

September 29, 2008

Mr. David A. Christian
President and Chief Nuclear Officer
Virginia Electrical and Power Company
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2, AND SURRY POWER STATION, UNIT NOS. 1 AND 2, REQUEST FOR EXTENSION OF COMPLETION DATES FOR GENERIC LETTER 2004-02 CORRECTIVE ACTIONS (TAC NOS. MC4696, MC4697, MC4722 AND MC4723)

Dear Mr. Christian:

By letter dated September 5, 2008, Virginia Electric and Power Company (the licensee), requested an extension of the containment sump clogging corrective actions stated in Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors," until November 30, 2008, for North Anna Power Station, Unit Nos. 1 and 2 (North Anna 1 and 2), and Surry Power Station, Unit Nos. 1 and 2 (Surry 1 and 2).

As requested in your letter dated September 5, 2008, and based on the enclosed U.S. Nuclear Regulatory Commission staff's evaluation, we have further extended the due date for completion of the GL 2004-02 corrective actions until November 30, 2008.

Sincerely,

/RA/

John Stang, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-338, 50-339, 50-280 and
50-281

Enclosures:

1. Evaluation for North Anna 1 and 2
2. Evaluation for Surry 1 and 2

cc w/encls: See next page

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RidsNrrDssSsib (EGeiger) Resource

ADAMS Accession No.: ML082730022

*transmitted by memo dated

OFFICE	NRR/LPL2-1	NRR/LPL2-1/PM	NRR/LPL2-1/LA	NRR/DSS/SSIB/BC	NRR/LPL2-1/BC
NAME	DWright	JStang	MO'Brien	DHarrison	MWong
DATE	9/29/2008	9/29/2008	9/29/2008	09/29/2008*	9/29/2008

OFFICIAL RECORD COPY

North Anna Power Station, Unit Nos. 1 and 2, and Surry Power Station, Unit Nos. 1 and 2

cc:

Mr. David A. Christian
President and Chief Nuclear Officer
Virginia Electrical and Power Company
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Ms. Lillian M. Cuoco, Esq.
Senior Counsel
Dominion Resources Services, Inc.
120 Tredegar Street, RS-2
Richmond, VA 23219

Mr. Gerald T. Bischof
Site Vice President
Surry Power Station
Virginia Electric and Power Company
5570 Hog Island Road
Surry, Virginia 23883-0315

Senior Resident Inspector
Surry Power Station
U. S. Nuclear Regulatory Commission
5850 Hog Island Road
Surry, Virginia 23883

Chairman
Board of Supervisors of Surry County
Surry County Courthouse
Surry, Virginia 23683

Dr. W. T. Lough
Virginia State Corporation Commission
Division of Energy Regulation
Post Office Box 1197
Richmond, Virginia 23218

Dr. Robert B. Stroube, MD, MPH
State Health Commissioner
Office of the Commissioner
Virginia Department of Health
Post Office Box 2448
Richmond, Virginia 23218

Office of the Attorney
General Commonwealth of Virginia
900 East Main Street
Richmond, Virginia 23219

Mr. Chris L. Funderburk, Director
Nuclear Licensing and Operations Support
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, Virginia 23060-6711

Mr. B. L. Stanley, Director
Nuclear Safety and Licensing
Virginia Electric and Power Company
Surry Power Station
5570 Hog Island Road
Surry, Virginia 23883-0315

Mr. Curtis G. Luffman
Manager Nuclear Protection Services
Surry Power Station
5570 Hog Island Road
Surry, VA 23883-0315

Mr. Barry Garber
Supervisor Nuclear Engineering
Surry Power Station
5570 Hog Island Road
Surry, VA 23883-0315

Ms. Leslie N. Hartz, Vice President
Nuclear Support Services
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Mr. Nelson K. Martin
Manager Nuclear Fleet Protection Services
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

North Anna Power Station, Unit Nos. 1 and 2, and Surry Power Station, Unit Nos. 1 and 2

cc:

Mr. C. Lee Lintecum
County Administrator
Louisa County
Post Office Box 160
Louisa, Virginia 23093

Dr. W. T. Lough
Virginia State Corporation Commission
Division of Energy Regulation
Post Office Box 1197
Richmond, Virginia 23218

Old Dominion Electric Cooperative
4201 Dominion Blvd.
Glen Allen, Virginia 23060

Senior Resident Inspector
North Anna Power Station
U. S. Nuclear Regulatory Commission
P. O. Box 490
Mineral, Virginia 23117

Mr. Daniel G. Stoddard
Site Vice President
North Anna Power Station
1022 Haley Drive
Mineral, VA 23117

Mr. Mark D. Sartain, Director
Nuclear Safety & Licensing
Virginia Electric and Power Company
North Anna Power Station
P.O. Box 402
Mineral, VA 23117

Mr. Eugene S. Grecheck, Vice President
Nuclear Development
Innsbrook Technical Center
5000 Dominion Boulevard
Glenn Allen, VA 23060-6711

Mr. Marvin L. Smith, Project Director
Innsbrook Technical Center
5000 Dominion Boulevard
Glenn Allen, VA 23060-6711

Mr. Timothy Maddy
Manager Nuclear Protection Services
North Anna Power Station
1022 Haley Drive
Mineral, VA 23117

Mr. Page Kemp
Supervisor Nuclear Engineering
North Anna Power Station
1022 Haley Drive
Mineral, VA 23117

EVALUATION OF EXTENSION REQUEST FOR CONTAINMENT SUMP
CORRECTIVE ACTIONS ASSOCIATED WITH
GENERIC LETTER 2004-02
NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-338 AND 50-339

In a letter dated September 5, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082540495), Virginia Electric and Power Company (the licensee), requested an extension for the corrective actions related to the U.S. Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors," (GL 2004-02), for North Anna Power Station, Unit Nos. 1 and 2 (North Anna 1 and 2). The stated intent of this extension was to allow additional time for reduction of the quantity of aluminum inside containment that is subject to spray or submergence during a design basis accident and to complete further analysis of high head safety injection (HHSI) pump wear and seal performance. The licensee requested an extension to November 30, 2008, for completion of these activities.

Previously, in its letter dated May 21, 2008 (ADAMS Accession No. ML081420793), the licensee requested an extension to allow the licensee additional time for completion of downstream component wear and system performance evaluations and to finalize the associated documentation, chemical effects testing, technical evaluations and reviews, and licensing basis updates, as well as to determine whether any additional actions may be required based on the results of the testing and technical evaluations. The licensee requested an extension to September 30, 2008. The NRC staff approved an extension for the completion of North Anna 1 and 2 corrective actions for GL 2004-02 until September 30, 2008 (NRC letter dated July 1, 2008, ADAMS Accession No. ML081830247).

The licensee's September 5, 2008, letter states that the request for an additional extension is due to the results obtained from the completed chemical effects evaluations for North Anna 1 and 2 which concluded that the quantity of aluminum in containment that is subject to spray or submergence during a design basis accident must be reduced to ensure proper containment sump performance. In addition, the licensee stated that further analysis of HHSI pump wear and seal performance is required to determine a more realistic evaluation of pump performance under expected post-accident conditions. The remaining corrective actions, as described in the September 5, 2008, extension request letter, are identified below.

1. Activities to decrease the amount of aluminum in containment that is subject to corrosion, which include:
 - the determination of the number of control rod drive mechanisms (CRDM) and reactor protection instrumentation connectors that are subject to spray,
 - the implementation of procedure changes to ensure that the CRDM fans are not restarted when the quench spray, and/or recirculation spray systems are in operation,
 - and the encapsulation, removal, and/or relocation of aluminum ladders to eliminate the potential chemical effects due to containment sprays.

Generic Safety Issue (GSI)-191 Design Basis Documentation

- Field change - Unit 2 containment sump strainer design change package November 15, 2008
- Update documentation for complete compliance with GSI-191 November 30, 2008

With regard to the second extension criterion, the licensee stated in its letter dated September 5, 2008, that bases included in the May 21, 2008, letter remain valid and applicable for this extension request and continue to confirm that North Anna 1 and 2 will continue to meet their current plant licensing bases regarding the function and operability of the containment sumps during the period of the requested extensions. The NRC staff's evaluation of the previous extension request concluded that modifications, mitigation measures, compensatory measures, and/or favorable conditions are in effect at North Anna 1 and 2, minimizing the risk of degraded ECCS and CSS functions during the extension period. These measures adequately reduced risk for the previous requested extension period (May 31, 2008), as stated in the NRC extension approval letter dated July 1, 2008.

