

August 13, 2010

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	Docket Nos. 50-282-LR
Northern States Power Co.)	50-306-LR
)	
(Prairie Island Nuclear Generating Plant,)	ASLBP No. 08-871-01-LR
Units 1 and 2))	

**PRAIRIE ISLAND INDIAN COMMUNITY’S REBUTTAL
STATEMENT OF POSITION ON THE SAFETY CULTURE CONTENTION**

In accordance with the Atomic Safety and Licensing Board (“Board”) April 20, 2010 Memorandum and Order,¹ the Prairie Island Indian Community (“PIIC” or “Community”) submitted its Initial Statement of Position (“Statement”) on the Community’s admitted Safety Culture Contention.² The NRC Staff (“Staff”)³ and Northern States Power, a Minnesota (“NSPM” or “Applicant”)⁴ have also filed their Initial Statements of Position. The Community submits the following Response to the Staff and Applicant Statements of Position.

OVERVIEW

The rationale behind the Community’s Safety Culture Contention is that a careful examination of events, including NRC inspection reports and enforcement actions, demonstrates that there is a weak safety culture at the Prairie Island Nuclear Generating Plant (“PINGP”). Consequently, the Applicant does not meet the requirements of 10 C.F.R. 54.29(a) which

¹ Order (Summarizing Prehearing Conference Call and Amending Hearing Schedule) dated April 20, 2010 (unpublished).

² Prairie Island Indian Community’s Initial Statement of Position on Safety Culture Contention dated July 30, 2010.

³ NRC Staff’s Initial Statement of Position on the Safety Culture Contention dated July 30, 2010.

⁴ NSPM’s Initial Statement of Position on Safety Culture Contention dated July 30, 2010.

provides that the Commission cannot issue a renewed license unless it finds reasonable assurance that the applicant will manage the effects of aging during the period of extended operation. The Applicant and Staff Statements of Position, and accompanying testimony and exhibits, do not provide a convincing case for an effective safety culture at PINGP. The absence of an effective safety culture at PINGP, and its implications for the Applicant's ability to manage the effects of aging during the period of extended operation, would not support a finding of reasonable assurance in accordance with 10 CFR 54.29(a).

The Applicant's Statement of Position asserts that steps have been taken to improve any safety culture deficiencies at PINGP, citing many assessments, including one just completed in June of this year.⁵ Notwithstanding all of the many assessments, the Community believes that the evidence cited in its Statement casts serious doubt on whether the Applicant has successfully implemented the recommendations of the various safety culture assessments. An assessment of safety culture that is not given management's support for speedy and effective resolution of the problems identified is meaningless. The Applicant's Statement of Position does not provide the confidence necessary to ensure that the safety culture deficiencies at PINGP have been fixed. The Staff Statement of Position devotes much attention to the legal issue, already resolved by the Board, that safety culture is an operational issue, and therefore outside the scope of license renewal. As the Community noted in its Statement, it would not address this "operational" issue because the Board had already found that it is proper and appropriate to address safety culture concerns as an issue in the renewal of a license.⁶ The main thrust of the Staff's Statement of Position is that the Staff does not think that safety culture concerns are relevant to the

⁵ Nuclear Safety Culture Assessment, June 21-25, 2010 (Northard Exhibit 39) (NSP000057).

⁶ Order (Narrowing and Admitting PIIC's Safety Culture Contention (January 28, 2010) (unpublished) (Agency Document and Management System Accession ("ADAMS") No. ML 100280537) ("Order").

implementation of the Applicant’s Aging Management Program (“AMP”), noting “[n]either the Staff nor the ACRS evaluated whether the applicant would **actually** implement the AMPs.” [Emphasis added]. The Staff’s view is that any noncompliances or problems that may arise with the Applicant’s implementation of the AMP because of a weak safety culture will be fixed as they arise because of the NRC’s inspection and enforcement program. The Community believes the potential public health and safety risks posed by a deficiency in the implementation of the AMP is too great for a “we’ll fix it after it happens” approach by the regulator. If indeed the evidence supports a finding of a weak safety culture at a facility that is on the eve of receiving a renewed license, then the Applicant and the NRC must ensure that those deficiencies are corrected before a reasonable assurance finding can be made. While the safety culture weaknesses do not represent an immediate threat to public health and safety, these weaknesses are so fundamental to effective aging management, that they preclude a finding of reasonable assurance that actions have been or will be taken to effectively manage aging effects during the period of extended operation.

