn control rods are capable of inserting.
3.9.7.1	RHR- High Water Level Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation during refueling with the reactor level high.
3.9.8.1	RHR- Low Water Level Surveillance Requirement	Added a requirement to verify that one RHR SDC subsystem is in operation during refueling with the reactor level low.
3.10.2.1	Fully Inserted Control Rod Verification during Mode Switch Testing	Surveillance added to verify every 12 hours, during reactor mode switch interlock testing, all control rods inserted in core cells containing one or more fuel assemblies.
3.10.2.2	Verification of No Core Alterations during Mode Switch Testing	Surveillance added to verify every 24 hours, during reactor mode switch interlock testing, no CORE ALTERATIONS in progress.
3.10.3.1	Performance of Appropriate SRs during Single Control Rod Withdrawal - Hot Shutdown	Added a Surveillance Requirement to perform applicable Surveillance Requirements for LCO 3.9.2, LCO 3.9.4, LCO 3.9.5, LCO 3.3.8.2, and LCO 3.3.1.1.
3.10.3.2	Disarmed Control Rod Verification during Single Control Rod Withdrawal - Hot Shutdown	Added a Surveillance to verify every 24 hours that all control rods in the 5X5 array centered on the withdrawn control rod are disarmed when withdrawing a control rod during hot shutdown.
3.10.3.3	Fully Inserted Control Rod Verification during Single Control Rod Withdrawal - Hot Shutdown	Added a Surveillance to verify every 24 hours that all control rods, except the one withdrawn control rod, are fully inserted when withdrawing a control rod during hot shutdown.
3.10.4.1	Performance of Appropriate SRs during Single Control Rod Withdrawal - Cold Shutdown	Added a Surveillance Requirement to perform applicable Surveillance Requirements for LCO 3.9.4 and LCO 3.9.5, and Function 7 of LCO 3.3.1.1.

CATEGORY A
NEW SURVEILLANCE REQUIREMENTS

SR NUMBER	TITLE	CHANGE
3.10.5.3	Control Rod Block Verification during Single Control Rod Removal - Refueling	Added a Surveillance to verify every 24 hours that a control rod block is inserted when removing a single control rod during refueling.
3.10.5.5	Verification of No Core Alterations during Single Control Rod Removal - Refueling	Surveillance added to verify every 24 hours, when removing a single control rod during refueling, no CORE ALTERATIONS in progress.
3.10.6.3	Spiral Reload Sequence Verification	Surveillance added every 24 hours, when removing multiple control rods during refueling, to verify compliance with an approved spiral reload sequence.
3.10.8.4	Verification of No Core Alterations during SDM Test - Refueling	Surveillance added to verify every 12 hours, when performing a SDM test during refueling, no CORE ALTERATIONS in progress.
3.10.8.6	CRD Charging Header Pressure Verification during SDM Test - Refueling	Surveillance added to verify every 12 hours, when performing a SDM test during refueling, CRD charging header pressure.

