UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OCT 22 1981

10/27/81

Docket Nos. 50-266
50-301

MEMORANDUM FOR: Robert A. Clark, Chief
Operating Reactors Branch #3, DL

29547

FROM: T. G. Colburn, Project Manager
Operating Reactors Branch #3, DL

SUBJECT: CONFERENCE CALL WITH WISCONSIN ELECTRIC POWER COMPANY OCTOBER 19, 1981, RE: POINT BEACH 1 AND 2 STEAM GENERATOR TUBE SLEEVING.

Attendees:

NRC	WEPCO
T. G. Colburn, ORPM	Chuck Krause
B. Turovlin, CEB	Gary Frieling

The licensee was asked to describe his secondary water chemistry monitoring program. The licensee's response is included as Enclosure 1.

T. G. Colburn, Project Manager
Operating Reactors Branch #3
Division of Licensing

Enclosure:
As stated

cc: T. Novak
S. Treby
R. Bachman
C. Barth
H. Conrad

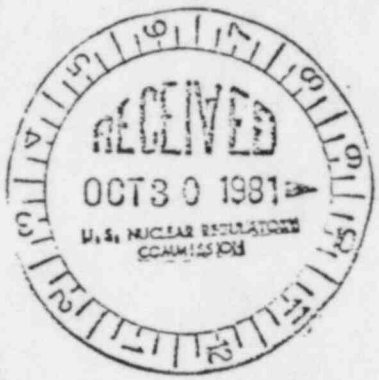
8111030063XA

9.

Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

replaces 10/22/81 telecopy

October 26, 1981



Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. NUCLEAR REGULATORY COMMISSION
Washington, D. C. 20555

Attention: Mr. R. A. Clark, Chief
Operating Reactors Branch 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
STEAM GENERATOR SLEEVING PROGRAM
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In support of the Staff's review of Wisconsin Electric Power Company's July 2, 1981 license amendment request to permit repair of steam generator tubes by sleeving, certain additional information has been requested by Mr. Colburn of your Staff. Elements of this information were specifically related to Licensee's October 12, 1981 interim modification of this license amendment request to permit up to six tubes to be sleeved rather than plugged during the present refueling outage. This additional information has been provided to Mr. Colburn by telephone or telecopy and is confirmed with this letter.

Mr. Colburn also requested that we provide information regarding the Point Beach secondary chemistry monitoring program. He asked that this information include sampling frequencies, parameter specifications, and actions required for parameters out of specification. In response to this request, we telecopied to Mr. Colburn a copy of Procedure PBNP 8.4.1, "Secondary Water Chemistry Monitoring Program," and four pages listing sampling schedules for normal operations and for refueling and nonrefueling shutdown periods. Copies of this material are attached.

Mr. Colburn also requested the estimated total manpower and man-hour requirements to support the Unit 1 sleeving demonstration program. The Westinghouse manpower estimates include twenty technicians for 5980 man-hours and 28 engineers, 10 of whom will be on-site only four days, for 5260 man-hours. Atlantic Nuclear Services will supply 40 channel head workers for an estimated 3000 man-hours per week, including standby time on site. Actual channel head time is estimated to be 4 to

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5 man-hours for the sleeving demonstration program. Wisconsin Electric estimates providing two engineers for 200 man-hours in a supervisory capacity and four health physics technicians for 400 man-hours in direct support of the sleeving demonstration program.

Very truly yours,

C. W. Fay, Director
Nuclear Power Department

Attachments

Copy to ASLB Service List
NRC Resident Inspector

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
WISCONSIN ELECTRIC POWER COMPANY	)	Docket Nos. 50-266
	)	50-301
(Point Beach Nuclear Plant,	)	
Units 1 and 2)	)	(OL Amendment)

SERVICE LIST

Peter B. Bloch, Chairman
Atomic Safety and Licensing
Board Panel
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Dr. Hugh C. Paxton
1229 - 41st Street
Los Alamos, New Mexico 87544

Dr. Jerry R. Kline
Atomic Safety and Licensing
Board Panel
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Atomic Safety and Licensing
Board Panel
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Docketing and Service Section
Office of the Secretary
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Charles A. Barth, Esquire
Office of the Executive
Legal Director
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Kathleen M. Falk, Esquire
Wisconsin's Environmental
Decade, Inc.
114 N. Carroll Street
Madison, Wisconsin 53703

SECONDARY WATER CHEMISTRY MONITORING PROGRAM

1.0 BACKGROUND

It is in the best economic interests of the Company to pursue a secondary water chemistry monitoring program to minimize or curtail (1) steam generator tube degradation, and (2) secondary system corrosion in general. This has been and will continue to be Point Beach Nuclear Plant's operating policy. These goals are achieved by existing instructions and procedures in conjunction with an appropriate understanding of the selected systems by both the Operations and the Chemistry and Health Physics Group. The purpose of this procedure is to summarize the major elements incorporated in the Point Beach Nuclear Plant monitoring program.