DISCUSSION

I. The Relevant Standards

The Applicant, citing the recent Commission decision in Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station),⁷ states that “license renewal is not based on a standard of perfection or error-free performance. . . . Rather the standard for this demonstration is one of “reasonable assurance.”⁸ “To issue a renewed license, the NRC must find ‘reasonable assurance’ that the licensee will manage the effects of aging on the functionality of SSCs identified to

⁷ Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station), CLI-10-14, ___ N.R.C. ___, slip op. (June 17, 2010).

⁸ Applicant’s Statement of Position at 5.

require an ageing management review.”⁹ The Community is not arguing that “error-free performance” is what’s required in this case. Rather, the Community is asserting that several aspects of the safety culture, particularly those associated with problem identification and resolution, the corrective action program and human performance, provide the necessary underpinnings for a finding that there is reasonable assurance that the Applicant will manage the effects of aging during the period of extended performance. There are too many indications of a weak safety culture at PINGP to make this finding. The NRC defines Safety Culture as “that assembly of characteristics, attitudes, and behaviors in organizations and individuals, which establishes as an overriding priority, nuclear safety and security issues receive the attention warranted by their significance.”¹⁰ The Community believes that the evidence provided in its Statement demonstrate that this “assembly of attitudes, characteristics, and behaviors” at PINGP is not sufficient to provide the requisite reasonable assurance. In this regard, the Commission, in Pilgrim, cited with approval the concurring opinion in the Licensing Board case that was before the Commission on appeal on the Pilgrim license renewal. That opinion stressed the large number of “facts and circumstances” that clearly supported a finding of reasonable assurance.¹¹ Conversely, in this case, the Community believes that the many facts and circumstances related to a weak safety culture at PINGP put forward in the Community’s Statement provide the necessary support for a finding that reasonable assurance cannot be found in regard to the 10 CFR 54.29(a) standard.

⁹ See Pilgrim, at CLI-10-14, slip op. at 20.

¹⁰ NRC Draft Safety Culture Policy Statement, 74 Fed. Reg. 57525, 57526 (November 6, 2009) (NRC000032). The Institute of Nuclear Power Operations (INPO) has a similar definition of safety culture.

¹¹ See Pilgrim, at CLI-10-14, slip op. at 23.

II. The Applicant's Initial Statement of Position

The Applicant provides a list of programs and tools that it believes promote a strong safety culture at PINGP.¹² Numerous assessments, root cause evaluations, and other studies have been performed, including the June 21 – 25, 2010 Nuclear Safety Culture Assessment.¹³ These analyses continue to identify safety culture weaknesses.

As the Applicant admits in its Statement of Position, “[s]ome safety culture issues were identified in the RCE investigation of the reactor cavity leakage.”¹⁴ These “issues” were purportedly remedied by an improvement to the Corrective Action Program. However, as noted in the Community’s Statement, the Applicant’s 2009 assessment of the Corrective Action Program, “[t]he team concluded that the failure to achieve effective and timely problem resolution is due to inadequate program management and a weak safety culture.”¹⁵ In addition,

¹² Applicant’s Statement of Position at pages 10-16.

¹³ NSP000057. Applicant’s expert, Ed M. Peterson II, led a nuclear safety culture assessment (“NCSA”) at PINGP on June 21 – 25, 2010 under the auspices of the Utilities Service Alliance (“USA”). Although the team lead of the 2010 NCSA, Mr. Peterson has excellent credentials, Wolf Creek, the plant where he is the ombudsman, and presumably has a leading role at safety culture at the plant, is now in the degraded cornerstone category under the NRC Reactor Oversight Process. We note this to emphasize the point that safety culture programs, policies, and assessments, no matter how well done, are not effective unless there is a strong management commitment to implement those programs, policies, and assessment recommendations.

¹⁴ Applicant’s Statement of Position at page 26.

