



**AUG 23 2007**

L-PI-07-057  
10 CFR 50.46

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

Corrections to Emergency Core Cooling System (ECCS) Evaluation Models

Enclosed please find Attachment 1, "Westinghouse LOCA (loss of coolant accident) Evaluation Model Changes," which is the 2006 annual report of corrections to the Prairie Island Nuclear Generating Plant (PINGP) Units 1 and 2 ECCS Evaluation Models. This report is submitted in accordance with the provisions of 10 CFR 50.46 and summarizes changes made to both the large break LOCA (LBLOCA) and small break LOCA (SBLOCA) analyses.

The SBLOCA and LBLOCA Peak Clad Temperature (PCT) Assessment Sheets for Unit 1 and Unit 2 are enclosed as Attachment 2. The limiting LOCA analysis for Prairie Island Unit 1 and Unit 2, with consideration of all 10 CFR 50.46 assessments, remains the LBLOCA analysis, as summarized in Attachment 2.

Neither Attachment 1 nor Attachment 2 need be withheld from public disclosure.

Summary of Commitments

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

Michael D. Wadley  
Site Vice President, Prairie Island Nuclear Generating Plant  
Nuclear Management Company, LLC

Attachments (2)

cc: Administrator, Region III, USNRC  
Project Manager, Prairie Island, USNRC  
Resident Inspector, Prairie Island, USNRC

**ATTACHMENT 1**

**NUCLEAR MANAGEMENT COMPANY, LLC  
PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
DOCKET NOS 50-282 AND 50-306**

Westinghouse LOCA Evaluation Model Changes

3 Pages follow

**Effect of a Fuel Reconstitution on the Prairie Island Unit 1 Peak Cladding Temperature  
(Non-Discretionary Change)**

**NOTE: THIS APPLIES TO UNIT 1 ONLY**

**Background:**

During Cycle 24 operation at Prairie Island Unit 1, it was determined that there was leaking fuel in one once-burned assembly. To mediate this situation, two new rods of natural uranium are replacing the leakers.

**Affected Evaluation Model(s)**

Large Break LOCA SECY UPI Evaluation Model

**Estimated Effect:**

The Prairie Island Unit 1 Large Break LOCA SECY UPI and Small Break LOCA NOTRUMP analyses of record were evaluated for a fuel reconstitution of two rods to establish the effect on PCT. The estimated effect is +1°F on the PCT for both Large Break LOCA and Small Break LOCA.

**GENERAL CODE MAINTENANCE  
(Enhancements/Forward-Fit Discretionary Change)**

**Background**

Various changes in code input and output format have been made to enhance usability and help preclude errors in analyses. This includes both input changes (e.g., more relevant input variables defined and more common input values used as defaults) and input diagnostics designed to preclude unreasonable values from being used, as well as various changes to code output which have no effect on calculated results. In addition, various updates were made to eliminate inactive coding, improve active coding, and enhance commenting, both for enhanced usability and to facilitate code debugging when necessary. These changes represent Discretionary Changes that will be implemented on a forward-fit basis in accordance with Section 4.1.1 of WCAP-13451.

**Affected Evaluation Models**

1981 Westinghouse Large Break LOCA Evaluation Model with BASH  
1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

**Estimated Effect**

The nature of these changes leads to an estimated PCT impact of 0°F.

**Effect of a Fuel Reconstitution on the Prairie Island Unit 1 Peak Cladding Temperature  
(Non-Discretionary Change)**

**NOTE: THIS APPLIES TO UNIT 1 ONLY**

**Background:**

During Cycle 24 operation at Prairie Island Unit 1, it was determined that there was leaking fuel in one once-burned assembly. To mediate this situation, two new rods of natural uranium are replacing the leakers.

**Affected Evaluation Model(s)**

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

**Estimated Effect:**

The Prairie Island Unit 1 Large Break LOCA SECY UPI and Small Break LOCA NOTRUMP analyses of record were evaluated for a fuel reconstitution of two rods to establish the effect on PCT. The estimated effect is +1°F on the PCT for both Large Break LOCA and Small Break LOCA.

