ENCLOSURES 2, 3 AND 4 CONTAIN PROPRIETARY INFORMATION – WITHHOLD FROM PUBLIC DISCLOSURE IN ACCORDANCE WITH 10CFR 2.390

Xcel Energy®

DEC 2 2 2009

L-PI-09-134
10 CFR 50.90

U S Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Prairie Island Nuclear Generating Plant Units 1 and 2
Dockets 50-282 and 50-306
License Nos. DPR-42 and DPR-60

License Amendment Request to Exclude the Dynamic Effects Associated with Certain Postulated Pipe Ruptures from the Licensing Basis Based Upon Application of Leak-Before-Break Methodology

Pursuant to 10 CFR 50.90, the Northern States Power Company, a Minnesota Corporation (NSPM), doing business as Xcel Energy, hereby requests an amendment to the operating license for Prairie Island Nuclear Generating Plant (PINGP). The proposed license amendment request (LAR) requests approval for application of a leak-before-break (LBB) methodology to piping systems attached to the reactor coolant system (RCS) at PINGP, Units 1 and 2. No Technical Specification changes are proposed in this LAR.

Enclosure 1 contains an evaluation of the proposed changes. Enclosure 2 contains Structural Integrity Associates, Inc. (SIA) Report 0900634.401, Revision 2, *"Updated Leak-Before-Break for Several RCS Piping at Prairie Island Nuclear Generating Plant Units 1 and 2."* This report is an LBB analysis performed in accordance with 10 CFR 50, Appendix A, GDC-4 and NUREG-1061, Vol. 3 as supplemented by NUREG-0800, Standard Review Plan 3.6.3. The analysis includes (1) an evaluation of portions of the safety injection (SI) and residual heat removal (RHR) systems, and (2) an analysis of thermal stratification in the Units 1 and 2 RHR suction lines.

Enclosure 3 contains SIA Report 0900634.402, Revision 2, *"Updated Leak-Before-Break (LBB) Report for Prairie Island Nuclear Generating Plant Unit 2 Pressurizer Surge Line Nozzle."* This report is an LBB analysis performed in accordance with 10 CFR 50, Appendix A, GDC-4 and NUREG-1061, Vol. 3 as supplemented by NUREG-0800, Standard Review Plan 3.6.3. The analysis performs an LBB evaluation of the weld overlay that was installed on the PINGP Unit 2 pressurizer surge line to mitigate the possibility of primary water stress corrosion cracking (PWSCC) in the pressurizer to surge line 82/182 nozzle-to-safe-end weld.

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Enclosure 4 contains WCAP-15379, *"Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Prairie Island Unit 2 Nuclear Plant."* This report is an LBB analysis performed in accordance with 10 CFR 50, Appendix A, GDC-4 and NUREG-0800, Standard Review Plan 3.6.3. The analysis performs an evaluation of PINGP Unit 2 pressurizer surge line. The analysis was performed prior to installation of the weld overlay, and is applicable to the entire Unit 2 pressurizer surge line with the exception of the pressurizer to surge line 82/182 nozzle-to-safe-end weld. The weld overlay is evaluated in Enclosure 3.

Enclosure 5 contains affidavits from SIA, Westinghouse Electric Corporation, LLC (WEC), and Areva NP, Inc. (Areva) for withholding the proprietary information contained Enclosures 2, 3 and 4. Each affidavit sets forth the basis for which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390(b)(4). Accordingly, it is respectfully requested that the information which is proprietary to SIA, WEC, and Areva be withheld from public disclosure in accordance with 10 CFR 2.390.

Enclosures 6, 7 and 8 contain non-proprietary versions of Enclosures 2, 3 and 4 respectively. The non-proprietary reports are being provided based on the NRC's expectation that the submitter of the proprietary information should provide, if possible, a non-proprietary version of the document with brackets showing where the proprietary information has been deleted.

NSPM has determined that the information for the proposed amendment does not involve a significant hazards consideration, authorize a significant change in the types or total amounts of effluent release, or result in any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment meets the categorical exclusion requirements of 10 CFR 51.22(c)(9) and an environmental impact assessment need not be prepared.

A copy of this submittal, including the Determination of No Significant Hazards Consideration, without Enclosures 2 – 8, is being forwarded to our designated State of Minnesota official pursuant to 10 CFR 50.91(b)(1).

NSPM requests approval of this LAR within one year of acceptance date by the NRC. Upon NRC approval, the amendment shall be implemented within 180 days for PINGP Unit 1. PINGP Unit 2 will require a design change to implement the amendment. Therefore NSPM requests that the implementation period include the next scheduled Unit 2 refueling outage after NRC approval.

If there are any questions or if additional information is needed, please contact John Fields at 651-267-7263.

This letter makes no new commitments and no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on 12/22/09

Mark A. Schimmel
Site Vice President
Prairie Island Nuclear Generating Plant Units 1 and 2
Northern States Power Company - Minnesota

Enclosures (8)

cc: Regional Administrator, Region III, USNRC (letter and Enclosure 1 only)
Project Manager, Prairie Island Nuclear Generating Plant, USNRC
Resident Inspector, Prairie Island Nuclear Generating Plant, USNRC
State of Minnesota (letter and Enclosure 1 only)

ENCLOSURE 1

Evaluation of the Proposed Change

1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, the Northern States Power Company, a Minnesota Corporation (NSPM), doing business as Xcel Energy, hereby requests an amendment to the operating licenses for Prairie Island Nuclear Generating Plant (PINGP) Units 1 and 2. The enclosed license amendment request (LAR) requests approval for application of a leak-before-break (LBB) methodology to piping systems attached to the reactor coolant system (RCS) at PINGP Units 1 and 2 and the Unit 2 pressurizer surge line. No Technical Specification changes are proposed in this LAR.

