



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
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March 3, 2008

Carolina Power and Light Company  
ATTN: Mr. Benjamin Waldrep  
Vice President  
Brunswick Steam Electric Plant  
P. O. Box 10429  
Southport, NC 28461

**SUBJECT: ANNUAL ASSESSMENT LETTER – BRUNSWICK STEAM ELECTRIC PLANT  
(NRC INSPECTION REPORT 05000325/2008001 AND 05000324/2008001)**

Dear Mr. Waldrep:

On February 6, 2008, the NRC staff completed its performance review of Brunswick Steam Electric Plant. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results for the period from January 1 through December 31, 2007. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at Brunswick. This performance review and enclosed inspection plan do not include security information. A separate letter designated and marked as "Official Use Only – Security-Related Information" will include the security cornerstone review and resultant inspection plan.

Overall, Brunswick Units 1 and 2 operated in a manner that preserved public health and safety and met all cornerstone objectives with moderate degradation in safety performance. Unit 1 plant performance for the most recent quarter was within the Regulatory Response Column of the NRC's Action matrix based on a White inspection finding in the Mitigating Systems Cornerstone. Unit 2 plant performance for the most recent quarter was within the Licensee Response Column of the NRC's Action matrix.

While plant performance for Unit 1 for the most recent quarter is within the Regulatory Response Column, Unit 1 was within the Degraded Cornerstone Column of the NRC's Action matrix for the first, second, and third quarters of the assessment cycle. A White inspection finding for a circumstance where the Emergency Diesel Generator #1 was out of service for a period of time in excess of that allowed by Technical Specifications was identified in the first quarter 2007. In addition, the performance indicator related to the Mitigating Systems Performance Indicator (MSPI) Emergency AC Power System, crossed the Green to White threshold in the second quarter of 2006 and remained White. Subsequently, the MSPI for Cooling Water Systems crossed the threshold from Green to White in the third quarter of 2007 due to issues associated with the service water and residual heat removal service water systems. Some of these issues included the identification of foreign material within these safety-related systems which were the subject of an NRC Special Inspection Team inspection, the results of which are documented in NRC inspection report 05000325, 324/20070011. A

Supplemental Inspection was completed on February 1, 2008, for the White MSPI - Cooling Water Systems, the results of which are documented in NRC inspection report 05000325/2008007. During the third quarter of calendar year (CY) 2007, Brunswick installed two Severe Accident Management Guideline (SAMG) diesel generators that reduced the site's core damage frequency by approximately 60 percent. These portable 176kw, 60hz SAMG diesel generators were installed to mitigate a loss of 125VDC during a Station Blackout (SBO). The SAMG diesel generators are classified as non-safety related and are not credited during a SBO, but will restore power to battery chargers and prevent depleting the units' batteries. As a result of this modification, the two White performance indicators transitioned to Green in the 4<sup>th</sup> quarter, 2007, thereby placing Unit 1 into the Regulatory Response Column for the 4<sup>th</sup> quarter.

Unit 2 was within the Regulatory Response column of the NRC's Action matrix for the first three quarters of the assessment cycle. The MSPI, Emergency AC Power System PI crossed the threshold from Green to White in the second quarter of 2006 and remained White. As a result of your modification that installed the two SAMG diesel generators (discussed above), the White performance indicator transitioned to Green in the 4<sup>th</sup> quarter 2007, thereby placing Unit 2 into the Licensee Response Column for the 4<sup>th</sup> quarter.

The enclosed inspection plan details the inspections, less those related to security, scheduled through June 30, 2009. In addition, we will be conducting NRC Temporary Instruction 171(B.5.b) and initial reactor operator licensing examinations. The inspection plan is provided to allow for the resolution of any scheduling conflicts and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last nine months of the inspection plan are tentative and may be revised at the mid-cycle review.

The NRC notes that Brunswick's current assessment in the Regulatory Response Column (RRC) and Licensee Response Column (LRC) for Units 1 and 2 respectively, reflects heavily the reduction in risk that was achieved by installation of the SAMG EDGs. The installation of risk-informed modifications such as this reflects a strong safety focus on the part of Progress Energy at Brunswick. However, the NRC also notes that absent the installation of the SAMG EDGs, Brunswick 1 and 2 would have been assessed at a level of performance warranting substantially increased NRC oversight and licensee actions. As a result, we believe that additional licensee management attention to address the underlying performance issues is still warranted. The staff had concluded that it was appropriate to conduct an additional Problem Identification and Resolution (PI&R) inspection during the current biennial period. The onsite portion was completed on February 29, 2008. This additional inspection was performed based on weaknesses in the Corrective Action Program identified during the 95002 supplemental inspection completed in August 2007. Based on the results of this additional PI&R inspection, we will determine the need for any further inspection in this area.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If circumstances arise which cause us to change this inspection plan, we will contact you to discuss the change as soon as possible. Please contact Randall Musser at 404-562-4603 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