2.0 REFERENCES

2.1 License Ammendment Nos. 40 and 45 to DPR-24 and DPR-27, respectively.

2.2 Point Beach Nuclear Plant Chemistry Laboratory Analytical Manual.

2.3 WCAP-7452, Revision 2, Chemistry Criteria and Specifications for Westinghouse PWR's.

2.4 WCAP-8113, Revision 1, Steam Side Water Chemistry Control Specifications.

2.5 WCAP-7333, Revision 1, Chemical Analysis Procedures for PWR's.

2.6 Point Beach Nuclear Plant Online Instrumentation Manual Steam Generator and Secondary Instrumentation, Revision 0.

2.7 Chemistry Group Standing Orders.

2.8 PBNP 3.8, Radiochemical Engineer.

3.0 CRITICAL SECONDARY SYSTEM CHEMISTRY PARAMETERS

3.1 Contamination of steam generator secondary coolant can potentially cause tube degradation and impair tube integrity. Generally, the most severe contamination results from condenser inleakage of free hydroxide-forming impurities which can concentrate in localized areas and lead to the potential for intergranular stress corrosion cracking. In addition, significant concentrations of chloride have the potential for causing tube denting at the support plate.

3.2 Critical parameters shall be defined as steam generator blowdown liquid.

3.2.1 Cation conductivity.

3.2.2 Sodium concentration.

3.2.3 Free hydroxide concentration.

3.2.4 Chloride concentration.

4.0 ADDITIONAL PARAMETERS

4.1 Free, unscavanged oxygen present in the feedwater system can lead to undesirable corrosion rates in the feedwater train and undesirable sludge accumulation and potential corrosion in the steam generators. Therefore, feedwater oxygen concentration is an additional parameter of conern.

5.0 SAMPLE MONITORING SCHEDULE

5.1 The normal sampling schedule for chemistry parameters (including critical and secondary parameters) is outlined in Chemistry Group Standing Order CTP-11, "Routine Sampling Schedule".

5.2 Secondary chemistry instrumentation readings including steam generator blowdown cation conductivity and hotwell cation conductivity will normally be continuously recorded on strip chart recorders. Representative instrument readout values will normally be noted and recorded on chemistry analysis logsheets, CHP-61, at a frequency of at least four times per week.

6.0 APPROVED PROCEDURES

6.1 Only procedures outlined within the manuals referenced in Section 2.0 should be utilized to analyze the various samples.

6.2 Temporary or permanent changes to approved procedures for non-major, non-Technical Specification analyses can be made with the approval of the Radiochemical Engineer.

6.3 Quality assurance checks, replacement of liquid standards and other indicated items will normally be performed at frequencies specified on chemistry laboratory checklists.

6.4 The use of atomic absorption spectro photometry instrumentation to determine sodium concentration will be performed in accordance with the instrument operation manual. Standards will be used that span the range of the sodium concentration in the sample. Corrections will be made for any non-linear response.

7.0 APPROVED SAMPLING POINTS

7.1 Samples will normally be collected from the routine sample points in the primary sample rooms and at the secondary chemistry and instrumentation panel. Descriptions of these systems can be found in the Chemistry and Health Physics Group manual listed in the reference section of this procedure.

7.2 Sample points other than routine points may at times be necessary. Such alternate collection points will only be utilized when approved by the Chemistry Lab supervisor with subsequent review by the Radiochemical Engineer.

8.0 RECORDING AND MANAGING ANALYSIS RESULTS

8.1 Chemistry analyses results will be recorded as described in the Chemistry and Health Physics Group Standing Order CID.3, "Reporting of Normal and Irregular Laboratory Results".

8.2 Copies of daily chemistry log sheets will be routed to the control room, the Radiochemical Engineer and subsequently to Duty and Call Superintendents for review.

9.0 CHEMISTRY PARAMETER CONTROL POINTS AND ACTION LEVELS

9.1 Normal control points, action levels and extent of action for off-normal secondary chemistry parameters are outlined in Table 1.

9.2 The column "Normal Power Operation" will serve as the goal for chemistry control to meet the objectives of good chemistry control. In light of plant design, it may be difficult to meet the ammonia specification. Therefore, higher than specification pH and total conductivity values are at times acceptable if determined to be due to the ammonia concentration.

9.3 Deviations from normal control points, action levels and extent of action for off-control point conditions may at times be necessary due to emergency power requirements or other unforseen events. Such deviations may be authorized by the Manager - Nuclear Operations after consultation with the Radiochemical Engineer (or their designated alternates).