In this application, NSPM is requesting approval of LBB methodology to evaluate RCS attached piping. The analyses provided in Enclosures 2, 3 and 4 include evaluation of (1) portions of the safety injection (SI) and residual heat removal (RHR) systems, (2) the PI Unit 2 pressurizer surge line including the weld overlay application installed to mitigate the possibility of primary water stress corrosion cracking (PWSCC) in the pressurizer to surge line 82/182 nozzle-to-safe-end weld, and (3) an analysis of thermal stratification in the Units 1 and 2 RHR suction lines.

2.0 DETAILED DESCRIPTION

2.1 Proposed Changes

In this application, NSPM is requesting approval of LBB methodology to evaluate RCS attached piping. The evaluation includes analysis of the following lines. These lines have not been previously reviewed by the NRC for application of LBB methodology:

(1) 12-inch SI lines (loops A and B) for both units. These lines are connected to the SI accumulators. The loop B line also serves as the RHR return line.

(2) 8-inch RHR lines (loops A and B) for both units. These lines serve as the RHR system suction lines. This analysis also includes analysis of thermal stratification in the Units 1 and 2 RHR suction lines.

(3) 6-inch cold leg SI lines (loops A and B) for both units. These lines provide flow from the high pressure SI pumps.

(4) 6-inch reactor vessel SI lines (loops A and B) for both units. These lines are composed of 4-inch diameter lines from the reactor vessel nozzle connected to a shorter section of 6-inch diameter lines near the isolation valves. Only the 6" portions of these lines are evaluated.

(5) 6-inch RCS drain down line on the hot leg (loop A on Unit 1 and loop B on Unit 2). This line consists of a short section of 6-inch diameter piping prior to reducing to 2-inch diameter at the isolation valve. Only the 6" portions of these lines are evaluated.

(6) 6-inch capped nozzle on the hot leg (loop B on Unit 1 and loop A on Unit 2).

(7) The PINGP Unit 2 pressurizer surge line (including the weld overlay application installed to mitigate the possibility of primary water stress corrosion cracking (PWSCC) in the pressurizer to surge line 82/182 nozzle-to-safe-end weld[1]).

2.2 Background

In a nuclear power plant, structures, systems, and components important to safety require protection from accidents, including pipe breaks. A pipe break creates dynamic forces due to fluid discharge and pipe whip as a reaction to the jet created at the break location. The magnitude of the dynamic forces generated by a pipe break depends on the size of the break. One method to determine the size of the break is to assume an instantaneous formation of an arbitrary break and separation across the pipe diameter. This deterministic postulation is non-mechanistic and provides the severest condition requiring a complex protection system to counteract the dynamic forces created by the pipe break.

In reality, a pipe break occurs through the formation of a tiny crack in the line that, if unstable, develops into a full size crack over time. A second method for estimating the crack size makes use of this fact to examine the potential and the duration of the crack formation. Through this analysis, it is possible to predict whether a crack will form and, in the event of its formation, whether sufficient warning will be available to safely shut down the plant. This complex analysis requires reliable engineering data of the pipe material, its configuration and plant operating experience. However, a successful implementation of this methodology reduces the complexity of systems required to protect the plant against pipe breaks. The application of this methodology, referred to as LBB methodology, reduces radiation exposure and maintenance costs while maintaining plant safety.

10 CFR 50, Appendix A, GDC 4 allows the use of LBB analyses, when reviewed and approved by the NRC, to eliminate from the design basis the dynamic effects of the pipe ruptures postulated in NUREG-0800, Section 3.6.2 (Reference 1). An NRC staff-approved LBB analysis permits licensees to remove protective hardware such as pipe whip restraints and jet impingement barriers, redesign pipe connected components, their supports and their internals, and perform other related changes in operating plants.

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[1] NSPM previously received NRC approval for the installation of a full structural weld overlay on the pressurizer surge line nozzle-to-safe end dissimilar metal and safe end-to-reducer stainless steel butt welds. The NRC determined the proposed alternative, submitted by NSPM under 10 CFR50.55a (a)(3)(i), provided an acceptable level of quality and safety. The NRC approval was dated June 15, 2008 (Reference 14).

The NRC previously approved application of LBB methodology for RCS piping (primary loop) for PINGP Units 1 and 2. Westinghouse performed a fracture mechanics evaluation, a determination of leak rates from a through-wall crack, a fatigue crack growth evaluation, and an assessment of margins for both PINGP Units 1 and 2 (References 2, 3, 4, and 5). These reports provided the basis for elimination of RCS primary loop pipe breaks from the design basis. Thermal aging and degradation of cast stainless steel was considered in these evaluations. Additional consideration of thermal aging effects was completed by the utilities in the Westinghouse Owners' Group (Reference 6).

The analyses submitted were accepted by the NRC as documented in a Safety Evaluation (SE) Report (References 7 and 8). In the SE the NRC found that the criteria provided in Chapter 5.0 of NUREG-1061, Volume 3, for evaluation of compliance with General Design Criterion 4, (GDC 4) of Appendix A to 10 CFR 50 as revised were satisfied and concluded that, *"the probability or likelihood of large pipe breaks occurring in the primary coolant system loops of Prairie Island Units 1 and 2 is sufficiently low such that dynamic effects associated with postulated pipe breaks in these facilities need not be a design basis. Furthermore, the staff concludes that the licensee is in compliance with GDC 4, as revised."*

The NRC also based their acceptance of the LBB technology on the capability of the RCS leak detection system. The size of the flaw should be large enough so that leakage from the flaw during normal operation would be 10 times greater than the minimum leakage the detection system is capable of sensing. When determining capabilities of the leakage detection system at PINGP, the guidelines of Regulatory Guide (RG) 1.45 were consulted. The NRC determined sensitivities of the PINGP leakage detection system in excess of those cited to meet the guidance of RG 1.45. The original Westinghouse evaluation uses the RG values for comparison.

