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April 29, 2008

U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Document Control Desk

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station, Units 1, 2, and 3
Docket Numbers 50-269, 50-270, and 50-287
License Amendment Request for Reactor Protective System/Engineered Safeguards Protective System Digital Upgrade, Technical Specification Change (TSC) Number 2007-09, Supplement 2

On January 31, 2008, Duke Energy Carolinas, LLC (Duke) submitted a License Amendment Request (LAR) to address replacement of the existing Oconee Nuclear Station (ONS) analog based Reactor Protective System (RPS) and Engineered Safeguards Protective System (ESPS) with a digital computer based RPS/ESPS. During a post submittal meeting for the LAR on March 18, 2008, NRC requested Duke to provide additional information associated with five issues. Enclosures 2 and 3 provide the requested information for two of the issues in accordance with the schedule for providing this information submitted by letter dated April 3, 2008.

Since information contained in Enclosure 3 is classified by AREVA NP as proprietary, an affidavit from AREVA NP in accordance with the provisions of 10 CFR 2.390 is provided in Enclosure 1.

A001

NRR

If there are any questions regarding this submittal, please contact Boyd Shingleton at (864) 885-4716.

Very truly yours,

Dave Baxter, Vice President
Oconee Nuclear Station

Enclosures:

1. AREVA NP Affidavit
2. Requested Information for Issues 1 and 2
3. AREVA Document No. 51-9076647-000

cc: Mr. L. N. Olshan, Project Manager
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Dave Baxter affirms that he is the person who subscribed his name to the foregoing statement, and that all the matters and facts set forth herein are true and correct to the best of his knowledge.

Dave Baxter, Vice President
Oconee Nuclear Site

Subscribed and sworn to me: April 29, 2008
Date

Notary Public

My Commission Expires: 6-12-2013
Date

SEAL

bcc: w/attachments

R. W. Cornett
B. R. Loftis
B. M. Thomas
J. L. Abbott
B. G. Davenport
J. E. Burchfield
C. E. Curry
L. F. Vaughn
P. J. North
R. J. Freudenberger
D. B. Coyle
E. L. Anderson
R. L. Gill – NRI&A
R. D. Hart – CNS
K. L. Ashe - MNS
R. V. Gambrell
D. C. Richardson
M. E. Bailey
NSRB, EC05N
ELL, ECO50
File - T.S. Working
BWOG Tech Spec Committee (5)
ONS Document Management

License Amendment Request No. 2007-09, Supplement 2
April 29, 2008

Enclosure 1

AREVA NP Affidavit for Enclosure 3

AFFIDAVIT

STATE OF VIRGINIA)
) ss.
CITY OF LYNCHBURG)

1. My name is Mark J. Burzynski. I am Manager, Product Licensing, for AREVA NP Inc. and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by AREVA NP to determine whether certain AREVA NP information is proprietary. I am familiar with the policies established by AREVA NP to ensure the proper application of these criteria.

3. I am familiar with the AREVA NP information provided to the NRC in support of a Duke Power Company LLC License Amendment Request for Oconee Nuclear Station, Units 1, 2, and 3 (Docket Numbers 50-269, 50-270, and 50-287) entitled *Reactor Protective System/Engineered Safeguards Protective System Digital Upgrade, Technical Specification Change Number 2007-09*. The following AREVA NP document is provided and referred to herein as the "Document."

- AREVA NP document 51-9076647-000, Position Paper: Alignment of Oconee RPS/ESPS Project with NRC DI&C-ISG-04 - Task Working Group #4: Highly-Integrated Control Rooms—Communications Issues

Information contained in this Document has been classified by AREVA NP as proprietary in accordance with the policies established by AREVA NP for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by AREVA NP and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure. The request for withholding of proprietary information is made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is requested qualifies under 10 CFR 2.390(a)(4) "Trade secrets and commercial or financial information".

6. The following criteria are customarily applied by AREVA NP to determine whether information should be classified as proprietary:

(a) The information reveals details of AREVA NP's research and development plans and programs or their results.

(b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.

(c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for AREVA NP.

(d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for AREVA NP in product optimization or marketability.

(e) The information is vital to a competitive advantage held by AREVA NP, would be helpful to competitors to AREVA NP, and would likely cause substantial harm to the competitive position of AREVA NP.

The information in this Document is considered proprietary for the reasons set forth in paragraphs 6(b), 6(c) and 6(d) above.

7. In accordance with AREVA NP's policies governing the protection and control of information, proprietary information contained in this Document has been made available, on a limited basis, to others outside AREVA NP only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. AREVA NP policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge, information, and belief.

Mark J. Burzynski

SUBSCRIBED before me on this 24th day of April, 2008.

