

August 13, 2010

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
NORTHERN STATES POWER COMPANY) Docket Nos. 50-282-LR/ 50-306-LR
)
(Prairie Island Nuclear Generating Plant,)
Units 1 and 2))

NRC STAFF REBUTTAL TESTIMONY OF JOHN GIESSNER
CONCERNING THE SAFETY CULTURE CONTENTION AND
THE REACTOR OVERSIGHT PROCESS

Q1. Please state your name, occupation, and by whom you are employed.

A1. My name is John (Jack) B. Giessner. I am employed as a branch chief and supervisor at the United States Nuclear Regulatory Commission (NRC). I am responsible for oversight of inspections at the Prairie Island Nuclear Generating Plant (PINGP). A statement of my professional qualifications is attached to my July 30, 2010 testimony.

Q2. What is the purpose of your testimony?

A2. The purpose of my testimony is to respond to testimony and exhibits submitted by the Prairie Island Indian Community (PIIC) on July 30, 2010.

Q3. At A19 of his testimony, Mr. Grimes notes that additional commitments by the Applicant may provide assurance that "no further damage to the containment vessel will result" and, in so doing, assumes that there already has been damage to the containment vessel. Does the NRC Staff have evidence that there has been any damage to the containment vessel?

A3. No. In discussion with our inspectors, and to the best of my knowledge, there has been no damage seen relating to the containment vessel. We agree with PIIC that the leak

should be repaired, but currently we have concluded this is not a current safety issue.

Q4. At A19 of his testimony, Mr. Grimes states: "The potential hazard of this leakage is that the borated water appears to be settling at the bottom of the containment liner, posing a danger to the integrity of the containment" and "[i]f leakage from the refueling cavity stays in contact with the steel liner and concrete structure for an extended period, corrosion could eat through the containment liner". Do you agree?

A4. No. Inspectors, who have been present and who have observed the bottom of the reactor vessel and viewed the containment vessel and the containment sump which is directly under the reactor vessel (sump C), have found no indications of accumulation or damage to the containment vessel has been observed. During these times, we have not identified deterioration of concrete in Sump C. We did not observe any accumulation of boric acid deposits. We did not observe any evidence of leakage from or on the lower head of the reactor vessel when we were doing our inspection. I do agree that if the leakage persists and action is not taken to identify, evaluate (if not corrected), and monitor the leakage, then more significant issues could arise. The licensee's assessment/ monitoring program are adequate at this time. See NRC Staff Exhibit 57.

Q5. At A19 of his testimony, Mr. Grimes testifies that "the Applicant did not acknowledge the importance of [the refueling cavity leakage] to aging management until the NRC audit in the Fall of 2008." Was the Applicant required to report the refueling cavity leakage to the NRC prior to the NRC audit in the Fall of 2008?

A5. No. There is no requirement in the regulations at 10 CFR that would have required the applicant to report the leakage to the NRC.

Q6. At A25 of his testimony, Mr. Grimes identifies "'crosscutting' issues in the areas of human performance, safety conscious work environment, problem identification and resolution, and other organizational components." Do crosscutting issues include "other organizational

components”?

A6. No, the crosscutting areas are: human performance, safety conscious work environment, problem identification and resolution.

Q7. Do you believe that the Applicant’s performance issues associated with the White finding related to the design of the PINGP component cooling water system call into question the Applicant’s ability to implement the aging management program during the period of extended operation?

A7. No. The issues with the White Finding had causes which were related to human performance. However, this was not a systemic breakdown of the corrective action process. In addition, the problems would not be considered so egregious that the NRC would determine a program (in this case aging management) could not be successfully implemented. Additional focus/inspections have been needed in the Corrective Action Program (CAP) area.

Q8. How do the performance issues associated with the White findings at PINGP relate to safety culture?

A8. If a White Finding has cross-cutting aspect (this is an attribute of safety culture) this would provide some insight into the licensee’s safety culture. Since it is only one aspect, an attribute, I would not draw a conclusion on the overall safety culture. Since the refueling cavity leakage, as it has been currently evaluated, is not an issue of more than minor significance, we would not assess a cross-cutting aspect to it. We would expect the licensee to correct the problem commensurate with the safety significance.

Q9. Do you agree, as Mr. Grimes asserts, that recent White Findings at PINGP indicate that PINGP is unable to resolve potentially risk-significant deficiencies associated with long-term, age related degradation?

A9. No. The White Finding in itself does not represent to me a systemic breakdown of the CAP process or program management. The NRC will conduct additional inspections to

ensure the licensee has adequately addressed the issue and taken action to correct the underlying causes. If the NRC is not satisfied with actions, the Finding is not closed and continues to 'count' against the action matrix. If the actions require programmatic corrections, the inspectors would ensure the actions are reasonable, address the problem and are scheduled commensurate with the significance of the issues.

Q10. Do you agree, as Mr. Grimes suggests, that despite awareness of performance deficiencies, PINGP has not taken adequate steps to address those issues?