The NRC also approved application of LBB methodology for the PINGP Unit 1, pressurizer surge line rupture. An LBB analysis was performed by Westinghouse consistent with the criteria in NUREG-1061, Volume 3, and GDC-4 of Appendix A to 10 CFR 50. The analysis concluded that the probability of large pipe breaks occurring in the pressurizer surge line is sufficiently low such that dynamic effects associated with the postulated pipe breaks need not be a design basis. The LBB analysis was submitted for NRC review (Reference 9), and was approved as documented in a NRC Safety Evaluation Report (Reference 10).

3.0 TECHNICAL EVALUATION

3.1 Licensing Methodologies

The application of the LBB methodology for nuclear power plant piping is provided for in modified GDC 4 of Appendix A of 10 CFR 50. Guidance for the application of this methodology is provided in NUREG-1061, Volume 3 (Reference 11) and in NUREG-0800, section 3.6.3 (Reference 12).

10 CFR 50, Appendix A, GDC 4 - *Environmental and dynamic effects design bases,* states:

> *Structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. These structures, systems, and components shall be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power unit. However, dynamic effects associated with postulated pipe ruptures in nuclear power units may be excluded from the design basis when analyses reviewed and approved by the Commission demonstrate that the probability of fluid system piping rupture is extremely low under conditions consistent with the design basis for the piping.*

NUREG-1061, Volume 3 (Reference 11) provides a methodology that the NRC accepts for LBB submittals. The LBB approach described applies the fracture mechanics technology to demonstrate that high energy fluid piping is very unlikely to experience double-ended ruptures or their equivalent in longitudinal or diagonal splits. The NUREG also provides a step by step approach to performing LBB analysis. NSPM has followed the guidance of NUREG-1061, Vol. 3 in performing the enclosed analyses.

NUREG-0800, Section 3.6.3 (Reference 12) provides guidance to NRC reviewers on the specific areas to review and acceptance criteria for LBB applications. The LBB methodology is reviewed for key parameters to ensure that acceptance criteria are satisfied.

3.2 Technical Assessment

The proposed update of the PINGP Units 1 and 2 LBB evaluation is provided in three separate enclosures as described below:

1. Enclosure 2 contains Structural Integrity Associates, Inc. (SIA) Report 0900634.401, Revision 2, *"Updated Leak-Before-Break for Several RCS Piping at Prairie Island Nuclear Generating Plant Units 1 and 2."* This report is an LBB analysis performed in accordance with the 10 CFR 50, Appendix A, GDC-4 and NUREG-1061, Vol. 3 as

supplemented by NUREG-0800, Standard Review Plan 3.6.3. The analysis includes (1) an evaluation of portions of the safety injection (SI) and residual heat removal (RHR) systems, and (2) an analysis of thermal stratification in the Units 1 and 2 RHR suction lines. Enclosure 6 contains a non-proprietary version of SIA Report 0900634.401, Revision 2.

2. Enclosure 3 contains SIA Report 0900634.402, Revision 2, *"Updated Leak-Before-Break (LBB) Report for Prairie Island Nuclear Generating Plant Unit 2 Pressurizer Surge Line Nozzle."* This report is an LBB analysis performed in accordance with the 10 CFR 50, Appendix A, GDC-4 and NUREG-1061, Vol. 3 as supplemented by NUREG-0800, Standard Review Plan 3.6.3. The analysis performs an evaluation of the weld overlay that was installed on the PINGP Unit 2 pressurizer surge line to mitigate the possibility of PWSCC in the pressurizer to surge line 82/182 nozzle-to-safe-end weld. Enclosure 7 contains a non-proprietary version of SIA Report 0900634.402, Revision 2.

3. Enclosure 4 contains WCAP-15379, *"Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Prairie Island Unit 2 Nuclear Plant."* This report is an LBB analysis performed in accordance with the 10 CFR 50, Appendix A, GDC-4 and NUREG-0800, Standard Review Plan 3.6.3. The analysis performs an evaluation of PINGP Unit 2 pressurizer surge line. The analysis was performed prior to installation of the weld overlay, evaluated in Enclosure 3 and thus is applicable to the entire Unit 2 pressurizer surge line with the exception of the pressurizer to surge line 82/182 nozzle-to-safe-end weld. Enclosure 8 contains WCAP-15380 which is a non-proprietary version of WCAP-15379.

Leak-Before-Break evaluation of PINGP Unit 1 and Unit 2 SI and RHR lines

SIA Report 0900634.401 (Enclosure 2) presents a leak-before-break (LBB) evaluation for piping systems attached to the RCS at PINGP, Units 1 and 2. The LBB evaluation was performed in accordance with 10 CFR 50, Appendix A GDC-4 and NUREG-1061, Vol. 3 as supplemented by NUREG-0800, Standard Review Plan 3.6.3.