Sherry L. McFaden
NOTARY PUBLIC, COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES: 10/31/2010
Registration # 7079129

SHERRY L. MCFADEN
Notary Public
Commonwealth of Virginia
7079129
My Commission Expires Oct 31, 2010

License Amendment Request No. 2007-09, Supplement 2
April 29, 2008

Enclosure 2

Requested Information for Issues 1 and 2

Enclosure 2

Issue 1: Bidirectional communications among safety divisions and between safety and non-safety equipment (interdivisional communication) is acceptable provided certain restrictions are enforced to ensure that there will be no adverse impact on safety systems. The ISG on Highly-Integrated Control Rooms - Communications Issues (HICRc), describes the methods that the staff will use to evaluate licensee compliance with NRC requirements with respect to interdivisional communication. The ISG section on interdivisional communication contains 20 staff positions for which the staff needs information beyond what is in the LAR in order to evaluate the communications strategy of the application.

Response to Issue 1: The Oconee Reactor Protection System (RPS)/Engineered Safeguards Protective System (ESPS) License Amendment Request (LAR) was in the final internal review stages when NRC DI&C-ISG-04 - Task Working Group #4: Highly-Integrated Control Rooms-Communications Issues, was issued. Duke Energy Carolinas, LLC (Duke) evaluated the Interim Staff Guideline (ISG) and concluded that the LAR and the TELEPERM XS (TXS) Topical Report (Topical Report EMF-2110(NP), Revision 1; "TELEPERM XS: A Digital Reactor Protection System," dated September 1, 1999) addressed the applicable parts of the ISG. Nuclear Regulatory Commission (NRC) Staff indicated in a Duke/NRC teleconference on February 26, 2007 that it was not readily apparent what parts of the LAR address the ISG. To facilitate NRC review, Duke agreed to provide a matrix identifying where these documents address the applicable parts of ISG-04.

DI&C-ISG-04 addresses four basic areas of interest:

1. Interdivisional communications: communications among different safety-related divisions or between a safety-related division and a non-safety entity,
2. Command prioritization: selection of a particular command to send to an actuator when multiple and conflicting commands exist,
3. Multidivisional control and display stations: use of operator workstations or displays that are associated with multiple safety-related divisions and/or with both safety related and non-safety functions, and
4. Digital system network configuration: the network or other interconnection of digital systems that might affect plant safety or conformance to plant safety analysis assumptions (interconnections among safety-related divisions or between safety related and non-safety divisions should also satisfy the guidance provided for interdivisional communications).

Areas of Interest 1 through 3 are each addressed in a separate section of DI&C-ISG-04. The ISG indicates that Area of Interest 4 has implications concerning each of the first three and is incorporated into those sections as needed.

Enclosure 3 (AREVA NP document 51-9076647-000, Position Paper: Alignment of Oconee RPS/ESPS Project with NRC DI&C-ISG-04 - Task Working Group #4: Highly-Integrated Control Rooms—Communications Issues) assesses the alignment of the Oconee RPS/ ESPS digital upgrade, to NRC's interim staff guidance outlined in DI&C-ISG-04.

The Oconee RPS/ESPS design aligns with DI&C-ISG-04 for 18 of the 20 elements in Area of Interest 1. The TXS design has a previously established acceptable alternative method for complying with the other 2 elements (10 & 11), as documented in the NRC Safety Evaluation Report (NRC letter dated May 5, 2000, "Acceptance for Referencing of Licensing Topical Report EMF-2110(NP), Revision 1, "TELEPERM XS: A Digital Reactor Protection System.") for the TXS Topical Report and described in Enclosure 3 (Table 1, Oconee position for elements 10 and 11).

DI&C-ISG-04 Area of Interest 2 is not applicable to the Oconee RPS/ESPS design because it does not utilize digital priority modules.

The Oconee RPS/ESPS design aligns with the applicable elements of DI&C-ISG-04 for Area of Interest 3 for the TXS Service Unit and TXS Gateway connections. The TXS design has a previously established acceptable alternative method for the TXS Service Unit design, as documented in the NRC SER for the TXS Topical Report and described in Enclosure 3.

Issue 2: The LAR states that the TXS application software development was performed in accordance with the Software Program Manual (SPM). The Office of New Reactors (NRO) is currently reviewing the referenced SPM; however, this is not an approved program at this time. Therefore, the licensee should provide stand alone documents for application software quality assessment.

Response to Issue 2:

The RPS/ESPS LAR references the AREVA SPM in several locations in Enclosure 1 of the LAR. The SPM describes the program measures incorporated at AREVA NP to ensure that the TXS application software attains a level of quality commensurate with its importance to safety functions, performs the required safety functions correctly and conforms to established technical and documentation requirements, conventions, and rules. The SPM consists of several plans that are implemented by AREVA Operating Instructions and in Oconee specific documents as described in Table 1 below. The SPM discusses a software development plan, integration plan, installation plan, and training plan. These plans are also addressed by AREVA procedures or Oconee plans as discussed below.

Duke has evaluated the references to the SPM made by the RPS/ESPS LAR and concluded that there is no need to reference the SPM. This evaluation is provided in Table 2 below.