A10. No I do not. In all cases for the greater than green Findings and for the green Findings, the licensee has taken prompt action to ensure plant safety. In the transportation and turbine driven auxiliary feedwater (TDAFW) pump issues, the agency has completed its detailed follow-up inspection and determined the actions completed or planned are acceptable. The high-energy line break / component cooling water White Finding is still being evaluated by the NRC staff, but the immediate actions are completed and the NRC concluded they were acceptable.

Q11. Do you agree, as Mr. Northard asserts, that the decrease in the number of human performance-related findings at PINGP indicates that PINGP has made progress addressing the SCCI identified in the September 2009 Mid-Cycle Assessment Letter?

A11. Yes, the reduction in the number of findings with the associated aspects in human performance is an indicator that PINGP is making progress. I would say that the number alone (reduction thereof) is not the only indication. Sustainability through programmatic changes is also needed.

Q12. Mr. Grimes cites his work on the Systemic Evaluation Program (SEP) in support of his qualification to opine on safety culture and PINGP's ability to implement aging management programs. Did the SEP involve human performance or safety culture issues?

A12. No. The SEP process was an effort to assess and put modifications in place in

older plants that were not subject to newer design criteria. The SEP used a risk based approach, and did not consider aspects of safety culture.

Q13. Do you agree, as Mr. Grimes suggests, that a CAP that focuses on detection of problems, as opposed to prevention of problems, is inadequate?

A13. No. I believe prevention of problems is a goal to strive for. I also believe that as long as you are detecting problems at the correct threshold, correcting these problems and preventing the significant conditions adverse to quality from recurring then you are meeting the rule (10 CFR 50, Appendix B, Criterion XVI), and therefore the program is adequate. It may not be as efficient or effective as you would like. In general, the PINGP CAP program is detecting items at the correct threshold, and preventing the recurrence of the significant issues. There are issues with the process that need to be addressed with strong action, but the fundamental process is working.

Q14. In A23, Mr. Grimes states that “[t]he conclusions in the NRC Information Notice [2009-11] are further evidence that there is a safety culture at Prairie Island that potentially fails to achieve four of the ten elements of an effective management program.” Do you agree?

A14. No, I do not. The TDAFW issue resulted in a White finding of moderate safety significance. The causal factor which provides the best insight into performance is failure to label the valve or have an appropriate locking device. These are discussed in the Information Notice. The full list discussed in Q23 was a compilation of configuration control events from many plants (with many not applicable to PI). I agree that some attributes of safety culture were lacking. I do not agree for the single event of this caliber, that the collective traits, activities, people and culture to ensure reactor safety is paramount is compromised. Again, this event showed some areas that needed to be addressed (and were), but the safety culture, at this time, at the site is adequate for continued operation and license renewal. If the licensee’s actions demonstrate that reactor safety is being eroded and reasonable assurance could not be

assured, we would take action and, if needed, order a plant shutdown.

Q15. In A45, Mr. Grimes concludes that, in order for the NRC to have reasonable assurance that NSP will manage the effects of aging during the period of extended operation, the NRC should direct NSP to conduct a third party assessment of safety culture and that the NRC should address corrective actions by NSP before the NRC issues a renewed license. Do you agree?

A15. No, reasonable assurance in managing the programs, processes and activities are assessed in the ROP process and the license renewal inspections. If we determine that we do not have the reasonable assurance the plant will operate safely, the agency will take action, up to and including a shutdown order. If we have concerns with issues related to the cross-cutting areas (the attributes of safety culture) we would assess the impact as described in my direct testimony. See NRC Staff Testimony of John Giessner Concerning the Safety Culture Contention and the Reactor Oversight Process (July 30, 2010), A28 – A30. In accordance with Inspection Manual Chapter (IMC) 0305, Operating Reactor Assessment Program (IMC 0305) (Staff Exhibit 10), if a plant continues to be in a SSCI for 3 assessment periods, the NRC would request an assessment of safety culture which would be typically independent. This is irrespective of what column you are in. It should be noted that if the licensee's performance is such that they are in column IV (multiple degraded cornerstone, consisting of multiple yellow or one red), the expectation is that the licensee would conduct a third party assessment of safety culture. And as part of our detailed 95003 inspection, we would evaluate the licensee's assessment of safety culture. Inspection Procedure 95003, Supplemental Inspection for Repetitive Degraded Cornerstones, or Multiple Yellow Inputs, or One Red Input (Staff Exhibit 24). If we determined that the licensee's assessment was not adequate, the NRC would conduct its own independent assessment of safety culture. These actions are done in column IV, PI is in column II.

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AFFIDAVIT OF JOHN (JACK) B. GIESSNER

I, John B. Giessner, do hereby declare under penalty of perjury that my statements in the foregoing testimony are true and correct to the best of my knowledge and belief.

Executed in Accordance with 10 CFR § 2.304(d)

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Dated at Rockville, Maryland
this 13th day of August, 2010