The evaluation is based on determining critical flaw sizes and leakage rates at all weld locations using weld-specific loads. The critical flaw size refers to the through wall flaw length which becomes unstable under a given set of applied loads. Critical flaw sizes were calculated using both the net section plastic collapse and the elastic-plastic fracture mechanics (EPFM) J-Integral/Tearing Modulus (J/T) approach with conservative generic material properties. The "leakage flaw size" was determined as the minimum of one half the critical flaw size with a factor of unity on normal operating plus Safe Shutdown Earthquake (SSE) loads or the critical flaw size with a factor of $\sqrt{2}$ on normal operating plus SSE loads. Thus, the leakage flaw size maintains a safety factor of 2 on the critical flaw size under normal plus SSE loads and a safety factor of 1 when the loads are factored by $\sqrt{2}$. Leakage rates were then calculated through the leakage flaw sizes per the requirements of NUREG-1061. The determination of critical flaw sizes and leak rates

took into account the effects of restraint of pressure induced bending which has been shown to affect LBB analysis results especially for small diameter piping. A fatigue crack growth analysis was also performed to determine the growth of postulated semi-elliptical, inside surface flaws with an initial size based on ASME Code Section XI acceptance standards.

The analysis evaluates both current design conditions and Measurement Uncertainty Recapture (MUR) Uprate conditions.

Unit 2 Pressurizer Surge Line and the Surge Line 82/182 Nozzle-To-Safe-End Weld

Enclosures 3 and 4 provide a comprehensive evaluation of the PINGP Unit 2 pressurizer surge line. The evaluation has been split into two parts due to the age of the two reports and configuration changes. WCAP-15379 was performed in 2000 and SIA Report 0900634.402 was performed in 2009. When WCAP-15379 was performed, a weld overlay had not been installed on the PINGP Unit 2 pressurizer to surge line 82/182 nozzle-to-safe-end weld. Therefore, it was necessary to update WCAP-15379 to account for the configuration change. When SIA Report 0900634.402 was performed, it considered the original LBB report (WCAP-15379) and used bounding material properties and loads for the Unit 2 pressurizer surge line. The report includes a thorough evaluation of the pressurizer to surge line 82/182 nozzle-to-safe-end weld as the most likely position for a pipe crack to occur.

WCAP-15379 (Enclosure 4) contains the original Leak-Before-Break (LBB) evaluation for the PINGP Unit 2 pressurizer surge line including the nozzle. This evaluation was performed in accordance with 10 CFR 50, Appendix A, General Design Criterion 4 (GDC-4), "Environmental and Dynamic Effects Design Bases." The analysis followed the acceptable fracture mechanics procedures and criteria for LBB application as documented in NUREG-1061, Volume 3 and subsequently incorporated in Standard Review Plan (SRP) 3.6.3. However, in the existing LBB evaluation (WCAP-15379) the Alloy 82/182 weld connecting the carbon steel surge nozzle to the stainless steel safe end which is susceptible to PWSCC was not considered.

One of the limitations imposed by the NRC in SRP 3.6.3 and NUREG-1061, Vol.3 is that locations on piping systems that are susceptible to corrosion mechanisms such as PWSCC do not qualify for application of LBB. In a more recent revision of SRP 3.6.3, it is stated that nonconforming piping that has been treated by two mitigation methods may qualify for LBB if the piping contains no flaws larger than those permitted by ASME Section XI without repair.

NSPM has performed weld overlay repair for the Alloy 82/182 dissimilar metal welds (DMW) at PINGP Unit 2 to mitigate PWSCC at these welds. A full structural weld overlay (FSWOL) has already been applied for the pressurizer surge line nozzle. The application of the overlay with Alloy 52M weld metal provides a PWSCC resistant barrier and also results in substantially reduced stresses on the inner portion of the

configuration, thereby providing further protection against PWSCC initiation. Thus, the application of the weld overlay provides two mitigation methods.

The application of the weld overlay changes the geometric configuration of the component and as such, the existing LBB evaluation in WCAP-15379 was updated in SIA Report 0900634.402 (Enclosure 3) to reflect the new configuration. In addition, the new plant operating conditions for MUR Uprate were also considered.

The SIA Report 0900634.402 summarizes evaluations of the LBB aspects of installing a weld overlay at the Unit 2 pressurizer surge line nozzle for PINGP Unit 2 and shows that that LBB margins are still maintained. The attached report demonstrates that the weld overlay locations on the Unit 2 pressurizer surge line nozzle at Prairie Island meet the requirements stipulated in SRP 3.6.3 and NUREG-1061, Vol. 3.

Leakage Acceptance Criteria

When LBB was initially licensed for PINGP Units 1 and 2, LBB was applied to the RCS loops. NSPM used a criterion of 1 gpm in one hour for an acceptance criterion for RCS leakage as this was compliant with RG 1.45 (Reference 3). The calculated leakage was determined to be in excess of 10 times this limit and the NRC accepted this limit in a safety evaluation dated December 22, 1986 (Reference 7).

In response to NRC Bulletin 88-11, NSPM submitted a technical justification for eliminating the pressurizer surge line rupture as a structural design basis for PINGP Unit 1. This evaluation used the LBB methodology in NUREG-1061 Vol. 3 as the basis for determining the acceptability of this change in design bases. In this analysis NSPM used a criterion of 1 gpm in one hour for an acceptance criterion for RCS leakage as this was compliant with RG 1.45 (Reference 9). The calculated leakage was determined to be in excess of 10 times this limit and the NRC accepted this limit in a safety evaluation dated September 15, 1992 (Reference 10).

Each of the analyses in Enclosures 2 and 3 use an acceptance limit of 0.2 gpm based on the results of the leakage flaw. Enclosure 4 also uses a 0.2 gpm acceptance limit for leakage. This value is consistent with the precedent cited in section 4.2 below. In Reference 13, section 3.1.2, the NRC approved the use of 0.25 gpm for Kewaunee Nuclear Power Plant (KNPP) as an acceptance limit for the containment leakage detection sensitivity.