**ATTACHMENT 2**

**NUCLEAR MANAGEMENT COMPANY, LLC  
PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
DOCKET NOS 50-282 AND 50-306**

LBLOCA and SBLOCA Peak Clad Temperature Assessment Sheets

8 pages follow

**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Large Break**

**Plant Name:** Prairie Island Unit 1  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 5/16/2006

**Analysis Information**

**EM:** SECY UPI                      **Analysis Date:** 3/1/1995                      **Limiting Break Size:** Cd = 0.4  
**FQ:** 2.4                              **FdH:** 1.77  
**Fuel:** OFA                          **SGTP (%):** 15  
**Notes:** Zirlo™, OSG SGTP Evaluated up to 24.64% (see also Note e); Fq increased to 2.5 (Item A.10); RSG Study at 10% SGTP.

	Clad Temp (°F)	Ref.	Notes
<b>LICENSING BASIS</b>			
<b>Analysis-Of-Record PCT</b>	2180	1,2	(a)
<b>PCT ASSESSMENTS (Delta PCT)</b>			
<b>A. PRIOR ECCS MODEL ASSESSMENTS</b>			
1 . Fixed Heat Transfer Node Assignment Error/Accumulator Water Injection Error (1995 Report)	-175	3	
2 . 1-D Transition Boiling Heat Transfer Error (1997 Report)	59	5	
3 . Vessel Channel DX Error (1997 Report)	-14	5	
4 . Input Consistency (1997 Report)	-66	5	
5 . No Items for 1996 & 1998 Reports	0	4,6	
6 . Accumulator Line/Pressurizer Surge Line Data / Plant Specific Accumulator Level & Line Volume / Plant Specific Restart Error: Reanalysis (1999 Report)	113	7	(b)
7 . Modeling Updates and Unheated Conductor Input Corrections (Plant Specific, 2000 Report)	-147	8,10	(c)
8 . Accumulator Pressure +/- 30 psi Range (Plant Specific, 2001 Report)	8	11,12	(d)
9 . LHSI Error Evaluation (Plant Specific, 2002 Report)	30	13,14	(g)
10 . Sensitivity Study for FQ=2.5, LHSI Correction, etc. (as listed in note (f)) (Plant Specific, 2003 Report)	-47	16,18,19	(f,h)
11 . Broken Loop Nozzle Loss Coefficient (Plant Specific)	-19	18,19,21,25	(h)
12 . SECY Cold Leg Nozzle Expansion	13	25	
<b>B. PLANNED PLANT MODIFICATION EVALUATIONS</b>			
1 . Sensitivity Study for Steam Generator Tube Plugging Increase to 25%	52	8	
2 . Accumulator Water Volume +/- 25 ft3 Range	12	11	
3 . Accumulator Pressure Extended to +/- 55 psi Range	21	11	
4 . 2 Reconstituted Rods Evaluation	1	9	
5 . SATP Core Average Burnup	17	20,22	
6 . Sensitivity Study for Framatome Replacement Steam Generators	32	23	
7 . HAUP LOCA Evaluation	3	24	
<b>C. 2007 ECCS MODEL ASSESSMENTS</b>			



**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Large Break**

**Plant Name:** Prairie Island Unit 1  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 5/16/2006

I . None 0

**D. OTHER\***

I . Removal of Reference 14 LHSI Error Evaluation -30 16 (g)

**LICENSING BASIS PCT + PCT ASSESSMENTS**

**PCT = 2043**

\* It is recommended that the licensee determine if these PCT allocations be considered with respect to 10 CFR 50.46 reporting requirements.