¹⁵ See SCAQ Inadequate CAP Resolution of Significant Issues, Xcel Energy (January 26, 2009) (Northard Exhibit 34 at 23-24) (NSP000052). Applicant correctly points out an error in the quote used in PIIC’s Initial Statement of Position: “[t]he site believes that failure to achieve effective and timely problem resolution is due to inadequate program management and **a weak safety culture.**” See Applicant’s Supplemental Statement of Position dated August 13, 2010, Para. 202 at 19. PIIC apologizes for the error. Nevertheless, the findings and conclusions set forth in the RCE Report clearly support the point raised by PIIC that there is a weak safety culture at the PINGP. For example, the Root Cause of the failure to achieve effective and timely problem resolution is identified in the RCE Report as follows: “Management has failed to consistently enforce quality standards and set work priorities based upon procedural requirements and risk / benefit to the plant.” RCE Report at 23 (Northard Exhibit 34) (NSP000052). Moreover, the RCE Report identifies Contributing Cause #3 as the “[f]ailure to perform all requirements within the procedure.” *Id.* In addition, “[t]he team determined that the

NRC inspection findings have stated “recognizable improvement in most areas of the CAP was lacking.”¹⁶

With regard to the description of Applicant’s efforts to address the refueling cavity leakage,¹⁷ the Community notes that a root cause analysis was not conducted until the 2008 time period, *more than twenty years after leakage was discovered*. Repairs made following the root cause analysis did not fix the problem as some leakage continues to occur. A safety significance assessment was not done until 1998, *ten years after the leakage was discovered*. In a strong safety culture, the Applicant would have taken the time to plan a search for the leakage path

principals [sic] are understood, however ***they are not demonstrated.***” *Id.* (emphasis added). Among other things, the team concluded that there is a breakdown in three of the safety culture attributes: 1) Everyone is personally responsible for nuclear safety; 2) Leaders demonstrate commitment to safety; and 3) Decision-making reflects safety first.” *Id.* PIIC assumes that a “breakdown” in these three safety culture attributes reflects a failure to demonstrate the safety culture attributes. While Applicant apparently seeks to gloss over these documented deficiencies with a conclusory statement that NSPM took “prompt, definitive action,” *see* Applicant’s Supplemental Statement of Position, Para. 202 at 19, including a colorful flow chart (Northard Exhibit 52) (NSP000070), problems and breakdowns continued to be documented. *See, e.g.* EA-08-272 NRC000019) (Notice of Violation dated January 27, 2009 for a White Significance Determination due to Applicant’s failure to adequately control the position of a normally open pressure switch block valve for the Unit 1 turbine-driven auxiliary feedwater pump); EA-08-349 (NRC000022) (Notice of Violation dated May 6, 2009 for a White Significance Determination Process due to Applicant’s shipment of radioactive materials with an external dose rate in excess of 200 mrem per hour); EA-09-167 (NRC000023) (Notice of Violation with a White Significance Determination Finding due to Applicant’s failure to ensure that the safety-related function of the component cooling water system was maintained following a high energy line break, seismic, or tornado events in the turbine building); EA-10-070 (which refers to inspection findings that began in 2008, and referred back to design issues raised 24 years ago in 1986[IR 2008005, 2009003, 2009010]) regarding the effects of high energy line breaks that could prevent safety systems from performing their intended function). Unfortunately, merely identifying the failures and the existence of a weak safety culture, or putting the performance goals on a glossy, colorful chart, does not translate into Applicant’s demonstration that it has successfully met and will continue to meet measurable performance objectives. Indeed, Northard Exhibit 52 (NSP000070) appears to state that Phase II results should be demonstrated by December 2010 and Phase III results by December 2011.

¹⁶ *See* Prairie Island Nuclear generating plant, Units 1 and 2, NRC Biennial Problem Identification and Resolution Inspection report, U.S. Nuclear Regulatory Commission (September 25, 2009) (PIIC Exhibit 20) (NSP000054).