In Enclosure 2 it is demonstrated that the PINGP has a diverse containment leakage detection capability utilizing up to 12 different methods of detecting leakage. The most sensitive instruments have a minimum detectable leakage of as low as 0.1 gpm. The details of the containment leak detection capability for PINGP Units 1 and 2 were previously provided in a letter to the NRC (Reference 15). In this letter a detailed description of each of the leak detection systems and the derivation of each system's sensitivity is described.

3.3 Conclusion

The results of the evaluation (Enclosures 2, 3 and 4) indicate that a factor of ten exists for leak detection and a factor of two exists between the leakage flaw and the critical flaw sizes for the evaluated piping in PINGP Units 1 and 2. The faulted loads are combined by absolute summation method and therefore, the recommended margin on loads is satisfied. Other conditions relative to the operating history are also satisfied. The results of the evaluation are summarized below:

1. That water hammer, corrosion, creep, fatigue, erosion, environmental conditions, and indirect sources are remote causes of pipe rupture.
2. That a satisfactory deterministic fracture mechanics evaluation has been completed which meets NRC acceptance criteria.
3. That leak detection systems are sufficiently reliable, redundant, diverse and sensitive, and that margin exists to detect the through wall flaw used in the deterministic fracture mechanics evaluation.

It is therefore concluded that the LBB methodology is applicable to the evaluated PINGP piping systems.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The applicable regulatory requirement for submitting the LBB evaluation to exclude the dynamic effects associated with postulated pipe ruptures from the design basis is specified in 10 CFR 50, Appendix A, GDC 4. This LAR is submitted in accordance with 10 CFR 50.90.

4.2 Precedent

PINGP has previously received approval from the NRC for application of LBB methodology as described in section 2.0 above. See References 7, 8 and 10 for details.

In addition, KNPP performed a similar analysis on the 6-inch SI system lines, 12-inch accumulator injection system lines, 8-inch RHR system lines, and 6-inch nozzles attached to the RCS hot legs. The NRC determined that the licensee's analysis was conducted acceptably and a favorable LBB analysis result was achieved. The NRC approved this analysis by letter dated September 5, 2002 (Reference 13). For the piping under evaluation, KNPP is a 2-loop Westinghouse nuclear unit designed and constructed very similarly to PINGP Units 1 and 2.

4.3 No Significant Hazards Consideration

Northern States Power Company, a Minnesota Corporation (NSPM), doing business as Xcel Energy, proposes to amend the facility operating licenses of Prairie Island Nuclear Generating Plants (PINGP) Units 1 and 2 to exclude the dynamic effects (Leak-Before-Break (LBB)) associated with postulated pipe ruptures from the licensing basis for piping attached to the Reactor Coolant System (RCS). Specifically, this includes (1) portions of the safety injection (SI) and residual heat removal (RHR) systems attached to the RCS, and (2) the PINGP Unit 2 pressurizer surge line including the weld overlay application installed to mitigate the possibility of primary water stress corrosion cracking (PWSCC) in the pressurizer to surge line 82/182 nozzle-to-safe-end weld.

NSPM has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below:

1. **Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?**

   Response: No

   Overall protection system performance will remain within the bounds of the previously performed accident analyses. The design of the protection systems will be unaffected. The reactor protection system and engineered safety feature actuation system will continue to function in a manner consistent with the plant design basis. All design, material, and construction standards that were applicable prior to the request are maintained.

   For the PINGP, the bounding accident for pipe breaks is a Large Break Loss of Coolant Accident (LBLOCA). Since the application of the LBB Analysis verifies the integrity of the piping attached to the reactor coolant system, the probability of a previously evaluated accident is not increased. The consequences of a LBLOCA have been previously evaluated and found to be acceptable. The application of the LBB Analysis will cause no change in the dose analysis associated with a LBLOCA, and therefore, does not affect the consequences of an accident.

   The proposed amendment will not alter any assumptions or change any mitigation actions in the radiological consequence evaluations in the Updated Safety Analysis Report (USAR).

   Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No

No new accident scenarios, failure mechanisms, or single failures are introduced as a result of the proposed change. All systems, structures, and components previously required for the mitigation of an event remain capable of fulfilling their intended design function. The proposed change has no adverse effects on any safety related systems or components and does not challenge the performance or integrity of any safety related system. Further, there are no changes in the method by which any safety-related plant system performs its safety function. This amendment will not affect the normal method of power operation or change any operating parameters.

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

Margin of safety is related to the ability of the fission product barriers to perform their design functions during and following accident conditions. These barriers include the fuel cladding, the reactor coolant system, and the containment. The proposed amendment request does not involve a change to any of these barriers.

The proposed change does not involve a significant reduction in a margin of safety because the proposed changes do not reduce the margin of safety that exists in the present PINGP Technical Specifications or USAR. The operability requirements of the Technical Specifications are consistent with the initial condition assumptions of the safety analyses. The proposed change does not affect any Technical Specification Action statement requirements.

This proposed amendment uses LBB technology combined with leakage monitoring to show that it is acceptable to exclude the dynamic effects associated with postulated pipe ruptures from the licensing basis for the systems evaluated that are attached to the RCS. The enclosed analysis demonstrates that the LBB margins discussed in NUREG-1061 Volume 3 are satisfied.

Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

Therefore, based on the above, NSPM has concluded that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c) and, accordingly a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATIONS

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. NUREG-0800, US Nuclear Regulatory Commission Standard Review Plan, Section 3.6.2, "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping," Rev. 2, March 2007. [ADAMS Accession No. ML070660494]
2. Letter, D M Musolf (NSP) to Director NRR (NRC), "Elimination of Large Reactor Coolant System Pipe Ruptures from Structural Design Basis," October 24, 1984.
3. Letter, D M Musolf (NSP) to Director NRR (NRC), "Request for Exemption from the Requirements of 10 CFR Part 50, Appendix A, GDC-4", October 21, 1985.
4. Letter, D M Musolf (NSP) to Director of NRR (NRC), "Supplemental Information Related to Request for Exemption from the Requirements of 10 CFR Part 50, Appendix A, GDC-4", November 5, 1985.
5. Letter, D M Musolf (NSP) to Director of NRR (NRC), "Revised Technical Basis for Eliminating Large Primary Loop Pipe Rupture as Structural Design Basis". September 10, 1986.

6. WCAP-11515, "Impact of Thermal Aging on the Probability of Primary Loop Pipe Fracture of Westinghouse Type Commercial Pressurized Water Reactors," Westinghouse Electric Corporation, June, 1987.

7. Letter, D C Dilanni (NRC) to D M Musolf (NSP), "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to the Elimination of Large Primary Loop Ruptures as a Design Basis, Northern States Power Company, Prairie Island Nuclear Generating Plant Units 1 and 2", December 22, 1986.

8. Letter, J G Lamb (NRC) to J M Solymossy (NMC), "Subject: Prairie Island Nuclear Generating Plant, Units 1 and 2 - Correction to Leak Before Break Safety Evaluation Report" (TAC Nos. MC0022 and MC0023), August 15, 2003. [ADAMS Accession No. ML032190086]

9. Letter, T M Parker (NSP) to NRC, "Response to NRC Bulletin No. 88-11 Pressurizer Surge Line Thermal Stratification," June 17, 1991.

10. Letter, M Gamberoni (NRC) to T M Parker (NSP), "Prairie Island, Unit 1 - Response to NRC Bulletin 88-11 (TAC No. M72157)," September 15, 1992.

11. NUREG-1061, Volume 3, Report of the US Nuclear Regulatory Commission Piping Review Committee, Evaluation of Potential for Pipe Breaks, dated November 1984.

12. NUREG-0800, US Nuclear Regulatory Commission Standard Review Plan, Section 3.6.3, "Leak-Before-Break Evaluation Procedures," Rev. 1, March 2007. [ADAMS Accession No. ML063600396]

13. Letter, J G Lamb (NRC) to T Coutu (NMC), "Subject: Kewaunee Nuclear Power Plant – Review of Leak-Before-Break Evaluation for the Residual Heat Removal, Accumulator Injection Line, and Safety Injection System (TAC No. MB1301)," dated September 5, 2002. [ADAMS Accession No. ML022400097]

14. Letter, L James (NRC) to M Wadley (NMC), "Subject: Prairie Island Nuclear Generating Plant, Unit 2 – Alternative to ASME Code, Section XI, Structural Weld Overlay of Pressurizer Surge Nozzle Weld, Alternative Request No. 2-RR-4-8, Revision 1 (TAC No. MD5868)," dated June 15, 2008. [ADAMS Accession No. ML081360646]

15. Letter, L O Mayer (NSP) to V Stello (NRC), "Coolant Leakage Detection Analysis Report," dated March 31, 1976.

ENCLOSURE 5

AFFIDAVITS OF WITHHOLDING PURSUANT TO 10 CFR 2.390, STRUCTURAL INTEGRITY ASSOCIATES, INC., WESTINGHOUSE ELECTRIC CORPORATION, LLC, AND AREVA NP, INC.

26 pages follow

ENCLOSURE 5

AFFIDAVITS OF WITHHOLDING PURSUANT TO 10 CFR 2.390, STRUCTURAL INTEGRITY ASSOCIATES, INC., WESTINGHOUSE ELECTRIC CORPORATION, LLC, AND AREVA NP, INC.

Enclosure 5 contains the following proprietary information withholding requests:

- SIA has provided an affidavit for withholding the proprietary information contained in SIA Report 0900634.401, in Enclosure 2 from public disclosure. Enclosure 2 contains information proprietary to SIA. The affidavit sets forth the basis for which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390(b)(4).

- Westinghouse Electric Corporation, LLC (WEC) has provided an application and affidavit for withholding the proprietary information contained in SIA Report 0900634.401, in Enclosure 2 and SIA Report 0900634.402, in Enclosure 3 from public disclosure. Enclosures 2 and 3 contain information proprietary to WEC, the application is supported by an affidavit signed by WEC, the owner of the information. The affidavit sets forth the basis for which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390(b)(4).

- SIA has provided an affidavit for withholding the proprietary information contained in SIA Report 0900634.402, in Enclosure 3 from public disclosure. Enclosure 3 contains information proprietary to SIA. The affidavit sets forth the basis for which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390(b)(4).

- Areva NP, Inc. (Areva) has provided an affidavit for withholding the proprietary information contained in SIA Report 0900634.402, in Enclosure 3 from public disclosure. Enclosure 3 contains information proprietary to Areva. The affidavit sets forth the basis for which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390(b)(4).

- An application and affidavit from WEC for withholding the proprietary information contained in WCAP-15379, in Enclosure 4 from public disclosure. Enclosure 4 contains information proprietary to WEC, the application is supported by an affidavit signed by WEC, the owner of the information. The affidavit sets forth the basis for which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390(b)(4).

Correspondence with respect to the copyright or proprietary aspects of SIA information or the supporting SIA affidavits in Enclosure 5 should be addressed to M. Taylor, Senior Associate, Structural Integrity Associates, Inc., 5215 Hellyer Avenue Suite 210, San Jose, California, 95138.