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.1.1.1	SDM Verification	An additional Surveillance Frequency for SDM verification (Prior to each in-vessel fuel movement during fuel loading sequence) is also added to CTS 4.1.1 a (ITS SR 3.1.1.1).
3.1.1.1	SDM Verification	CTS 4.1.1 a allows the option of verifying SHUTDOWN MARGIN 12 hours (Unit 1) and 24 hours (Unit 2) prior to the first startup after completing CORE ALTERATIONS instead of during the startup. ITS requires once within 4 hours after criticality following fuel movement within the reactor pressure vessel or control rod replacement.
3.1.4.1	Control Rod Scram Time Testing All Control Rods	ITS SR 3.1.4.1 requires control rod scram time testing for all control rods following each reactor shutdown \geq 120 days instead of $>$ 120 days as allowed by CTS 4.1.3.2 a.
3.1.4.1	Control Rod Scram Time Testing All Control Rods	A Note is added to CTS 4.1.3.2 (ITS SR 3.1.4.1) that requires the CRD pumps be isolated from the associated control rod scram accumulator during a single control rod time scram time surveillance.
3.1.4.2	Control Rod Scram Time Testing Of Representative Sample	A Note is added to CTS 4.1.3.3 (ITS SR 3.1.4.2) that requires the CRD pumps be isolated from the associated control rod scram accumulator during a single control rod time scram time surveillance.
3.1.4.4	Control Rod Scram Time Testing Affected Control Rods	A Note is added to CTS 4.1.3.4 (ITS SR 3.1.4.4) that requires the CRD pumps be isolated from the associated control rod scram accumulator during a single control rod time scram time surveillance.
3.1.4.1, 3.1.4.2, and 3.1.4.4	Control Rod Scram Time Tests	The acceptance criteria associated with the control rod scram times (ITS Table 3.1.4-1) have been made more restrictive.
3.1.5.1	Weekly Control Rod scram Accumulator Test	ITS SR 3.1.5.1 includes the acceptance criteria (\geq 940 psig) to the weekly control rod scram accumulator test consistent with current Brunswick plant practice.
3.1.7.2	Standby Liquid Control Solution Temperature Verification	The test acceptance criteria has been made more restrictive

CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS		
SR NUMBER	TITLE	CHANGE
3.1.7.5	Standby Liquid Control Boron Solution Concentration Verification	The Surveillance (ITS SR 3.1.7.5) that determines boron solution concentration anytime water or boron is added to the SLC solution or when the solution temperature drops below the limit is modified to include a 24 hour time period to perform the Surveillance. ITS SR 3.1.7.5 also more clearly defines the Frequency of CTS 4.1.5.b.3 associated with solution temperature outside limits by requiring verification that boron concentration is within limits 24 hours after restoring temperature to within limits.
3.1.7.6	SLC Pump Flow and Pressure Test	The SLC pump flow and pressure are currently tested per the IST Program once per 92 days. Therefore, the Frequency of this Surveillance (in ITS SR 3.1.7.6) is revised to be "in accordance with the Inservice Testing Program" instead of once per 18 months.
3.3.1.1.4	Weekly APRM CHANNEL FUNCTIONAL TEST	CTS Table 4.3.1-1 Notes (m) and (n) that allow the reactor mode switch to be moved to another position without making a MODE change for the purpose of performing Surveillances on the APRM Startup High Function (Function 2.a) and APRM Inoperative Function (Function 2.d) are eliminated in ITS.
3.3.1.1.9	Quarterly APRM CHANNEL FUNCTIONAL TEST	CTS Table 4.3.1-1 Notes (m) and (n) that allow the reactor mode switch to be moved to another position without making a MODE change for the purpose of performing Surveillances on the APRM Startup High Function (Function 2.a) and APRM Inoperative Function (Function 2.d) are eliminated in ITS.
3.3.1.1.16	30% Bypass Verification associated with RPS TSV and TCV Closure Functions	A Surveillance is added (ITS SR 3.3.1.1.16) to verify the automatic enabling of the Turbine Stop Valve — Closure RPS Function and Turbine Control Valve Fast Closure, Control Oil Pressure — Low RPS Function at $\geq 30\%$ RTP.
3.3.1.2.4	SRM Count Rate Verification	CTS 4.3.5.4.b verifies SRM count rate is ≥ 3 cps prior to withdrawal of control rods. A requirement to perform the SRM count rate within 24 hours prior to control rod withdrawal (ITS SR 3.3.1.2.4) is added to ensure the surveillance data is reasonably current.
3.3.1.2.4	SRM Count Rate Verification	The allowance to waive verifying SRM count rate has been modified to only allow the note to be used when no other fuel assemblies are in the associated core quadrant.