10.0 REPORTING OF OFF-CONTROL POINT SECONDARY CHEMISTRY CONDITIONS

10.1 Operations personnel during back shifts and weekends will (1) observe the status of the hotwell cation conductivity monitoring instrumentation, and (2) contact the on-call Chemistry and Health Physics supervisor whenever an alarm status is received on the steam generator blowdown cation conductivity instrumentation.

10.2 It is the responsibility of the Radiochemical Technician to promptly advise Chemistry and Health Physics supervision of any off-control point chemistry results.

10.3 Chemistry and Health Physics supervision, normally the Nuclear Plant Specialist assigned to the Chemistry Lab, will advise the Radiochemical Engineer of off-control point chemistry results. If the Radiochemical Engineer is not available, Chemistry and Health Physics supervision will perform as outlined in Section 10.4.

10.4 After review and interpretation of the off-control point results affecting plant operating status, the Radiochemical Engineer will promptly advise the Superintendent - Technical Services and the Manager - Nuclear Operations of the significance of the analyses results. (In the absence of the Superintedent - Technical Services or the Manager - Nuclear Operations, the Duty Shift Supervisor and the Duty and Call Superintendent will be advised.)

10.5 When appropriate, the Radiochemical Engineer will recommend a course of action to mitigate the effects of the off-control point chemistry.

10.6 The final authority and responsibility for any course of action lies with the Manager - Nuclear Operations or his designated alternate.

SAMPLING SCHEDULE DURING NORMAL OPERATION

1. SECONDARY CHEMISTRY

Steam Generators

Analysis	M	T	W	T	F
pH	X	X	X	X	X
Conductivity	X		X		X
Ammonia	X	X	X	X	X
Free Hydroxide	X		X		X
Gamma Scan	X[1]	X[2]		X[1]	X[2]
Suspended Solids		X			
Sodium	X	X	X	X	X
Tritium				X[1]	X[2]
Chloride	X		X		X
SiO_2	X			X	

(1) Unit 1 steam generators
(2) Unit 2 steam generators

Steam Generators Blowdown Filter Outlets

Analysis	M	T	W	T	F
Gamma Scan		X			X
Tritium		X			X

Feed Water

Analysis	M	T	W	T	F	S
pH	X	X	X	X	X	X
Conductivity	X	X	X	X	X	X
Oxygen	X		X		X	X
Excess Hydrazine	X	X	X	X	X	X
Ammonia	X	X	X	X	X	X

Condensate

Analysis	M	T	W	T	F
pH	X		X		X
Conductivity	X		X		X
Oxygen	X		X		X

Condensate Storage Tanks

Analysis	M	T	W	T	F
pH	X			X	
Conductivity	X			X	
Chloride	X			X	
Sodium	X			X	
Silica	X			X	

2. PRIMARY CHEMISTRY

Reactor Coolant

Analysis	M	T	W	T	F
pH	X	X	X	X	X
Conductivity	X		X		X
Oxygen	X	X	X	X	X
Chloride	X	X	X	X	X
Fluoride		X		X	
Lithium-7	X				X[1]
Boron	X	X	X	X	X[1]
Tritium			X		
Gross βγ - 30 min.	X[2]	X[2]	X[2]	X[2]	X[2]
Hydrogen	X			X	
Rad Gases	X			X	
Iodines		X			X
Gamma Scan		X[3]			
Suspended Solids			X		
Seven Day Decay (βγ + α)	X				

(1) Computer update
(2) There is a 72 hour time limit between Unit 1 gross βγ samples
(3) Semi-Monthly

Pressurizer Liquid

Analysis	M	T	W	T	F
pH	X	X	X	X	X
Conductivity	X		X		X
Litium-7	X				X
Boron	X	X	X	X	X

3. MISCELLANEOUS, PRIMARY RELATED

Sample	M	T	W	T	F
Spent Fuel Pit Demineralizer In/Out					X*

(*) Once weekly sample will be brought by Operations (usually on Friday).