The SPM identifies documents that were created to address the software life cycle model presented in IEEE Std. 1074. Many of these documents, such as the functional requirements specification, software requirements specification, software design description, the application software requirements traceability matrix, and the verification and validation (V&V) plan, were submitted with or addressed by the RPS/ESPS LAR. These documents make up the software development plan documentation. Therefore, reference to the SPM is not necessary.

As indicated in the SPM, AREVA NP uses the approved SPACE tool to automatically generate the application software, and the SPACE tool produces software that is designed to work with the system software of the TELEPERM XS system. Because of this, no Oconee application specific software integration effort is required between the system software and application software.

Software installation is controlled by the Software Generation and Download Procedure, which is a configuration item governed by the Oconee Software Configuration Management Plan (SCMP).

Software training is addressed in Section 3.6.2 of Enclosure 1 to the RPS/ESPS LAR.

Table 1
SPM Implementation Documents

SPM Plan	Description	AREVA Generic Procedure	Oconee Application Specific Document
Software Quality Assurance Plan	Describes the necessary processes that ensure that the software attains a level of quality commensurate with its importance to safety function.	OI-1457, "TELEPERM XS Software Quality Assurance Plan"	N/A
Software Safety Plan	Identifies the process to reasonably eliminate hazards that could jeopardize the health and safety of the public from safety critical software.	TXS Topical Report, and OI-1578, TELEPERM XS Software Safety Plan"	AREVA NP Doc No. 51-9005043-005, "Oconee Nuclear Station, Unit 1, 2, & 3 RPS/ESFAS Controls Upgrade Software Safety Plan (SSP)"
Software Verification and Validation Plan	Describes the method that ensures correctness of the software.	OI-1459, "TELEPERM XS Software Verification and Validation Plan"	AREVA NP Doc No. 51-9010419-006, "Oconee Nuclear Station Unit 1 RPS/ESFAS Controls Upgrade Software Verification and Validation Plan"
Software Configuration Management Plan	Describes the method that maintains the software in a controlled configuration at all times.	OI-1460, "TELEPERM XS Software Configuration Management Plan"	AREVA NP Doc No. 51-9006444-005, "Oconee Nuclear Station, Units 1, 2, and 3 RPS/ESFAS Controls Upgrade Software Configuration Management Plan"
Software Operations and Maintenance Plan	Describes post-customer delivery software practices.	OI-1592, "Software Operations and Maintenance Plan"	N/A

Table 2
Disposition of References to the SPM from the ONS RPS/ESPS LAR

Reference to SPM	Comment
Page 1-8, Table 1-2 Item 19 indicates that the ONS Software Installation Plan is incorporated into SPM	Software installation is controlled by the Software Generation and Download and procedure which is a configuration item of the Oconee SCMP. As such specific reference to the SPM is not necessary.
Page 3-27, Section 3.3.3.2, AREVA QA Program	Section 3.3.3.2 only describes the AREVA SPM and then goes on to explain that all design work, products and services provided for the RPS/ESPS digital upgrade project are performed to the requirements of the AREVA NP Quality Management Manual, which is supplemented by the additional QA requirements for TXS projects described in the TXS Topical Report and the TXS Software Program Manual. The SPM is implemented by a number of AREVA OIs, some of which are used to develop Oconee specific documents. The Oconee specific documents appropriately address life cycle product without the need to reference the SPM.
Page 3-85, Section 3.4.3.2, AREVA Software QA Program	The development process for application software is addressed by AREVA operating instructions and Oconee specific plans. As such there is no need to reference the SPM. LAR Section 3.4.3.3 concludes that the ONS digital RPS/ESPS have been developed with high quality consistent with industry standards and in accordance with Duke and AREVA NP software QA programs. This conclusion is valid without specifically referencing the SPM.
Page 3-86, Section 3.4.3.2.1, Software Development	Same as above
Page 3-88, Section 3.4.3.2.2, Software Quality Metrics	Same as above
Page 3-88, Section 3.4.3.2.3, Software Tools	Same as above
Page 3-90, Section 3.4.3.2.4, Software V&V	Same as above
Page 3-93, Section 3.4.3.2.5, Independent V&V	Same as above

Reference to SPM	Comment
Page 3-95, Section 3.4.3.2.6, Software Configuration Mgt	Same as above
Page 3-96 Section 3.4.3.2.7 Software Project Risk Mgt	Same as above
Page 3-122 Section 3.6.4.1 Project Related Configuration Management (requirements in OIs)	This section indicates that project and application specific guidance is included in the TXS Software Program Manual (Reference 11) and several OIs addressing software QA plans, software verification and validation plans, software documentation and software and hardware CM. The specific OI or lower level document will replace the SPM reference.
Page 3-123 Section 3.6.4.3 Software Related Configuration Management (requirements in OIs)	This section indicates that additional AREVA NP software related configuration guidance is contained in the TXS Software Program Manual (Reference 11) and OIs for software QA plans and software V&V plans. The specific OI or lower level document will replace the SPM reference.
Page 6-1, Section 6.10, References	Delete AREVA SPM manual as a reference to the LAR.