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.3.2.1.2	RWM CHANNEL FUNCTIONAL TEST	CTS 4.1.4.1.1 requires a CHANNEL FUNCTIONAL TEST to be performed on the RWM prior to withdrawal of control rods for the purpose of making the reactor critical. The Note to ITS SR 3.3.2.1.2 requires a CHANNEL FUNCTIONAL TEST to be performed on the RWM after withdrawal of any control rod when RTP is $\leq 10\%$, not just when the withdrawal is for the purpose of making the reactor critical.
3.3.3.1.2	Drywell and Suppression Chamber Hydrogen and Oxygen Analyzer CHANNEL CALIBRATION	The CHANNEL CALIBRATION requirement (SR 3.3.3.1.2) for the drywell and suppression chamber hydrogen and oxygen analyzers is specified as once per 92 days.
3.3.6.1.4	Primary Containment Isolation Instrumentation CHANNEL CALIBRATION	The Frequency of performing the CHANNEL CALIBRATION for Functions 3.c and 6.a of ITS Table 3.3.6.1-1 has been changed from every 18 months to every 92 days.
3.4.6.1	Dose Equivalent I-131 Isotopic Analysis	This change modifies current Item 2 and Item 4.a of CTS Table 4.4.5-1 (ITS SR 3.4.6.1) to change the frequency for isotopic analysis for Dose Equivalent I-131 concentration from at least once per 31 days to at least once per 7 days.
3.5.1.5	Recirculation Pump Discharge and Bypass Valve Functional Test	CTS 4.4.1.1.1 only requires performance of the recirculation pump discharge valve and bypass valve functional tests during a Cold Shutdown which exceeds 48 hours if not performed in the previous 31 days. The ITS frequency of SR 3.5.1.5 requires the valves to be tested prior to each startup (before exceeding 25% RTP) if not tested within the previous 31 days (the frequency stated in ITS SR 3.5.1.5).
3.5.2.2.b	CST Level Verification for Core Spray	A Note is added to CTS 4.5.3.1.a (ITS SR 3.5.2.2.b) that only allows one CS subsystem to be aligned to the CST during operations with the potential for draining the vessel (OPDRVs).
3.5.3.4	RCIC Flow Test	The requirement to verify the RCIC pump flow rate in CTS 4.7.4.c.2 is modified in ITS SR 3.5.3.4 to include the criteria of verifying pump flow against a system head corresponding to reactor operating pressure.

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.6.4.1.1	Secondary Containment Drawdown Test	The CTS 4.6.5.1.b requires that one Standby Gas Treatment (SGT) subsystem be tested every 18 months to verify the capability to maintain $\geq 1/4$ inch of vacuum in secondary containment. ITS SR 3.6.4.1.1 requires both subsystems be tested in the course of two outages - as represented by the STAGGERED TEST BASIS requirement of the Frequency.
3.6.4.3.2	Standby Gas Treatment Subsystem Filter Testing	The Ventilation Filter Testing Program provides more restrictive acceptance criteria for the SGT System heaters.
3.7.2.5	Service Water System Automatic Actuation Test	A requirement to verify the automatic starting of each NSW pump on an actual or simulated initiation signal is added to CTS 4.7.1.2.b (ITS SR 3.7.2.5).
3.7.3.3	Control Room Positive Pressure Test	CREV subsystem flowrate acceptance criteria are added to CTS 4.7.2.d.4 (ITS SR 3.7.3.3) and the radiation/smoke protection mode is specified.
3.7.5.1	Main Condenser Air Ejector Release Rate Verification	CTS 4.11.2.7.2.c requires verification that the release rate from noble gases from the main condenser air ejector is within limits within 4 hours following an increase of greater than 50%. The amount of increase is changed from greater than 50% to also include an increase equivalent to 50% in ITS SR 3.7.5.1.
3.8.1.2	Monthly DG Start Test	Note * to CTS 4.8.1.1.2.a.4 allows the option to either precede the start with a prelube period or use other warmup procedures during DG starts. ITS SR 3.8.1.2 Note 1 (CTS 4.8.1.1.2.a.4 Note *) requires that if a slow start is performed, it will be preceded by a prelube period and a warmup period.
3.8.1.2	Monthly DG Start Test	Voltage and frequency requirements are added to DG tests required by CTS 4.8.1.1.2.a.4 (and * Note) and 4.8.1.1.2.d.3.b).
3.8.1.3	Monthly DG Load Run	Two Notes are added to CTS 4.8.1.1.2.a.5 (ITS SR 3.8.1.3). Note 3 precludes this surveillance from being performed on more than one DG at a time. Note 4 requires this SR to be immediately preceded by a successful performance of ITS SR 3.8.1.2 or SR 3.8.1.7 (DG start Surveillances).