SAMPLING SCHEDULE DURING REFUELING AND NON-REFUELING SHUTDOWN PERIODS

1. SECONDARY CHEMISTRY

Steam Generators

	Operating Unit Weekly					Shutdown Unit Weekly				
Analysis	M	T	W	T	F	M	T	W	T	F
pH	X	X	X	X	X	X	•		X	
Conductivity	3	X		3	X	3			3	
Ammonia	X			X		X			X	
Free Hydroxide	X			X						
Gamma Scan	1			X					•	
Suspended Solids			1							
Sodium	X	1	X	1	X	X			X	
Tritium				X						
Chloride	1		X		1	X			X	
SiO_2		X		2		3			3	
Phosphate						X			X	
Hydrazine						X			X	

Feed Water

	Weekly						None
Analysis	M	T	W	T	F	S	
pH	X	X	X	X	X	X	
Conductivity	X	X	X	X	X	X	
Oxygen	X			X			
Excess Hydrazine	X	1	X	1	X	X	
Ammonia	X	1	X	1	X	X	

Condensate

	Weekly						None
Analysis	M	T	W	T	F	S	
pH		X			X		
Conductivity		X			X		
Oxygen		X			X		
STP	X		X		X		

Condensate Storage Tanks

Analysis	Operating Unit Weekly M	T	W	T	F	Shutdown Unit Weekly M	T	W	T	F
pH		X			3					
Conductivity		X			3					
Chloride		X			3					
Sodium		X			3					
Silica		X			3					

2. PRIMARY COOLANT

Reactor Coolant

Analysis	Weekly M	T	W	T	F	Weekly M	T	W	T	F
pH	X	3	3	X	3		3			3
Conductivity	3		3		3					
Oxygen	X	X	X	X	X	X[c]	X	X	X	X
Chloride	X	X	X	X	X	X[a,c]	X	X[c]	X	X[c]
Fluoride		X		X			X		3	
Lithium-7	X				X[d]					
Boron	2	X	2	2	X	3	X	3	3	X
Tritium			X					X		
Gross βγ	X	X	X	X	X	X	X[c]	X	X	X[c]
Hydrogen	X			X						
Rad Gases	X			1						
Iodines		1			X[b]					
Gamma Scan					X		1			1
Suspended Solids			X					2		
Seven Day Decay	X									

Pressurizer Liquid

Analysis	Weekly M	T	W	T	F	None
pH	X	3	3	X	3	
Conductivity	3		3		3	
Lithium-7	X				X	
Boron	2	X	2	2	X	

a Grab shutdown unit coolant first thing on Monday. There is a 72 hour time limit between chloride samples.

b Every other week.

c Minimum frequency for refueling shutdown.

d Computer update.

AVT CONTROL, SECONDARY CHEMISTRY CONTROL SPECIFICATIONS

Steam Generator Blowdown Control	Normal Power Operation	Limited Normal Power Operation(2)	Power Operation Following Startup(1)	Wet Layup
pH	8.5 - 9.0	8.5 - 9.2	8.0 - 10.0	10.0 - 10.5
Cation Conductivity, μmhos/cm	<2.0	>2 - ≤7.0(4)	<7.0	----
Ammonia, ppm	<0.25	----	<1.0	As pH Requires
Sodium, ppm	<0.10	----	<0.5	----
Chloride, ppm	<0.15	----	<0.5	<0.5
Silica, ppm	<1.0	----	<5.0	----
Free Hydroxide, ppm as $CaCO_3$	<0.15	>0.15 - <1.0(3)	<0.15	----
Suspended Solids, ppm	<1.0	----	<1.0	----
Blowdown Rate, gpm	Continuous as Required	Maximum Available	Maximum Available	----
Oxygen, ppb	----	----	<5.0	<100
Hydrazine, ppm	----	----	----	75 - 150
Feedwater				
pH	8.8 - 9.2			
Total Conductivity, μmhos, cm	≤4.0			
Oxygen, ppb	<5.0	Same as Normal	Same as Normal	As Required
Excess Hydrazine, ppb	5.0 - 10.0			
Copper, ppb	<5.0	Power Operation	Power Operation	By Situation
Iron, ppb	<10			
Condensate				
Cation Conductivity, μmhos/cm	<0.2			

(1) Due to impurities present from reverse hideout, it is expected that these specifications may not be met until several days after phasing the unit on line. Therefore, the specifications are only listed is an example of the potential magnitude of impurities concentrations that may be present upon unit startup.
If within 48-72 hours following the unit phasing on line, sodium levels are outside of this limit and have not indicate a downward trend (or if in fact that have shown an upward trend) investigations will be conducted to determine the source of the contamination. Power reduction to conduct hotwell inspection for condenser leakage might be one recommendation.

(2) If during normal operation (not coincident with unit startup) the pH limit of 9.0 and/or the cation conductivity limit of 2.0 and/or the free hydroxide limit of 0.15 is exceeded, attempts will be made to correct the chemistry condition(s) as soon as practicable. The period of operation within these limits should not exceed two weeks.

(3) If free hydroxide determination confirm greater than 1.0 ppm as $CaCO_3$, the period of continued allowable unit operation without correction should not exceed 24 hours.

(4) If sometime subsequent to normal power operation (not coincident with unit startup) the cation conductivity limit is confirmed to be greater than 7.0 μmhos/cm, the period of continued allowable unit operation should not exceed 24 hours.