The licensee's letter dated November 15, 2007 (ADAMS Accession No. ML073190553), provided plant risk evaluations for North Anna 1 and 2. The licensee stated that the risk was "small" for an extension of corrective action completion until November 30, 2008, and remains valid for the extension request to November 30, 2008, contained herein as well. The NRC staff has not reviewed the analysis in detail; but agrees with the licensee's conclusion that the risk, due to the proposed 2-month extension period, is small and is bounded by the risk associated with the extension period previously approved in the NRC letter dated December 13, 2007 (ADAMS Accession No. ML073450594).

The NRC staff believes that the licensee has a reasonable plan for North Anna 1 and 2 that should result in the completion of the final GL 2004-02 corrective actions that provide acceptable strainer function with adequate margin for uncertainties. The additional time requested in the September 5, 2008, letter is considered to be of low safety concern given the mitigation measures and plant improvements already in place. Based on the licensee having satisfactorily addressed the NRC's GL 2004-02 due date extension criteria as discussed above, the NRC staff finds it is acceptable to extend the completion date for GL 2004-02 corrective actions associated with aluminum removal and pump performance evaluations, as described in this enclosure, for North Anna 1 and 2 to November 30, 2008. While the NRC staff accepts this date as reasonable allowance for contingencies regarding completion of remaining activities to address GL 2004-02, the NRC staff expects the licensee to place a high priority on completing the remaining actions and updating North Anna 1 and 2 licensing bases as soon as possible.

Date: September 29, 2008

EVALUATION OF EXTENSION REQUEST FOR CONTAINMENT SUMP
CORRECTIVE ACTIONS ASSOCIATED WITH
GENERIC LETTER 2004-02
SURRY POWER STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-280 AND 50-281

In a letter dated September 5, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082540495), Virginia Electric and Power Company (the licensee), requested an extension for the corrective actions related to the U.S. Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors," (GL 2004-02), for Surry Power Station, Unit Nos. 1 and 2 (Surry 1 and 2). The stated intent of this extension was to allow additional time for reduction of the quantity of aluminum inside containment that is subject to spray or submergence during a design basis accident and to complete further analysis of high head safety injection (HHSI) pump wear and seal performance. The licensee requested an extension to November 30, 2008, for completion of these activities.

Previously, in its letter dated May 21, 2008 (ADAMS Accession No. ML081420793), the licensee requested an extension to allow the licensee additional time for completion of downstream component wear and system performance evaluations and to finalize the associated documentation, chemical effects testing, technical evaluations and reviews, and licensing basis updates, as well as to determine whether any additional actions may be required based on the results of the testing and technical evaluations. The licensee requested an extension to September 30, 2008. The NRC staff approved an extension for completion of Surry 1 and 2 corrective actions for GL 2004-02 until September 30, 2008 (NRC letter dated July 1, 2008, ADAMS Accession No. ML081830247).

The licensee's September 5, 2008, letter states that the request for an additional extension is due to the results obtained from the completed chemical effects evaluations for Surry 1 and 2 concluded that the quantity of aluminum in the Surry 1 containment that is subject to spray or submergence during a design basis accident must be reduced to ensure proper containment sump performance. In addition, the licensee stated that further analysis of HHSI pump wear and seal performance is required to determine a more realistic evaluation of pump performance under expected post-accident conditions. The remaining corrective actions, as described in the September 5, 2008, extension request letter, are identified below.

1. Activities to decrease the amount of aluminum in the Surry 1 containment that is subject to corrosion which include:
 - the determination of the number of control rod drive mechanisms (CRDM) and reactor protection instrumentation connectors that are subject to spray,
 - the implementation of procedure changes to ensure that the CRDM fans are not restarted when the quench spray, and/or recirculation spray (RS) systems are in operation,
 - and the encapsulation, removal, and/or relocation of aluminum ladders to eliminate the potential chemical effects due to containment sprays.

2. Additional analysis using more realistic, yet conservative, operating conditions to confirm proper pump performance under expected post-accident operating conditions. This confirmatory analysis is being performed by the original pump manufacturer and favorable results are expected.
3. Design and licensing bases documentation updates upon completion of the activities described above.

The NRC staff has based its reviews for granting extensions to the due date for completion of GL 2004-02 corrective actions on the criteria stated in SECY-06-0078. Specifically, an extension may be granted if:

- the licensee has a plant-specific technical/experimental plan with milestones and schedule to address outstanding technical issues with enough margin to account for uncertainties, and
- the licensee identifies mitigative measures to be put in place prior to December 31, 2007, and adequately describes how these mitigative measures will minimize the risk of degraded emergency core cooling system (ECCS) and containment spray system (CSS) functions during the extension period.

The SECY paper also states that for proposed extensions beyond several months, a licensee's request will more likely be accepted if the proposed mitigative measures include temporary physical improvements to the ECCS sump or materials inside containment to better ensure a high level of ECCS sump performance.

With regard to the first extension criterion, the licensee has provided a plant-specific technical/experimental plan, with milestones and schedules, to complete the GL 2004-02 corrective actions. The licensee's proposed plan for the remaining corrective actions has been summarized in its September 5, 2008, letter, as itemized below along with its established milestones dates.

HHSI Pump Analysis

- HHSI Pump Wear Evaluation October 31, 2008
- HHSI Pump Seal Evaluation October 31, 2008

Plant Modifications

- Reduce the Surry 1 containment aluminum inventory September 30, 2008

License Amendment Request (LAR)

- Obtain NRC approval of LAR to delete obsolete RS system minimum flow value September 30, 2008
- Incorporate approved LAR into licensing and design bases October 22, 2008

Generic Safety Issue (GSI)-191 Design Basis Documentation

- Field change - Unit 2 containment sump strainer design change package November 15, 2008
- Update documentation for complete compliance with GSI-191 November 30, 2008

With regard to the second extension criterion, the licensee stated in its letter dated September 5, 2008, that bases included in the May 21, 2008, letter remain valid and applicable for this extension request and continue to confirm that Surry 1 and 2 will continue to meet its current plant licensing bases regarding the function and operability of the containment sumps during the period of the requested extensions. The NRC staff's evaluation of the previous extension request concluded that modifications, mitigation measures, compensatory measures, and/or favorable conditions are in effect at Surry 1 and 2, minimizing the risk of degraded ECCS and CSS functions during the extension period. These measures adequately reduced risk for the previous requested extension period (May 31, 2008), as stated in the NRC extension approval letter dated July 1, 2008.

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The NRC staff believes that the licensee has a reasonable plan for Surry 1 and 2 that should result in the completion of the final GL 2004-02 corrective actions that provide acceptable strainer function with adequate margin for uncertainties. The additional time requested in the September 5, 2008, letter is considered to be of low safety concern given the mitigation measures and plant improvements already in place. Based on the licensee having satisfactorily addressed the NRC's GL 2004-02 due date extension criteria as discussed above, the NRC staff finds it is acceptable to extend the completion date for GL 2004-02 corrective actions associated with aluminum removal and pump performance evaluations, as described in this enclosure, for Surry 1 and 2 to November 30, 2008. While the NRC staff accepts this date as reasonable allowance for contingencies regarding completion of remaining activities to address GL 2004-02, the NRC staff expects the licensee to place a high priority on completing the remaining actions and updating Surry 1 and 2 licensing bases as soon as possible.

In addition, the NRC staff expects that the actions dependent on approval of the LAR relating to the removal of the RS subsystems minimum recirculation flow value from Surry 1 and 2 TS Section 5.2.C will be implemented expeditiously after receipt of the amendment. Approval of the extension to the GL 2004-02 corrective actions due date shall not be construed as approval of any operating license amendment described in the licensee's extension request.

Date: September 29, 2008