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.8.1.3	Monthly DG Load Run	The DG loading requirement associated with CTS 4.8.1.1.2 a.5 (ITS SR 3.8.1.3) is increased from 1750 kW to a range of ≥ 2800 kW and ≤ 3500 kW. Also, the DG run time for CTS 4.8.1.1.2 a.5 (ITS SR 3.8.1.3) is increased from 15 minutes to 60 minutes.
3.8.1.4	DG Engine-mounted Tank Level Verification	The test acceptance criteria has been made more restrictive.
3.8.1.7	DG Timed Start Test	Voltage and frequency requirements are added to DG tests required by CTS 4.8.1.1.2 a.4 (and * Note) and 4.8.1.1.2 d.3 b).
3.8.1.9	DG Load Reject Test	Limitations on the operating power factor are added to CTS 4.8.1.1.2 d.2, single load rejection test (as Note 2 to SR 3.8.1.9).
3.8.1.11	DG Full Load Run	An upper DG load limit is added to ITS SR 3.8.1.11 (CTS 4.8.1.1.2 d.5).
3.8.1.11	DG Full Load Run	Limitations on the operating power factor are added to CTS 4.8.1.1.2 d.5, the full load run test (SI: 3.8.1.11).
3.8.1.13	DG Load Sequence Interval Test	The wording associated with CTS 4.8.1.1.2 d.7 is changed from "load sequence time within 10% of the required value" to "load sequence time within 10% of design interval." in ITS SR 3.8.1.13.
3.8.1.14	LOCA/LOOP Test	Voltage and frequency requirements are added to DG tests required by CTS 4.8.1.1.2 a.4 (and * Note) and 4.8.1.1.2 d.3 b).
3.8.1.14.c	LOCA/LOOP Test	The DG 10 second start time is added to CTS 4.8.1.1.2 d.3 b (ITS SR 3.8.1.14.c).
3.8.3.1	DG Fuel Oil Storage and Day Tank Volume Verification	The test acceptance criteria has been made more restrictive.
3.8.4.1	Weekly Battery Voltage Check	CTS 4.8.2.3.2 requires verification that the total battery terminal voltage is greater than or equal to 129 volts on float charge. ITS SR 3.8.4.1 requires verification that the total battery terminal voltage is ≥ 130 V on float charge.