Correspondence with respect to the copyright or proprietary aspects of WEC information or the supporting WEC affidavits in Enclosure 5 should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Correspondence with respect to the copyright or proprietary aspects of Areva information or the supporting Areva affidavit in Enclosure 5 should be addressed to R. L. Gardner, 3315 Old Forest Road, PO Box 10935, Lynchburg, VA 24506-0935.

The applications and affidavits are provided in the following pages.

Structural Integrity Associates, Inc.

5215 Hellyer Ave
Suite 210
San Jose, CA 95138-1025
Phone: 408-978-8200
Fax: 408-978-8964
www.structint.com

December 21, 2009

AFFIDAVIT

I, Moses Taylor, state as follows:

(1) I am a Senior Associate at Structural Integrity Associates, Inc. (SI) and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.

(2) The information sought to be withheld is contained in SI report 0900634.401 "Updated Leak-Before-Break Evaluation for Several RCS Piping at Prairie Island Nuclear Generating Plant Units 1 and 2." This report is to be treated as SI proprietary information, because it contains significant information that is deemed proprietary and confidential to Westinghouse Electric Company, LLC (Westinghouse). The design input information was provided to SI in strictest confidence so that we could generate the aforementioned report on behalf of SI's client, XCEL Energy.

Paragraph 3 of this Affidavit provides the basis for the proprietary determination.

(3) SI is making this application for withholding of proprietary information on the basis that such information was provided to SI under the protection of a Proprietary Information Agreement between SI and Westinghouse. In a separate Affidavit requesting withholding of such proprietary information prepared by Westinghouse, it relies upon the exemption of disclosure set forth in NRC Regulation 10 CFR 2.390(a)(4) pertaining to "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). As delineated in the Affidavit, the material for which exemption from disclosure is herein sought is considered proprietary for the following reasons (taken directly from Item 4 (ii) of the Affidavit):

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e. g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

Public disclosure of the information sought to be withheld is likely to cause substantial harm to Westinghouse with which SI has established a Proprietary Information Agreement.

I declare under penalty of perjury that the above information and request are true, correct, and complete to the best of my knowledge, information, and belief.

Executed at San Jose, California on this 21th day of December, 2009.

Moses Taylor, P.E.
Senior Associate

State of California

County of Santa Clara

Subscribed and sworn to (or affirmed) before me

on this 21 day of December, 2009,
Date Month Year

by

(1) Moses Taylor Jr.
Name of Signer

proved to me on the basis of satisfactory evidence to be the person who appeared before me (.) (X)
(and

(2) _____
Name of Signer

proved to me on the basis of satisfactory evidence to be the person who appeared before me.)

C. METZGER
Commission # 1866327
Notary Public - California
Santa Clara County
My Comm. Expires Sep 27, 2013

Place Notary Seal and/or Stamp Above

Signature _____
Signature of Notary Public

Westinghouse Electric Company
Nuclear Services
P.O. Box 355
Pittsburgh, Pennsylvania 15230-0355
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Direct tel: (412) 374-4643
Direct fax: (412) 374-3846
e-mail: greshaja@westinghouse.com
Proj letter ref NSP-09-121

Our ref: CAW-09-2714

December 21, 2009

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: 1) Structural Integrity Associates Report 0900634.401R2, "Updated Leak-Before-Break Evaluation for Several RCS Piping at Prairie Island Nuclear Generating Plant Units 1 and 2," December 2009.

2) Structural Integrity Associates Report 0900634.402R2, "Updated Leak-Before-Break (LBB) Report for Prairie Island Nuclear Generating Plant Unit 2 Pressurizer Surge Line Nozzle," December 2009.

The proprietary information for which withholding is being requested in the above-two (2) subject documents is further identified in Affidavit CAW-09-2714 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Xcel Energy.

The subject documents contain Westinghouse proprietary information. This affidavit addresses only the Westinghouse proprietary information used in the subject documents. Specifically, this proprietary information is the information from reference eleven (11) of subject document one (1) and references one (1) and sixteen (16) of subject document two (2).

Correspondence with respect to this application for withholding or the accompanying affidavit should reference CAW-09-2714, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

cc: George Bacuta (NRC OWFN 12E-1)

Enclosures

CAW-09-2714

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared J. A. Gresham, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Sworn to and subscribed before me
this 21st day of December 2009

Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Joyce A. Szepessy, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires April 16, 2013
Member, Pennsylvania Association of Notaries

(1) I am Manager, Regulatory Compliance and Plant Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's

competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.

(iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(v) The proprietary information sought to be withheld in this submittal is that which is referenced from Westinghouse proprietary documents and contained in Structural Integrity Associates Report 0900634.401R2, "Updated Leak-Before-Break Evaluation for Several RCS Piping at Prairie Island Nuclear Generating Plant Units 1 and 2" (Proprietary) and Structural Integrity Associates Report 0900634.402R2, "Updated Leak-Before-Break (LBB) Report for Prairie Island Nuclear Generating Plant Unit 2 Pressurizer Surge Line Nozzle" (Proprietary) for submittal to the Commission, being transmitted by Xcel Energy letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with Leak-Before-Break analysis for Prairie Island Unit 2 and may be used only for that purpose.

This information is part of that which will enable Westinghouse to:

(a) Support Xcel Energy in obtaining NRC approval of Structural Integrity's Updated Leak-Before-Break Reports 0900634.401 and 0900634.402 for Prairie Island Nuclear Generating Plant Unit 2.