**References:**

- 1 . 95NS-G-0021, "Updated UPI LBLOCA," March 24, 1995.
- 2 . WCAP-13919, Addendum 1, "Prairie Island Units 1 and 2 WCOBRA/TRAC Best Estimate UPI Large Break LOCA Analysis Engineering Report Addendum 1: Updated Results," December 1996.
- 3 . NSP-96-202, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting," February 20, 1996.
- 4 . NSP-97-201, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting," April 17, 1997.
- 5 . NSP-98-012, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 1997," February 27, 1998.
- 6 . NSP-99-010, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 1998," April 29, 1999.
- 7 . NSP-00-005, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 1999," February 2000.
- 8 . NSP-00-057, "Northern States Power Company Prairie Island Units 1 and 2 LOCA Evaluation of 25% SGTP with Other Modeling Updates," December 11, 2000.
- 9 . LTR-LIS-06-277, "Reconstitution Evaluation, 10 CFR 50.46 Reporting Plant Specific Text, and Updated Rackup Sheets for Prairie Island Unit 1, Cycle 24," 5/2006.
- 10 . NSP-01-006, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2000," March 6, 2001.
- 11 . NSP-02-9, "Nuclear Management Company Prairie Island Units 1 and 2 LBLOCA Accumulator Pressure and Volume Ranges Evaluation," February 15, 2002.
- 12 . NSP-02-5, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2001," March 2002.
- 13 . NSP-02-59/LTR-ESI-02-194, "Final Evaluation of Large Break LOCA Error," December 2002.
- 14 . NSP-03-19, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2002," March 2003.
- 15 . MP92-TAH-0394 / ET-NSL-OPL-I-92-518, "NSPC Prairie Island Units 1 and 2, SG Tube Flow Area Reduction under LOCA / SSE - Final Report", October 21, 1992.
- 16 . NSP-04-10 "Safety Analysis Transition Program Transmittal of Engineering Report," February 20, 2004.
- 17 . NSP-93-513, Rev 1/ET-NSL-OPL-I-93-313, Rev. 1, Letter from T. A. Hawley (W) to K. E. Higar (NSP), "Final Transmittal of Assumptions to be used for the Large and Small Break LOCA Analyses, Rev. 1", July 7, 1993. Confirmed by: Letter from K. E. Higar (NSP) to Mr. T. Hawley (W), "Acceptance of NSP-93-513, Rev. 1", July 30, 1993.
- 18 . NSP-04-38, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2003," March 2004.
- 19 . WCAP-16206-P, "SATP Engineering Report for Prairie Island," February 2004.
- 20 . NF-NMC-04-49, "Nuclear Management Company Prairie Island Unit 1 Cycle 22 Final RSE," April 2004.

**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Large Break**

**Plant Name:** Prairie Island Unit 1  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 5/16/2006

- 21 . NSP-04-65, "Nuclear Management Company Prairie Island Units 1 & 2 Safety Analysis Transition Program Repsonse to 10 CFR 50.46 Inquiry," April 21, 2004.
- 22 . NF-NMC-04-129, "Nuclear Management Company Prairie Island Unit 1, Cycle 23 Final RSE," August 2004.
- 23 . NSP-04-114, "Nuclear Management Company Prairie Island Units 1 & 2, Safety Analysis Transition Program, Transmittal of LBLOCA Replacement Steam Generator (RSG) Engineering Report Addendum," (WCAP-16206-P-Addendum 1), June
- 24 . NSP-05-155, "Nuclear Management Company, Reactor Vessel Head Replacement Project, Prairie Island Units 1 & 2," May 18, 2005.
- 25 . NSP-05-191, "Miscellaneous LBLOCA SECY EM Error Notification," August 2005.

**Notes:**

- (a) P-bar-HA increased from 1.57 to 1.59
- (b) Reanalysis for all listed issues
- (c) Reanalysis for both issues
- (d) Related JCO in existence (NSP-01-030). NMC cognizant of uncertainty application and PCT sheet categorization.
- (e) It is assumed that NMC is applying the 0.36% SGTP allowance factor branch of the SG LOCA / SSE issue (Reference 15). Thus the 25% SGTP Study (Item B.1) supports a net SGTP limit of 24.64%.
- (f) Sensitivity Study for: FQ=2.50, PAD 4.0 Implementation, Restoration of LHSI to Reference 17 values, SG/Loop  $\Delta P$  Re-tuning, Core Power Restoration.
- (g) The note (f) sensitivity study allows for the removal of the Reference 13 engineering assessment.
- (h) Items A.10 and A.11 presented as aggregate -66 °F entry prior to Reference 21 decomposition.