*/RA/*

Victor M. McCree  
Acting Regional Administrator

Docket Nos.: 50-325 and 50-324  
License Nos.: DPR-71 and DPR- 62

Enclosure: Brunswick Inspection/Activity Plan

cc w/encl:  
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**Brunswick**  
**Inspection / Activity Plan**  
**03/03/2008 - 06/30/2009**

| Unit Number | Inspection Activity                                       | Title   | No. of Staff on Site | Planned Dates Start | Planned Dates End | Inspection Type          |
|-------------|---|---|----------------------|---------------------|-------------------|--------------------------|
|             | <b>PSB1-RP - RAD PROTECTION - ACCESS CONTROLS</b>         |   | <b>1</b>             |                     |                   |                          |
| 1,2         | IP 7112101  | Access Control to Radiologically Significant Areas  |                      | 03/17/2008          | 03/21/2008        | Baseline Inspections     |
| 1,2         | IP 71151-OR01   | Occupational Exposure Control Effectiveness   |                      | 03/17/2008          | 03/21/2008        | Baseline Inspections     |
|             | <b>EB3-ISI - UNIT 1 - ISI</b>                             |   | <b>2</b>             |                     |                   |                          |
| 1           | IP 7111108G   | Inservice Inspection Activities - BWR   |                      | 03/24/2008          | 03/28/2008        | Baseline Inspections     |
|             | <b>OL EXAM - INITIAL EXAM - JPM &amp; WRITTEN RETAKE</b>  |   | <b>1</b>             |                     |                   |                          |
| 1           | V23302  | BRUNSWICK/APRIL 2008 RETAKE EXAM AT POWER FACILITIES  |                      | 04/14/2008          | 04/18/2008        | Not Applicable           |
|             | <b>TI-171 - B.5.B PHASE 2&amp;3</b>                       |   | <b>3</b>             |                     |                   |                          |
| 1,2         | IP 2515/171   | Verification of Site Specific Implementation Of B.5.b Phase 2 & 3 Mitigating Strategies       |                      | 05/12/2008          | 05/16/2008        | Generic Safety Inspectio |
|             | <b>PSB1-RP - RADIATION PROTECTION PUBLIC CORNERSTONE</b>  |   | <b>4</b>             |                     |                   |                          |
| 1,2         | IP 7112103  | Radiation Monitoring Instrumentation and Protective Equipment                                 |                      | 06/16/2008          | 06/20/2008        | Baseline Inspections     |
| 1,2         | IP 7112201  | Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems                      |                      | 06/16/2008          | 06/20/2008        | Baseline Inspections     |
| 1,2         | IP 7112203  | Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program |                      | 06/16/2008          | 06/20/2008        | Baseline Inspections     |
| 1,2         | IP 71151-PR01   | RETS/ODCM Radiological Effluent   |                      | 06/16/2008          | 06/20/2008        | Baseline Inspections     |
| 1,2         | IP 71152-Reviews  | In-depth Reviews  |                      | 06/16/2008          | 06/20/2008        | Baseline Inspections     |
|             | <b>EB1-MODS - MODIFICATIONS-10CFR50.59</b>                |   | <b>5</b>             |                     |                   |                          |
| 1,2         | IP 7111117B   | Evaluations of Changes, Tests, or Experiments & Permanent Plant Modifications                 |                      | 07/14/2008          | 07/18/2008        | Baseline Inspections     |
| 1,2         | IP 7111117B   | Evaluations of Changes, Tests, or Experiments & Permanent Plant Modifications                 |                      | 07/28/2008          | 08/01/2008        | Baseline Inspections     |
|             | <b>OL EXAM - INITIAL EXAM PREP</b>                        |   | <b>3</b>             |                     |                   |                          |
| 1           | V23291  | BRUNSWICK/DECEMBER 2008 EXAM AT POWER FACILITIES  |                      | 09/29/2008          | 10/03/2008        | Not Applicable           |
|             | <b>EB2-TFP - TRIENNIAL FIRE PROTECTION</b>                |   | <b>7</b>             |                     |                   |                          |
| 1,2         | IP 7111105P   | Fire Protection-NFPA 805 Transition Period [Triennial]  |                      | 11/03/2008          | 11/07/2008        | Baseline Inspections     |
| 1,2         | IP 7111105P   | Fire Protection-NFPA 805 Transition Period [Triennial]  |                      | 11/17/2008          | 11/21/2008        | Baseline Inspections     |
|             | <b>OL EXAM - INITIAL EXAM</b>                             |   | <b>3</b>             |                     |                   |                          |
| 1           | V23291  | BRUNSWICK/DECEMBER 2008 EXAM AT POWER FACILITIES  |                      | 10/27/2008          | 11/07/2008        | Not Applicable           |
|             | <b>OL RQ - REQUAL INSPECTION</b>                          |   | <b>3</b>             |                     |                   |                          |
| 1,2         | IP 7111111B   | Licensed Operator Requalification Program   |                      | 11/17/2008          | 11/21/2008        | Baseline Inspections     |
|             | <b>PSB1-EP - EP EXERCISE</b>                              |   | <b>3</b>             |                     |                   |                          |
| 1,2         | IP 7111401  | Exercise Evaluation   |                      | 11/17/2008          | 11/21/2008        | EP Baseline Inspection   |
| 1,2         | IP 7111404  | Emergency Action Level and Emergency Plan Changes   |                      | 11/17/2008          | 11/21/2008        | EP Baseline Inspection   |
| 1,2         | IP 71151-EP01   | Drill/Exercise Performance  |                      | 11/17/2008          | 11/21/2008        | Baseline Inspections     |
| 1,2         | IP 71151-EP02   | ERO Drill Participation   |                      | 11/17/2008          | 11/21/2008        | Baseline Inspections     |
| 1,2         | IP 71151-EP03   | Alert & Notification System   |                      | 11/17/2008          | 11/21/2008        | Baseline Inspections     |
|             | <b>PSB1-RP - RADIATION PROTECTION PREINSPECTION VISIT</b> |   | <b>1</b>             |                     |                   |                          |
| 1,2         | IP 7112101  | Access Control to Radiologically Significant Areas  |                      | 02/02/2009          | 02/04/2009        | Baseline Inspections     |