¹⁷ Applicant’s Statement of Position at pages 17-19.

instead of finally doing a root cause evaluation when the NRC made it a condition for approval of the structures monitoring program to resolve the open item in the June 2009 Safety Evaluation Report for the License Renewal Application. The Applicant's failure in this regard is consistent with the findings of Applicant assessments and NRC inspection findings that there is a culture of recovery rather than a culture of prevention at PINGP.¹⁸ Likewise, for the Component Cooling Water System-High-Energy Line Brake ("CCW/HELB") problem discussed in the Community's Statement, the Applicant's Root Cause Evaluation (RCE) for the CCW/HELB concluded:

[N]o comparable analysis had been performed for the Turbine Building, even though the potential need for such an analysis had been identified years earlier. From 2000 through 2008, several opportunities existed for the CCW/HELB interaction in the Turbine Building to be identified and referred to the Corrective Action program. For a variety of reasons, the opportunities were missed.¹⁹

The Applicant goes on to recite a litany of weaknesses in the safety culture program as the cause for the lapses in regard to CCW/HELB, including in the Human Performance Program and the Corrective Action Program.²⁰ The NRC Supplemental Inspection Report in January 2010 on the radioactive material transport White finding, reported that the Applicant's RCE on this noncompliance determined that several safety culture components had an impact on the human performance issue and contributed to the White finding. In a mid-2009 performance review report for PINGP, the NRC noted that it had identified a substantive crosscutting issue ("SCCI") in the area of human performance. The NRC determined that there were 25 findings in the previous four calendar quarters documented with cross-cutting aspects in the human performance area, and indicated that the SCCI would remain open until all human performance cross-cutting themes have been satisfactorily addressed. Although the Applicant and the Staff

¹⁸ PIIC's Statement of Position at 7 and 8.

¹⁹ See Applicant's Statement of Position, Para. No. 90 at 36 (citing Northard Dir. at A52 and A53 and Exhibit 19 (NSP000037)).

²⁰ See Applicant's Statement of Position, Para. Nos. 91-93 at 36-37.

both state that these SCCI findings do not make a plant unsafe, it is yet another example of the many safety culture deficiencies at PINGP.

The Community was pleased to see that, although no strengths were identified in the safety culture at PINGP, that at least there were six positive observations, portending improvements in the safety culture.²¹ However, the absence of strengths, the five weaknesses and six Negative Observations identified, were troubling, particularly because they were in areas of concern that were highlighted in the Community's Statement. For example, the June NSCA, revisited a finding from the 2008 NSCA that a "culture of prevention has not been fully embraced."²² Performance in five of the six categories under this safety culture deficiency has actually declined since the 2008 Assessment. In regard to the Corrective Action Program, the pre-assessment survey included 93 survey responses with write-in comments. 65 of these 93 were negative. "The most common theme noted in the negative write-in comments dealt with the time taken to evaluate and implement corrective actions."²³ A Weakness identified in the Assessment was that some employees are concerned that long-standing and repeat equipment issues persist at the station. Examples of contributing causes to this belief are ineffective application of rigorous problem solving, root cause analysis, and project management.²⁴ Another Weakness identified in the Assessment was that "[s]ome employees indicated that the organization is ineffective at communicating changes, either organizational or program related, such that there is a lack of trust and understanding of the impending changes."²⁵ One of the "supporting data" entries for this Weakness was that [t]he reactive nature of the site to emergent

²¹ Nuclear Safety Culture Assessment, Xcel Energy, Prairie Island Nuclear Generating Plant (Utility Services of America, July, 2010) (Northard Exhibit 39) (NSP000057).

²² *Id.* at 33.

²³ *Id.* at 31.

²⁴ *Id.* at 22.

²⁵ *Id.* at 16.

issues does not allow proper planning and change management is often not effective.”²⁶ A third Weakness identified in the Assessment is that “[s]ome employees do not believe that Root Cause Analyses provide consistent resolution to prevent problems from occurring.”²⁷ A Negative Observation identified in the Assessment was that “...some employees believe processes to identify organizational weaknesses are not effectively utilized and implemented to resolve these weaknesses.”²⁸ One of the pieces of “supporting data” for this Negative Observation was “[t]he Component Cooling HELB issue, which is a legacy issue, was effectively identified; however, it has yet to be effectively resolved.”²⁹ Similarly, a Negative Observation was that, although management encourages the use of the Condition Report System, some do not believe the CAP system is effectively resolving problems in a timely manner.”³⁰ The Community believes these examples only serve to confirm that defects in the safety culture at PINGP that are particularly relevant to Aging Management would preclude a finding of reasonable assurance under 10 CFR 54.29(a).

In summary, over the last several years at PINGP, there have been many assessment, evaluations, and inspection findings identifying weaknesses in the safety culture at the facility. Even the Applicant’s initiatives to correct the safety culture issues have revealed safety culture weaknesses, including the “Target Zero Human Performance Plan” and a corresponding Performance Recovery Plan.”³¹ The Applicant’s testimony allegedly demonstrates a strong safety culture, but they continue to “augment” their programs and institute new initiatives like

²⁶ *Id.* at 17.

²⁷ *Id.* at 26.

²⁸ *Id.* at 27.

²⁹ *Id.* at 27.

³⁰ *Id.* at 24.

³¹ *See Applicant’s Statement of Position, Para. No. 101 at 39 (citing Northard Dir. at A67 and Northard Exhibits 22 (NSP000040) and 23 (NSP000041)).*

the Performance Jamboree to “make it even better.” From the Community’s perspective, however, what is needed is a comprehensive, integrated and coherent plan to address all of these safety culture issues, with measurable performance objectives, a schedule and proof of resolution. Unless and until such a plan is established and implemented, with Applicant’s demonstration that it has successfully met and will continue to meet measurable performance objectives, then the Commission could not find reasonable assurance that the Applicant will manage the effects of aging during the period of extended operation in accordance with 10 CFR 54.29(a).

III. The Staff Position Statement

The Staff states that the NRC’s reasonable assurance comes from, in part, confidence that even when the Applicant does not comply with the licensing basis, the NRC will identify the non-compliance and take appropriate measures.³² Furthermore, the NRC’s review of the PINGP’s aging management program and the NRC’s continuing oversight of the PINGP provides reasonable assurance that the PINGP will continue to operate safely.³³ The Community’s response is that the NRC’s continuing oversight process has been in place since PINGP began to operate, but it has not always been effective in identifying and correcting long-standing problems such as the refueling cavity leakage or the CCW/HELB. This is not an attack on the Applicant’s maintenance of the current licensing basis or a condition that represents an immediate threat to public health and safety. Instead, it is evidence that the Applicant has a systemic safety culture problem that, if not addressed, will continue to permit long-standing problems to continue and implement ineffective corrective actions into the period of extended

³² NRC Staff Statement of Position at 23.

³³ *Id.* at 31 and 32.

operation. This evidence, *which is undisputed*, should preclude a finding that the licensee will adequately manage the effects of aging.

The regulatory process did contemplate the kind of review required by the contention. The ten elements of an effective AMP, as described in both the License Renewal Standard Review Plan and the Generic Aging Lessons Learned provide substantial details about the nature and extent of the program attributes. As described in the Board decision admitting the contention, the human performance issues identified by the Community, as well as the weaknesses in problem identification and resolution (PI&R) and other cultural components described in the inspection findings and the documents disclosed by the Applicant, represent deficiencies in four or more of the AMP elements. The safety culture deficiencies that the Community has identified represent substantial deficiencies in aging management associated with the programs relied on for license renewal.

The NRC oversight process is mainly reactive and largely does not impose specific corrective actions in regard to safety culture issues arising from the significant cross-cutting issues. As safety culture issues arise, the NRC simply increases their inspection effort until the indicators improve. If the performance does not improve, the NRC may direct the licensee to conduct a safety culture assessment. If such an assessment reveals safety culture weaknesses, presumably the NRC will continue to increase their inspection efforts as long as the performance demonstrates cultural weaknesses. The ACRS concluded that the PINGP “can be operated” in accordance with their CLB but begs the question of “will it be operated” in accordance with the promises of the proposed AMP. That answer depends on more than just compliance with the GALL, it also depends on whether there is an adequate safety culture in place at the facility to implement the promises of the proposed programs. As noted earlier, Staff asserts that the

