

October 24, 2007

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

SUBJECT: SURRY POWER STATION, UNIT NOS. 1 AND 2 - NOTICE OF
CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE, PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION, AND OPPORTUNITY FOR A HEARING-
EXIGENT CIRCUMSTANCES (TAC NOS. MD7033 AND MD7034)

Dear Mr. Christian:

Enclosed, for your information, is a copy of a "Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing." This notice relates to your application for amendment dated October 22, 2007, requesting an amendment be issued under exigent circumstances. The proposed amendment would allow an alternate methodology from that previously approved in Topical Report DOM-NAF-3-0.0-P-A, *GOTHIC Methodology for Analyzing the Response to Postulated Pipe Ruptures Inside Containment*, as discussed in the Surry Power Station, Unit Nos. 1 and 2, Updated Final Safety Analysis Report.

This notice has been forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

R. A. Jervy, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosure:
As stated

cc w/encl: See next page

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5000 Dominion Boulevard
Glen Allen, VA 23060-6711

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Sincerely,

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R. A. Jervey, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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NRR-041

OFFICE	LPL2-1/PM	LPL2-1/LA	LPL2-1/BC
NAME	RJervey	MO'Brien	EMarinos
DATE	10/24/07	10/24/07	10/24/07

OFFICIAL RECORD COPY

Surry Power Station, Units 1 & 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.
Building 475, 5th Floor
Rope Ferry Road
Waterford, Connecticut 06385

Mr. Donald E. Jernigan
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 & Operations Support
Dominion Resources Services, Inc.
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, Virginia 23060-6711

UNITED STATES NUCLEAR REGULATORY COMMISSION

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NOS. 50-280 AND 50-281

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO
FACILITY OPERATING LICENSE, PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION, AND OPPORTUNITY FOR A HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License Nos. DPR-32 and DPR-37, issued to the Virginia Electric and Power Company (Dominion, the licensee), for operation of the Surry Power Station, Unit Nos. 1 and 2, located in Surry County, Virginia.

The proposed amendment would allow use of an alternate methodology from that previously approved in Topical Report DOM-NAF-3-0.0-P-A, *GOTHIC Methodology for Analyzing the Response to Postulated Pipe Ruptures Inside Containment*, as discussed in the Surry Power Station, Unit Nos. 1 and 2, Updated Final Safety Analysis Report (UFSAR). The approved methodology was used to establish boundary conditions (i.e., pressure, liquid temperature and water level) for the Surry recirculation spray (RS) strainers being installed in the Surry Units 1 and 2 containment buildings. The boundary conditions are required to assess the RS strainer internal hydraulic performance following a loss-of-coolant accident (LOCA). The NRC-approved methodology contains significant conservatisms, which are included in the GOTHIC net positive suction head (NPSH) available models to maximize liquid temperatures and minimize containment pressure for design-basis containment response evaluations. However, these conservatisms are creating bulk conditions that are too conservative for

application to the sump strainer performance. Specifically, for certain LOCA analyses, the overly conservative conditions result in a prediction of two-phase flow in the RS strainer for a short period of time. Therefore, an alternate containment GOTHIC analysis methodology is proposed to reduce certain overly conservative assumptions to more realistically, yet conservatively, address expected plant conditions in containment following a LOCA. The alternate method relaxes some of the conservatisms in the NPSH analysis methodology in Topical Report DOM-NAF-3.0-0-P-A. The proposed alternate methodology will be used to demonstrate that the RS pumps have adequate NPSH available throughout their required service time.

The licensee had performed calculations following an NRC audit at the licensee's North Anna Power Station during the week of July 16, 2007, where an NRC auditor requested documentation of the subcooling margin inside of the containment sump strainers. During review of the calculations, it was identified that dynamic head change in the strainer had not been included in the calculation. Following a new calculation by the strainer vendor, which showed that flashing would not occur at North Anna, a new Surry calculation was performed which showed that flashing would occur under certain conditions that would result in the RS pumps having inadequate NPSH when four RS pumps were in operation at the same time. The approved GOTHIC containment analysis methodology for deriving NPSH was reviewed to determine whether the predicted flashing was reasonable. After several weeks of reviewing the GOTHIC model and its associated conservative inputs and assumptions, it was concluded that an alternate GOTHIC methodology was required to demonstrate that flashing would not occur. The proposed alternate methodology allows for a larger liquid-vapor interface area that accounts for additional heat transfer between the containment vapor and the liquid phase which is not credited in the existing methodology. The 10 CFR 50.59 review completed for the design change package for installation of the Unit 1 sump strainer during the current refueling outage indicated that NRC approval would be required before the strainer was declared operable and