**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Small Break**

**Plant Name:** Prairie Island Unit 1  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 5/12/2006

**Analysis Information**

**EM:** NOTRUMP                      **Analysis Date:** 11/21/2003                      **Limiting Break Size:** 6 inch  
**FQ:** 2.8                              **FdH:** 2  
**Fuel:** OFA                          **SGTP (%):** 10  
**Notes:** Zirlo™ (14X14), Framatome RSG

	Clad Temp (°F)	Ref.	Notes
<b>LICENSING BASIS</b>			
<b>Analysis-Of-Record PCT</b>	1409	1,2,3	(a)
<b>PCT ASSESSMENTS (Delta PCT)</b>			
<b>A. PRIOR ECCS MODEL ASSESSMENTS</b>			
1 . None	0		
<b>B. PLANNED PLANT MODIFICATION EVALUATIONS</b>			
1 . 2 Reconstituted Rods Evaluation	1	4	
<b>C. 2007 ECCS MODEL ASSESSMENTS</b>			
1 . None	0		
<b>D. OTHER*</b>			
1 . None	0		
<b>LICENSING BASIS PCT + PCT ASSESSMENTS</b>	<b>PCT = 1410</b>		

\* It is recommended that the licensee determine if these PCT allocations be considered with respect to 10 CFR 50.46 reporting requirements.

**References:**

- 1 . NSP-04-10 "Safety Analysis Transition Program Transmittal of Engineering Report," February 20, 2004.
- 2 . WCAP-16206-P, "Safety Analysis Transition Program Engineering Report for the Prairie Island Nuclear Power Plant, Volume 1 Engineering Analyses," February 2004.
- 3 . OC-PX-2004.009, "SBLOCA Analysis Loop Seal Restriction Option," Mercier to Brown, March 5, 2004.
- 4 . LTR-LIS-06-277, "Reconstitution Evaluation, 10 CFR 50.46 Reporting Plant Specific Text, and Updated Rackup Sheets for Prairie Island Unit 1, Cycle 24," 5/2006.

**Notes:**

- (a) The 6-inch break is limiting when the loop seal restriction is applied to all break sizes.

**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Large Break**

**Plant Name:** Prairie Island Unit 2  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 2/23/2006

**Analysis Information**

**EM:** SECY UPI                      **Analysis Date:** 3/1/1995                      **Limiting Break Size:** Cd = 0.4  
**FQ:** 2.4                              **FdH:** 1.77  
**Fuel:** OFA                          **SGTP (%):** 15  
**Notes:** Zirlo™, SGTP Evaluated up to 24.64% (see also Note e); Fq increased to 2.5 (Item A.10)

	<b>Clad Temp (°F)</b>	<b>Ref.</b>	<b>Notes</b>
<b>LICENSING BASIS</b>			
<b>Analysis-Of-Record PCT</b>	2180	1,2	(a)
<b>PCT ASSESSMENTS (Delta PCT)</b>			
<b>A. PRIOR ECCS MODEL ASSESSMENTS</b>			
1 . Fixed Heat Transfer Node Assignment Error/Accumulator Water Injection Error (1995 Report)	-175	3	
2 . 1-D Transition Boiling Heat Transfer Error (1997 Report)	59	5	
3 . Vessel Channel DX Error (1997 Report)	-14	5	
4 . Input Consistency (1997 Report)	-66	5	
5 . No Items for 1996, 1998 & 2004 Reports	0	4,6,23	
6 . Accumulator Line/Pressurizer Surge Line Data / Plant Specific Accumulator Level & Line Volume / Plant Specific Restart Error: Reanalysis (1999 Report)	113	7	(b)
7 . Modeling Updates and Unheated Conductor Input Corrections (plant specific) (2000 Report)	-147	8,9	(c)
8 . Accumulator Pressure +/- 30 psi Range (Plant Specific) (2001 Report)	8	10,11	(d)
9 . LHSI Error Evaluation (Plant Specific) (2002 Report)	30	12,13	(g)
10 . Sensitivity Study for FQ=2.5, LHSI Correction, etc. (as listed in note (f)) (Plant Specific) (2003 Report)	-47	15,17,18	(f,h)
11 . Broken Loop Nozzle Loss Coefficient (Plant Specific)	-19	17,18,20,24	(h)
12 . SECY Cold Leg Nozzle Expansion	13	24	
<b>B. PLANNED PLANT MODIFICATION EVALUATIONS</b>			
1 . Sensitivity Study for Steam Generator Tube Plugging Increase to 25%	52	8	
2 . Accumulator Water Volume +/- 25 ft3 Range	12	10	
3 . Accumulator Pressure Extended to +/- 55 psi Range	21	10	
4 . Cycle 22 SATP Core Average Burnup	17	19	
5 . HAUP LOCA Evaluation	3	21	
6 . SATP Core Average Burnup Extension for Cycle 23 Redesign	7	22	
<b>C. 2007 ECCS MODEL ASSESSMENTS</b>			
1 . None	0		

**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Large Break**

**Plant Name:** Prairie Island Unit 2  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 2/23/2006

**D. OTHER\***

1 . Removal of Reference 12 LHSI Error Evaluation -30 15 (g)

**LICENSING BASIS PCT + PCT ASSESSMENTS**

**PCT = 2017**

\* It is recommended that the licensee determine if these PCT allocations be considered with respect to 10 CFR 50.46 reporting requirements.

**References:**

- 1 . 95NS-G-0021, "Updated UPI LBLOCA," March 24, 1995.
- 2 . WCAP-13919, Addendum 1, "Prairie Island Units 1 and 2 WCOBRA/TRAC Best Estimate UPI Large Break LOCA Analysis Engineering Report Addendum 1: Updated Results," December 1996.
- 3 . NSP-96-202, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting," February 20, 1996.
- 4 . NSP-97-201, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting," April 17, 1997.
- 5 . NSP-98-012, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 1997," February 27, 1998.
- 6 . NSP-99-010, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 1998," April 29, 1999.
- 7 . NSP-00-005, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 1999," February 2000.
- 8 . NSP-00-057, "Northern States Power Company Prairie Island Units 1 and 2 LOCA Evaluation of 25% SGTP with Other Modeling Updates," December 11, 2000.
- 9 . NSP-01-006, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2000," March 6, 2001.
- 10 . NSP-02-9, "Nuclear Management Company Prairie Island Units 1 and 2 LBLOCA Accumulator Pressure and Volume Ranges Evaluation," February 15, 2002.
- 11 . NSP-02-5, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2001," March 2002.
- 12 . NSP-02-59/LTR-ESI-02-194, "Final Evaluation of Large Break LOCA Error," December 2002.
- 13 . NSP-03-19, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2002," March 2003.
- 14 . MP92-TAH-0394 / ET-NSL-OPL-1-92-518, "NSPC Prairie Island Units 1 and 2, SG Tube Flow Area Reduction under LOCA / SSE - Final Report", October 21, 1992.
- 15 . NSP-04-10 "Safety Analysis Transition Program Transmittal of Engineering Report," February 20, 2004.
- 16 . NSP-93-513, Rev 1/ET-NSL-OPL-1-93-313, Rev. 1, Letter from T. A. Hawley (W) to K. E. Higar (NSP), "Final Transmittal of Assumptions to be used for the Large and Small Break LOCA Analyses, Rev. 1", July 7, 1993. Confirmed by : Letter from K. E. Higar (NSP) to Mr. T. Hawley (W), "Acceptance of NSP-93-513, Rev. 1", July 30, 1993.
- 17 . NSP-04-38, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2003," March 2004.
- 18 . WCAP-16206-P, "SATP Engineering Report for Prairie Island," February 2004.
- 19 . NF-NMC-04-50, "Nuclear Management Company Prairie Island Unit 2 Cycle 22 Final RSE," April 2004.
- 20 . NSP-04-65, "Nuclear Management Company Prairie Island Units 1 & 2 Safety Analysis Transition Program Response to 10 CFR 50.46 Inquiry," April 21, 2004.
- 21 . NSP-05-155, "Nuclear Management Company, Reactor Vessel Head Replacement Project, Prairie Island Units 1 & 2," May 18, 2005.