“regulatory process . . . does not require the Staff to determine whether an applicant will actually implement an AMP at some point in the future.”³⁴ While it is true that the NRC cannot guarantee adequate implementation, it must have reasonable assurance of adequate implementation of an AMP. The evidence of safety culture problems at PINGP undermines this reasonable assurance finding. PIIC has not challenged the staff license renewal review process, the ROP, or staff actions and processes to ensure that licensees’ commitments to correct specific technical problems are adequately carried out. The contention, instead, is premised on very substantial – and essentially undisputed – evidence of a deficient safety culture, and seeks measurable, demonstrable assurance that the numerous, significant safety culture problems have been addressed and corrected and will continue to be addressed and corrected to actually provide reasonable assurance that the AMP will be properly implemented.

³⁴ NRC Staff Initial Statement of Position at 10.

CONCLUSION

As set forth above and in the Community's Initial Statement of Position, the numerous, uncontroverted, events and reports provide very strong and substantial evidence that the safety culture at PINGP is in serious disarray. Consequently, the Applicant cannot demonstrate that they can meet the requirements of 10 C.F.R. 54.29(a)(1) that there is reasonable assurance that the Applicant will manage the effects of aging during the period of extended operation. Accordingly, the Community requests that the Board deny the application for license renewal until the Applicant can demonstrate that the safety culture inadequacies have been fixed.

Respectfully Submitted,

/Signed electronically by Philip R. Mahowald/

Philip R. Mahowald
PRAIRIE ISLAND INDIAN COMMUNITY
5636 Sturgeon Lake Road
Welch, MN 55089
Tel. (651) 267-4006
Counsel for Prairie Island Indian Community

Dated: August 13, 2010

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	Docket Nos. 50-282-LR
Northern States Power Co.)	50-306-LR
)	
(Prairie Island Nuclear Generating Plant,)	ASLBP No. 08-871-01-LR
Units 1 and 2))	

CERTIFICATE OF SERVICE

I hereby certify that a copy of the “Prairie Island Indian Community’s Rebuttal Statement of Position on the Safety Culture Contention,” dated August 13, 2010, was provided to the Electronic Information Exchange for service on the individuals listed below, this 13th day of August, 2010.

Administrative Judge
William J. Froehlich, Esq., Chair
Atomic Safety and Licensing Board
Mail Stop T-3 F23
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Email: wjfl@nrc.gov

Administrative Judge
Dr. Gary S. Arnold
Atomic Safety and Licensing Board
Mail Stop T-3 F23
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Email: gxa1@nrc.gov

Administrative Judge
Dr. Thomas J. Hirons
Atomic Safety and Licensing Board
Mail Stop T-3 F23
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Email: thomas.hirons@nrc.gov

Secretary
Att’n: Rulemakings and Adjudications Staff
Mail Stop O-16 C1
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
secy@nrc.gov; hearingdocket@nrc.gov

Office of Commission Appellate Adjudication
Mail Stop O-16 C1
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
E-mail: ocaamail@nrc.gov

Beth N. Mizuno, Esq.
Maxwell C. Smith, Esq.
Brian G. Harris, Esq.
Office of the General Counsel
Mail Stop O-15 D21
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
E-mail: beth.mizuno@nrc.gov;
maxwell.smith@nrc.gov;
brian.harris@nrc.gov

David R. Lewis, Esq.
Matias F. Travieso-Diaz, Esq.
Stefanie Nelson George, Esq.
Alison M. Crane, Esq.
Jason B. Parker, Esq.
Pillsbury, Winthrop, Shaw, Pittman, LLP
2300 N Street, N.W.
Washington, DC 20037-1122
E-mail: david.lewis@pillsburylaw.com
E-mail: matias.travieso-diaz@pillsburylaw.com
E-mail: stefanie.george@pillsburylaw.com
E-mail: alison.crane@pillsburylaw.com
E-mail: jason.parker@pillsburylaw.com

Peter M. Glass, Esq.
Xcel Energy Services, Inc.
414 Nicollet Mall
Minneapolis, Minnesota 55401
E-mail: peter.m.glass@xcelenergy.com

/Signed electronically by Philip R. Mahowald/

Philip R. Mahowald