This report does not include INPO and OUTAGE activities.  
This report shows only on-site and announced inspection procedures.

**Brunswick**  
**Inspection / Activity Plan**  
**03/03/2008 - 06/30/2009**

| Unit Number | Inspection Activity                                       | Title  | No. of Staff on Site | Planned Dates Start | Planned Dates End | Inspection Type      |
|-------------|---|--|----------------------|---------------------|-------------------|----------------------|
|             | <b>EB3ISI - U2 ISI</b>                                    |  | <b>1</b>             |                     |                   |                      |
| 2           | IP 7111108G   | Inservice Inspection Activities - BWR              |                      | 03/09/2009          | 03/13/2009        | Baseline Inspections |
|             | <b>PSB1-RP - RAD PROTECTION OCCUPATIONAL WK1</b>          |  | <b>2</b>             |                     |                   |                      |
| 1,2         | IP 7112101  | Access Control to Radiologically Significant Areas |                      | 03/09/2009          | 03/13/2009        | Baseline Inspections |
| 1,2         | IP 7112102  | ALARA Planning and Controls                        |                      | 03/09/2009          | 03/13/2009        | Baseline Inspections |
| 1,2         | IP 7112202  | Radioactive Material Processing and Transportation |                      | 03/09/2009          | 03/13/2009        | Baseline Inspections |
| 1,2         | IP 71151-OR01   | Occupational Exposure Control Effectiveness        |                      | 03/09/2009          | 03/13/2009        | Baseline Inspections |
| 1,2         | IP 71151-PR01   | RETS/ODCM Radiological Effluent                    |                      | 03/09/2009          | 03/13/2009        | Baseline Inspections |
|             | <b>PSB1-RP - RADIATION PROTECTION OCCUPATIONAL WK2</b>    |  | <b>2</b>             |                     |                   |                      |
| 1,2         | IP 7112101  | Access Control to Radiologically Significant Areas |                      | 03/23/2009          | 03/27/2009        | Baseline Inspections |
| 1,2         | IP 7112102  | ALARA Planning and Controls                        |                      | 03/23/2009          | 03/27/2009        | Baseline Inspections |
| 1,2         | IP 7112202  | Radioactive Material Processing and Transportation |                      | 03/23/2009          | 03/27/2009        | Baseline Inspections |
|             | <b>PI&amp;R - PROBLEM IDENTIFICATION &amp; RESOLUTION</b> |  | <b>5</b>             |                     |                   |                      |
| 1,2         | IP 71152B   | Identification and Resolution of Problems          |                      | 04/20/2009          | 04/24/2009        | Baseline Inspections |
| 1,2         | IP 71152B   | Identification and Resolution of Problems          |                      | 05/04/2009          | 05/08/2009        | Baseline Inspections |
|             | <b>EB3-HS - HEAT SINK</b>                                 |  | <b>2</b>             |                     |                   |                      |
| 1,2         | IP 7111107B   | Heat Sink Performance                              |                      | 05/18/2009          | 05/22/2009        | Baseline Inspections |