<p style="text-align: center;">CATEGORY B MORE RESTRICTIVE CHANGES TO CTS SURVEILLANCE REQUIREMENTS</p>		
SR NUMBER	TITLE	CHANGE
3.8.4.2	Quarterly Battery Cell Interconnection Determination	CTS 4.8.2.3.2.b.2 requires verification that inter-cell and terminal connection resistance is less than 150×10^{-6} ohms. Discussion of Change LA.2 relocates these limits to the Bases. However, these limits are revised in the Bases such the connection resistance during the verification must be less than 20% above the established benchmark value for inter-cell and terminal connections.
3.8.4.7	Battery Performance Discharge Test	Additional Frequencies are added and state "12 months when battery shows degradation or has reached 85% of the expected life with capacity < 100% of manufacturer's rating" and "24 months when battery has reached 85% of the expected life with capacity \geq 100% of manufacturer's rating."
3.8.6.1	Weekly Battery Pilot Cell Parameter Verification	Additional limitations are imposed on CTS Table 4.8.2.3.2-1 footnote (b) (ITS Table 3.8.6-1, footnote (c)). These new limitations restrict the use of replacing specific gravity checks with charging current checks to 7 days when the battery is on float charge following a battery charge only.
3.8.6.2	Quarterly Battery Cell Parameter Verification	Additional limitations are imposed on CTS Table 4.8.2.3.2-1 footnote (b) (ITS Table 3.8.6-1, footnote (c)). These new limitations restrict the use of replacing specific gravity checks with charging current checks to 7 days when the battery is on float charge following a battery charge only.
3.8.6.2	Quarterly Battery Cell Parameter Verification	The CTS Table 4.8.2.3.2-1 footnote (c) allowance to correct the Category B float voltage limit for temperature is deleted.
3.9.1.1	Refuel Interlock CHANNEL FUNCTIONAL TEST	ITS SR 3.9.1.1 requires the performance of a CHANNEL FUNCTIONAL TEST to demonstrate the OPERABILITY of the refuel position interlocks.
3.9.2.2	Refuel Position One-Rod-Out Interlock CHANNEL FUNCTIONAL TEST	CTS 4.9.1.2 requires the refueling interlocks to be demonstrated OPERABLE but does not provide specific testing requirements. ITS SR 3.9.2.2 requires a weekly CHANNEL FUNCTIONAL TEST.
3.9.5.2	Control Rod Scram Accumulator Pressure Verification During Refueling	CTS 4.1.3.5 requires the control rod scram accumulators be determined OPERABLE once per 7 days. ITS SR 3.9.5.2 includes the acceptance criteria (\geq 940 psig) consistent with current Brunswick plant practice.

ATTACHMENT 6

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
REQUEST FOR LICENSE AMENDMENTS

REVISION TO UNIT 2 OPERATING LICENSE

This attachment provides the proposed changes to the Unit 2 Operating License to allow single recirculation loop operation. The proposed change would delete the Unit 2 license condition that currently does not allow single recirculation loop operation for an extended period. The basis for this proposed change is provided in the L.1 Discussion of Change (DOC) for ITS Specification 3.4.1. A copy of the marked-up and typed Unit 2 Operating License are also attached.

described within the program within the two year monitoring period, or Phase III following initiation of Phase II, is required the licensee will either comply with a request to proceed to Phase II (or Phase III) or immediately request and be granted a hearing on the issue of whether the data on which the staff's request is based justifies the initiation of Phase II (or Phase III) under the program for seismic monitoring agreed to by the licensee and the NRC staff. Nothing herein will be construed as precluding changes in the program by the licensee which do not adversely affect the quantity of information derived from the monitoring program. NRC will be informed of any such changes in the quarterly report.

(4) Equalizer Valve Restriction

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operations.

(5) Recirculation Loop Inoperable

Deleted by Amendment No. []

The reactor shall not be made critical unless both recirculation loops are in service. With the reactor operating, if one recirculation loop becomes out of service, the plant shall be placed in a hot shutdown condition within 24 hours. Testing conditions shall be allowed in which one or both recirculation loops are out of service for the purposes of tests (not to exceed 24 hours).

- (6) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10CFR73.55 (51 FR 27817 and 27822) and to the authority of 10CFR50.90 and 10CFR50.54(p). The plans, which contain Safeguards Information protected under 10CFR73.21 are entitled: "Brunswick Steam Electric Plant Industrial Security Plan," with revisions submitted through September 23, 1987; "Brunswick Steam Electric Plant Security Personnel Training and Qualification Plan," with revisions through January 20, 1987; and "Brunswick Steam Electric Plant Safeguards Contingency Plan," with revisions submitted through March 27, 1986. Changes made in accordance with 10CFR73.55 shall be implemented in accordance with the schedule set forth therein.

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