before the Surry Unit 1 startup could commence following the refueling. The corresponding operability of the partially installed Surry Unit 2 strainer was addressed in accordance with the licensee's operability determination process. These determinations were completed and discussed with NRC staff on October 16, 2007. Consequently, the specific need for the Surry specific GOTHIC containment analysis methodology was only recently recognized as requiring NRC approval.

Based on the preceding discussion, the Commission concludes that exigent circumstances exist.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.91(a)(6) for amendments to be granted under exigent circumstances, the NRC staff must determine that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Does the proposed amendment not involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change does not adversely affect accident initiators or precursors and does not implement any physical changes to the facility or changes in plant operation. The proposed change does not alter or prevent the ability of structures, systems and components (SSCs) to perform their intended function to mitigate the

consequences of an initiating event within the assumed acceptance limits, rather it confirms that required SSCs [e.g., the containment sump strainers and the Recirculation Spray (RS) pumps] will perform their function as required. The Updated Final Safety Analysis Report (UFSAR) safety analysis acceptance criteria continue to be met for the proposed change. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change does not impact plant equipment design or function during accident conditions. The hydraulic performance of the GSI-191 strainers is analytically confirmed to be acceptable by using the alternate methodology proposed by this change. No changes in the methods governing normal plant operation are being implemented. The proposed change assures that there is adequate margin available to meet safety analysis criteria and does not introduce new failure modes, accident initiators, or equipment malfunctions that would cause a new or different kind of accident. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined, and the dose analysis acceptance criteria are not affected. The proposed change does not result in plant operation in a configuration outside of the analyses or design basis and does not adversely affect systems that respond to safely shutdown the plant and to maintain the plant in a safe shutdown condition. The proposed alternate GOTHIC methodology recovers a small amount of conservatism; however, the analyses to determine the sump strainer boundary conditions retain a sufficient level of conservatism and demonstrate that safety related components will continue to be able to perform their design functions. Therefore, the proposed change does not involve a significant reduction in margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 14 days after the date of publication of this notice will be considered

in making any final determination.

Normally, the Commission will not issue the amendment until the expiration of the 14-day notice period. However, should circumstances change during the notice period, such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 14-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish in the *Federal Register* a notice of issuance. The Commission expects that the need to take this action will occur very infrequently.

Written comments may be submitted by mail to the Chief, Rulemaking, Directives and Editing Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and should cite the publication date and page number of this *Federal Register* notice. Written comments may also be delivered to Room 6D59, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, from 7:30 a.m. to 4:15 p.m. Federal workdays. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland.

The filing of requests for hearing and petitions for leave to intervene is discussed below. A request for hearing or a petition for leave to intervene must be filed in accordance with the NRC E-Filing rule, which the NRC promulgated on August 28, 2007 (72 FR 49139). The E-Filing process requires participants to submit and serve documents over the internet or in some cases to mail copies on electronic storage media. Participants may not submit paper copies of their filings unless they seek a waiver in accordance with the procedures described below.

To comply with the procedural requirements of E-Filing, at least five (5) days prior to the