Further this information has substantial commercial value as follows:

(a) Westinghouse plans to sell the use of this information to its customers for design information and licensing approval.

(b) Westinghouse can sell support and defense of the use of this material for use in design or licensing support.

(c) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar calculations and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

Proprietary Information Notice

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

Copyright Notice

Structural Integrity Associates, Inc.

5215 Hellyer Ave
Suite 210
San Jose, CA 95138-1025
Phone: 408-978-8200
Fax: 408-978-8964
www.structint.com

December 21, 2009

AFFIDAVIT

I, Moses Taylor, state as follows:

(1) I am a Senior Associate at Structural Integrity Associates, Inc. (SI) and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.

(2) The information sought to be withheld is contained in SI report 0900634.402 "Updated Leak-Before-Break (LBB) Report for Prairie Island Nuclear Generating Plant Unit 2 Pressurizer Surge Line Nozzle." This report is to be treated as SI proprietary information, because it contains significant information that is deemed proprietary and confidential to AREVA NP and Westinghouse Electric Company, LLC (Westinghouse). The design input information was provided to SI in strictest confidence so that we could generate the aforementioned report on behalf of SI's client, XCEL Energy.

Paragraph 3 of this Affidavit provides the basis for the proprietary determination.

(3) SI is making this application for withholding of proprietary information on the basis that such information was provided to SI under the protection of Proprietary Information Agreements between SI, AREVA NP and Westinghouse. In separate Affidavits requesting withholding of such proprietary information prepared by AREVA NP and Westinghouse, both parties rely upon the exemption of disclosure set forth in NRC Regulation 10 CFR 2.390(a)(4) pertaining to "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). As delineated in those Affidavits, the material for which exemption from disclosure is herein sought is considered proprietary for the following reasons:

The following is taken directly from Items 6(b) and 6(c) of the AREVA NP Affidavit:

a) 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; and

b) 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.

The following is taken directly from Item 4 (ii) of the Westinghouse affidavit:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e. g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

Public disclosure of the information sought to be withheld is likely to cause substantial harm to AREVA NP and Westinghouse with which SI has established Proprietary Information Agreements.

I declare under penalty of perjury that the above information and request are true, correct, and complete to the best of my knowledge, information, and belief.

Executed at San Jose, California on this 21th day of December, 2009.

Moses Taylor, P.E.
Senior Associate

State of California

County of Santa Clara

Subscribed and sworn to (or affirmed) before me

on this 21 day of December, 2009,
Date Month Year

by

(1) Moses Taylor Jr.
Name of Signer

proved to me on the basis of satisfactory evidence to be the person who appeared before me (.) (~~and~~

(2) _____
Name of Signer

proved to me on the basis of satisfactory evidence to be the person who appeared before me.)

C. METZGER
Commission # 1866327
Notary Public - California
Santa Clara County
My Comm. Expires Sep 27, 2013

Place Notary Seal and/or Stamp Above

Signature _____
Signature of Notary Public

AFFIDAVIT

COMMONWEALTH OF VIRGINIA)
) ss.
CITY OF LYNCHBURG)

1. My name is Ronnie L. Gardner. I am Manager, Corporate Regulatory Affairs, 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 contained in Structural Integrity Associates, Inc. Report No. 0900634.402, Revision 2, entitled "Updated Leak-Before-Break (LBB) Report for Prairie Island Nuclear Generating Plant Unit 2 Pressurizer Surge Line Nozzle," dated December 2009 and referred to herein as "Document." 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 the Document is considered proprietary for the reasons set forth in paragraphs 6(b) and 6(c) above.

7. In accordance with AREVA NP's policies governing the protection and control of information, proprietary information contained in this Document have 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.

Ronnie L. Gardner

SUBSCRIBED before me this 21st
day of December 2009.

S McFadden

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

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

Westinghouse Electric Company
Nuclear Services
P.O. Box 355
Pittsburgh, Pennsylvania 15230-0355
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

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CAW-09-2713

December 14, 2009

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: WCAP-15379, "Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Prairie Island Unit 2 Nuclear Plant" dated March 2000. (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-09-2713 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Xcel Energy.

Correspondence with respect to this application for withholding or the accompanying affidavit should reference CAW-09-2713, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Enclosures

cc: George Bacuta (NRC OWFN 12E-1)

CAW-09-2713

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared J. A. Gresham, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Sworn to and subscribed before me
this 14th day of December 2009

Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Joyce A. Szepessy, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires April 16, 2013
Member, Pennsylvania Association of Notaries

(1) I am Manager, Regulatory Compliance and Plant Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390; it is to be received in confidence by the Commission.

(iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in WCAP-15379, "Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Prairie Island Unit 2 Nuclear Plant" (Proprietary) dated March 2000, for Prairie Island Unit 2, being transmitted by the Xcel Energy letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse for the Prairie Island Unit 2 is expected to be applicable for other licensee submittals in response to certain NRC requirements for justification of eliminating pressurizer surge line rupture as the structural design basis, and may be used only for that purpose.

This information is part of that which will enable Westinghouse to:

(a) Provide documentation of the analysis, methods, and testing for reaching a conclusion relative to the elimination of pressurizer surge line rupture as the structural design basis.

(b) Establish pipe geometry, loading, material properties and critical locations for analysis to support the elimination of pressurizer surge line ruptures.

(c) Assist the customer in obtaining NRC approval.

Further this information has substantial commercial value as follows:

(a) Westinghouse plans to sell the use of similar information to its customers for purposes of meeting requirements for licensing documentation.

(b) Westinghouse can sell support and defense of the technology to its customers in the licensing process.

(c) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar methodologies and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

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