**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Large Break**

**Plant Name:** Prairie Island Unit 2  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 2/23/2006

- 22 . NF-NMC-05-38 Rev. 1, "Prairie Island Unit 2 Cycle 23 Final RSE," May 13, 2005
- 23 . NSP-05-65, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2004," April 2005.
- 24 . NSP-05-191, "Miscellaneous LBLOCA SECY EM Error Notification," August 2005.

**Notes:**

- (a) P-bar-HA increased from 1.57 to 1.59
- (b) Reanalysis for all listed issues
- (c) Reanalysis for both issues
- (d) Related JCO in existence (NSP-01-030). NMC cognizant of uncertainty application and PCT sheet categorization.
- (e) It is assumed that NMC is applying the 0.36% SGTP allowance factor branch of the SG LOCA / SSE issue (Reference 14). Thus the 25% SGTP Study (Item B.1) supports a net SGTP limit of 24.64%.
- (f) Sensitivity Study for: FQ=2.50, PAD 4.0 Implementation, Restoration of LHSI to Reference 16 values, SG/Loop  $\Delta P$  Re-tuning, Core Power Restoration.
- (g) The note (f) sensitivity study allows for the removal of the Reference 12 engineering assessment.
- (h) Items A.10 and A.11 presented as aggregate -66 °F entry prior to Reference 20 decomposition.

**Westinghouse LOCA Peak Clad Temperature Summary for Appendix K Small Break**

**Plant Name:** Prairie Island Unit 2  
**Utility Name:** Nuclear Management Company, LLC  
**Revision Date:** 2/23/2006

**Analysis Information**

**EM:** NOTRUMP                      **Analysis Date:** 9/1/2000                      **Limiting Break Size:** 3 inch  
**FQ:** 2.8                              **FdH:** 2  
**Fuel:** OFA                           **SGTP (%):** 25  
**Notes:** Zirlo™ (14X14)

	Clad Temp (°F)	Ref.	Notes
<b>LICENSING BASIS</b>			
<b>Analysis-Of-Record PCT</b>	1142	1	(a)
<b>PCT ASSESSMENTS (Delta PCT)</b>			
<b>A. PRIOR ECCS MODEL ASSESSMENTS</b>			
1 . No Items for 2000, 2001 & 2002 Reports	0	2,4,5	
2 . NOTRUMP Bubble Rise / Drift Flux Model Inconsistency Corrections	35	6,7	
<b>B. PLANNED PLANT MODIFICATION EVALUATIONS</b>			
1 . None	0		
<b>C. 2007 ECCS MODEL ASSESSMENTS</b>			
1 . None	0		
<b>D. OTHER*</b>			
1 . Evaluation for Reduced Auxiliary Feedwater Flow Rate	0	3	
<b>LICENSING BASIS PCT + PCT ASSESSMENTS</b>	<b>PCT = 1177</b>		

\* It is recommended that the licensee determine if these PCT allocations be considered with respect to 10 CFR 50.46 reporting requirements.

**References:**

- 1 . NSP-00-045, "SBLOCA Re-analysis with Revised NOTRUMP Code," October 2, 2000.
- 2 . NSP-01-006, "Northern States Power Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2000," March 6, 2001.
- 3 . NSP-02-36, "SBLOCA Limited FSAR Update and Evaluation for Revised Auxiliary Feedwater Flow Rate," October 2002.
- 4 . NSP-02-5, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2001," March 2002.
- 5 . NSP-03-19, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2002," March 2003.
- 6 . NSP-03-68, "10 CFR 50.46 Mid-Year Notification and Reporting for 2003," November 2003.
- 7 . NSP-03-38, "Nuclear Management Company Prairie Island Units 1 and 2 10 CFR 50.46 Annual Notification and Reporting for 2003," March 2004.

**Notes:**

- (a) Accumulator water volume sensitivity of +/- 30 cubic feet included.