filing deadline, the petitioner/ requestor must contact the Office of the Secretary by e-mail at HEARINGDOCKET@NRC.GOV, or by calling (301) 415-1677, to request (1) a digital ID certificate, which allows the participant (or its counsel or representative) to digitally sign documents and access the E-Submittal server for any proceeding in which it is participating; and/or (2) creation of an electronic docket for the proceeding (even in instances in which the petitioner/requestor (or its counsel or representative) already holds an NRC-issued digital ID certificate). Each petitioner/ requestor will need to download the Workplace Forms Viewer™ to access the Electronic Information Exchange (EIE), a component of the E-Filing system. The Workplace Forms Viewer™ is free and is available at <http://www.nrc.gov/site-help/e-submittals/install-viewer.html>. Information about applying for a digital ID certificate is available on NRC's public website at <http://www.nrc.gov/site-help/e-submittals/apply-certificates.html>. Once a petitioner/requestor has obtained a digital ID certificate, had a docket created, and downloaded the EIE viewer, it can then submit a request for hearing or petition for leave to intervene. Submissions should be in Portable Document Format (PDF) in accordance with NRC guidance available on the NRC public website at <http://www.nrc.gov/site-help/e-submittals.html>. A filing is considered complete at the time the filer submits its documents through EIE. To be timely, an electronic filing must be submitted to the EIE system no later than 11:59 p.m. Eastern Time on the due date. Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an e-mail notice confirming receipt of the document. The EIE system also distributes an e-mail notice that provides access to the document to the NRC Office of the General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the documents on those participants separately. Therefore, applicants and other participants (or their counsel or representative) must apply for and receive a digital ID certificate before a hearing request/petition to intervene is filed so that they can obtain access to the document via the E-

Filing system.

A person filing electronically may seek assistance through the "Contact Us" link located on the NRC website at <http://www.nrc.gov/site-help/e-submittals.html> or by calling the NRC technical help line, which is available between 8:30 a.m. and 4:15 p.m., Eastern Time, Monday through Friday. The help line number is (800) 397-4209 or locally, (301) 415-4737.

Participants who believe that they have a good cause for not submitting documents electronically must file a motion, in accordance with 10 C.F.R. 2.302(g), with their initial paper filing requesting authorization to continue to submit documents in paper format. Such filings must be submitted by: (1) first class mail addressed to the Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemaking and Adjudications Staff; or (2) courier, express mail, or expedited delivery service to the Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville, Pike, Rockville, Maryland, 20852, Attention: Rulemaking and Adjudications Staff. Participants filing a document in this manner are responsible for serving the document on all other participants. Filing is considered complete by first-class mail as of the time of deposit in the mail, or by courier, express mail, or expedited delivery service upon depositing the document with the provider of the service.

Non-timely requests and/or petitions and contentions will not be entertained absent a determination by the Commission, the presiding officer, or the Atomic Safety and Licensing Board that the petition and/or request should be granted and/or the contentions should be admitted, based on a balancing of the factors specified in 10 C.F.R. § 2.309(c)(1)(i)-(viii). To be timely, filings must be submitted no later than 11:59 p.m. Eastern Time on the due date.

Documents submitted in adjudicatory proceedings will appear in NRC's electronic hearing docket which is available to the public at http://ehd.nrc.gov/EHD_Proceeding/home.asp, unless excluded pursuant to an order of the Commission, an Atomic Safety and Licensing

Board, or a Presiding Officer. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or home phone numbers in their filings. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filings and would constitute a Fair Use application, Participants are requested not to include copyrighted materials in their submissions.

Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner/requestor shall provide a brief explanation of the bases for the contention and a concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing. The petitioner/requestor must also provide references to those specific sources and documents of which the petitioner/requestor is aware and on which the petitioner/requestor intends to rely to establish those facts or expert opinion. The petitioner/requestor must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendment under consideration. The contention must be one which, if proven, would entitle the petitioner/requestor to relief. A petitioner/requestor who fails to satisfy these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held. If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it immediately effective, notwithstanding the request for a hearing. Any hearing held would take place after

issuance of the amendment. If the final determination is that the amendment request involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

Non-timely requests and/or petitions and contentions will not be entertained absent a determination by the Commission or the presiding officer of the Atomic Safety and Licensing Board that the petition, request and/or the contentions should be granted based on a balancing of the factors specified in 10 CFR 2.309(c)(1)(i)-(viii).

For further details with respect to this exigent license application, see the application for amendment dated October 22, 2007, which is available for public inspection at the Commission's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System's (ADAMS) Public Electronic Reading Room on the Internet at the NRC web site <http://www.nrc.gov/reading-rm.html>.

Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209, or 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 24th day of October 2007.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

R. A. Jervy, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation