



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

November 28, 1979

MEMORANDUM FOR: Chairman Hendrie
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Bradford
Commissioner Ahearne

FROM: *LB* Leonard Bickwit, Jr.
General Counsel

SUBJECT: SCHEDULE FOR BRIEFING ON PT. BEACH STEAM
GENERATOR TUBE DEGRADATION

We propose the following schedule for the briefing starting at 2:30 p.m. today on Pt. Beach:

- 1) Staff presentation - 1 hour
- 2) Response from Wisconsin Electric Power Co. (Licensee) - 10 minutes
- 3) Response from Wisconsin's Environmental Decade, Inc. (Petitioners) - 10 minutes
- 4) Questions by Commissioners - Remaining time - 10 minutes

cc: OPE
SECY <-----
OCA
OPA

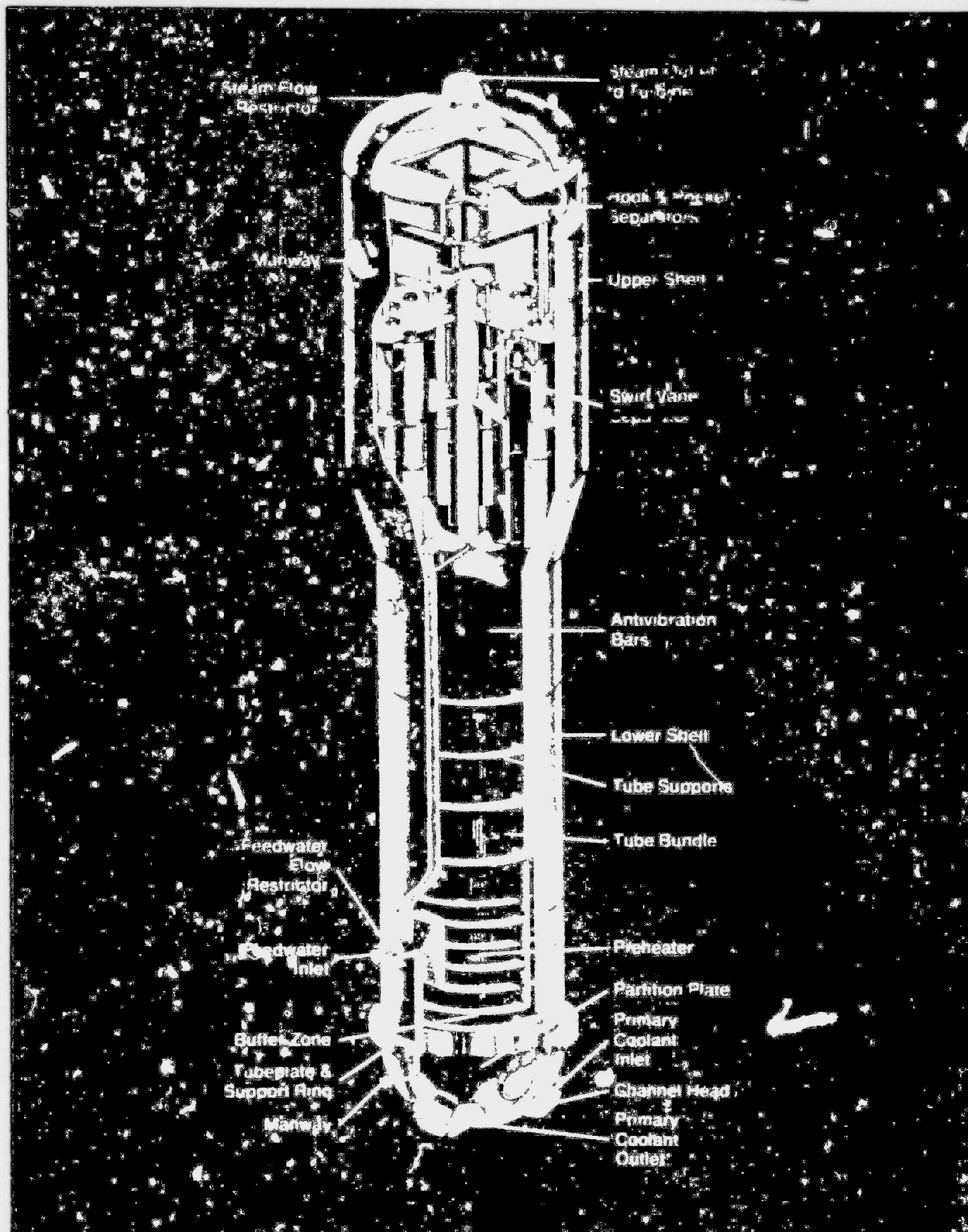
Contact:
Marian E. Moe, OGC
634-3224

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1527 127

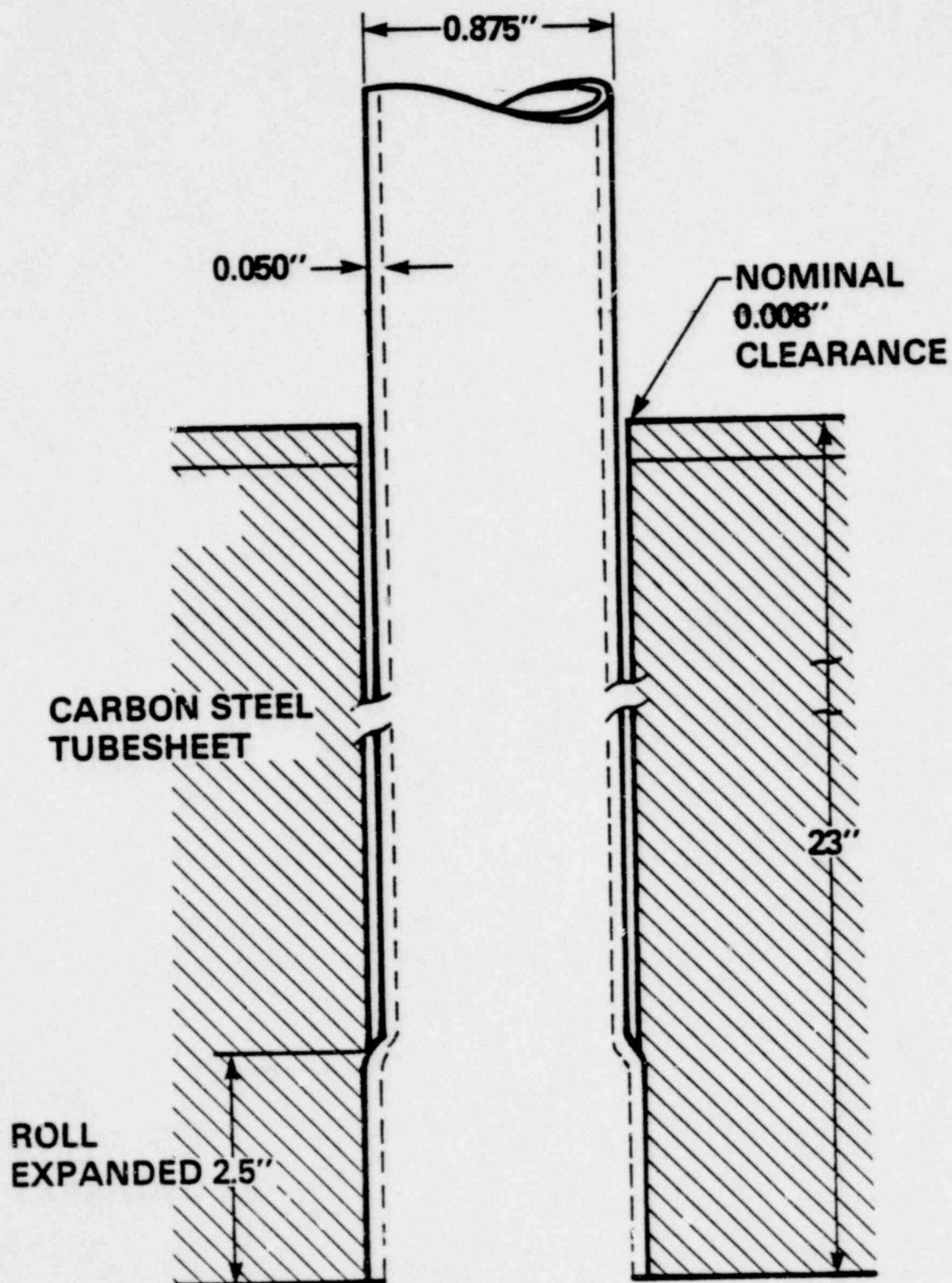
POINT BEACH UNITS 1 AND 2 SUMMARY INFORMATION

	<u>Point Beach Unit 1</u>	<u>Point Beach Unit 2</u>
<u>General Information</u>		
Start-Up Date:	12/21/70	9/30/72
NSSS Supplier:	Westinghouse	Identical
Thermal Power:	1518 Mwt	Identical
Number of Loops:	2	Identical
<u>Steam Generator Design</u>		
Steam Generator Type:	Westinghouse Model 44 Recirculating	Identical
No. of Tubes Per Steam Generator:	3260	Identical
Tube Size:	0.875" OD, 0.050" Wall	Identical
Tube Material:	Inconel	Identical
Support Plate Design:	Drilled, 0.75" Thick	Identical
Support Plate Material:	Carbon Steel	Identical
Primary Operating Pressure:	2235 psig	Identical
Secondary Operating Pressure:	821 psig	Identical
T.S. Primary to Secondary Leak Rate Limit:	500 gpd (0.35 gpm)	Identical
<u>Water Chemistry</u>		
Secondary Water Treatment:	31.8 efpm Phosphate 36.0 efpm AVT	18.5 efpm Phosphate 35.7 efpm AVT
Condenser Cooling Water:	Lake Michigan	Identical
Demineralizers:	None	Identical
Steam Generator Blowdown:	Continuous, 25 gpm	Identical

POOR ORIGINAL



TUBE TO TUBESHEET CREVICE GEOMETRY



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[illegible]

NOTES: 1. TO DATE THERE ARE 33 OPERATING PWR UNITS (NOT INCLUDING INDIAN POINT 1) WHICH UTILIZE RECIRCULATION TYPE OF STEAM GENERATORS.

3. TROJAN AND D.C. COOK HAVE HAD INDICATIONS OF LIMITED DEGRADATION IN RECENT INSPECTIONS.

POINT BEACH UNITS 1 AND 2 STEAM GENERATOR OPERATING HISTORY

<u>Point Beach Unit 1</u>			
<u>Date of Outage</u>	<u>Chemistry</u>	<u>Leak Rate</u>	<u>Tubes Plugged</u>
12/21/70	Phosphate	—	—
9/30/72	"	72 GPD	197
4/6/74	"	—	2
2/29/75	AVT (9/74)	180000 GPD	157
11/16/75	"	—	10
10/1/76	"	—	—
6/24/77	"	200 GPD	1
10/4/77	"	—	—
2/1/78	"	130 GPD	1
5/24/78	"	90 GPD	1
9/20/78	"	560 GPD	11
3/1/79	"	225 GPD	9
8/5/79	"	2100 GPD	97
8/29/79	"	324 GPD	5
10/5/79	"	—	145

<u>Point Beach Unit 2</u>			
<u>Date of Outage</u>	<u>Chemistry</u>	<u>Leak Rate</u>	<u>Tubes Plugged</u>
8/2/72	Phosphate	—	—
3/8/73	"	—	—
10/17/74	"	—	7
8/11/75	AVT	580 GPD	3
2/26/76	"	—	18
3/4/77	"	—	7
3/25/78	"	145 GPD	2
3/13/79	"	255 GPD	1

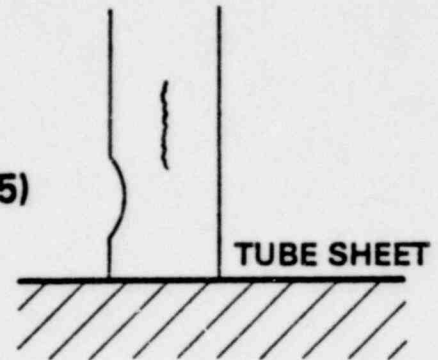
POINT BEACH UNIT 1
STEAM GENERATOR TUBE PLUGGING HISTORY

<u>DATE OF</u> <u>OUTAGE</u>	<u>TUBES PLUGGED</u>					
	<u>DENTING</u>		<u>THINNING OR</u> <u>CRACKING</u>		<u>CREVICE</u> <u>CORROSION</u>	
	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>
12/21/70						
12/21/70	-	-	-	-	-	-
9/30/72	-	-	87	91	-	-
4/6/74	-	-	1	1	-	-
2/26/75	-	-	59	98	-	-
11/16/75	-	-	6	4	-	-
10/1/76	-	-	-	-	-	-
6/24/77	-	-	-	1	-	-
10/4/77	10	-	-	-	1	2
2/1/78	-	-	-	-	-	-
9/20/78	1	-	-	-	6	4
3/1/79	-	-	-	-	8	1
8/5/79	-	-	-	-	52	45
8/29/79	-	-	-	-	2	-
10/5/79	-	-	-	-	70	64

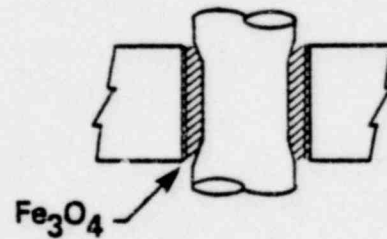
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STEAM GENERATOR TUBE DEGRADATION PROBLEMS AT POINT BEACH UNIT 1

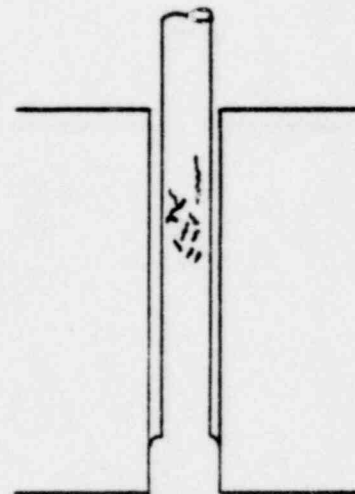
- WASTE & CAUSTIC SCC
ABOVE TUBE SHEET (1971-1975)



- DENTING (1975-1978)



- DEEP CREVICE CRACKING
WITHIN TUBE SHEET (1977 TO
PRESENT)



POINT BEACH UNIT 1 S/G TUBE PLUGGING AND LEAKAGE DUE TO DEEP CREVICE CRACKING

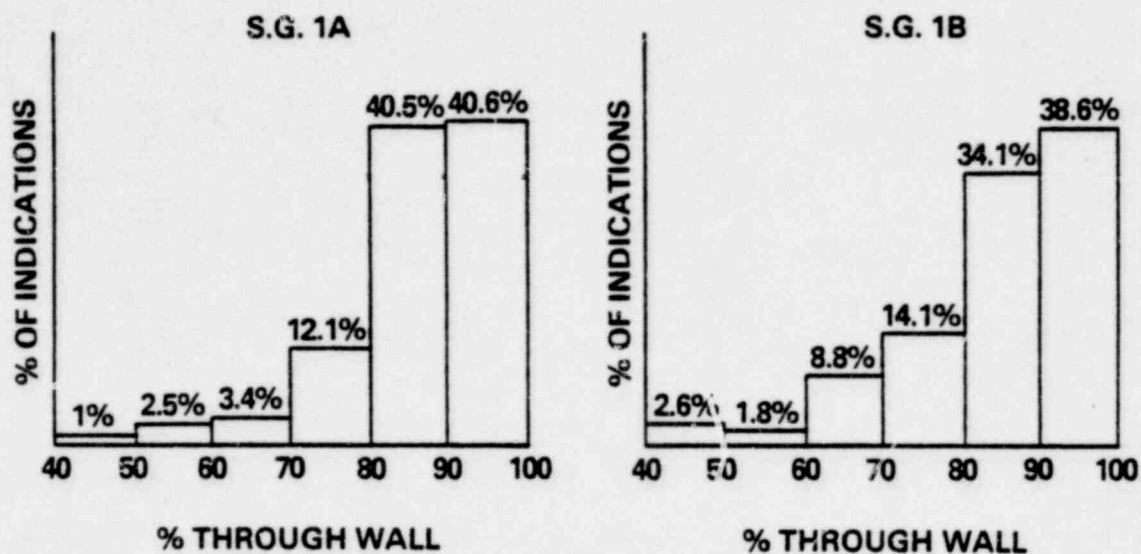
<u>Date</u>	<u>No. Plugged Tubes</u>		<u>Leaking Tubes</u>
	<u>S/G - A</u>	<u>S/G - B</u>	
12/70-10/77	0	0	
10/4/77	1	2	
9/20/78	6	4	1 (560 GPD)
3/1/79	8	1	1 (225 GPD)
8/5/79	52	45	3 (2090 GPD)
8/29/79	2 (+3)*	—	1 (324 GPD)
10/5/79	70**	64**	

*Examination of Tubesheet Photo Showed 3 Tubes Plugged Previously

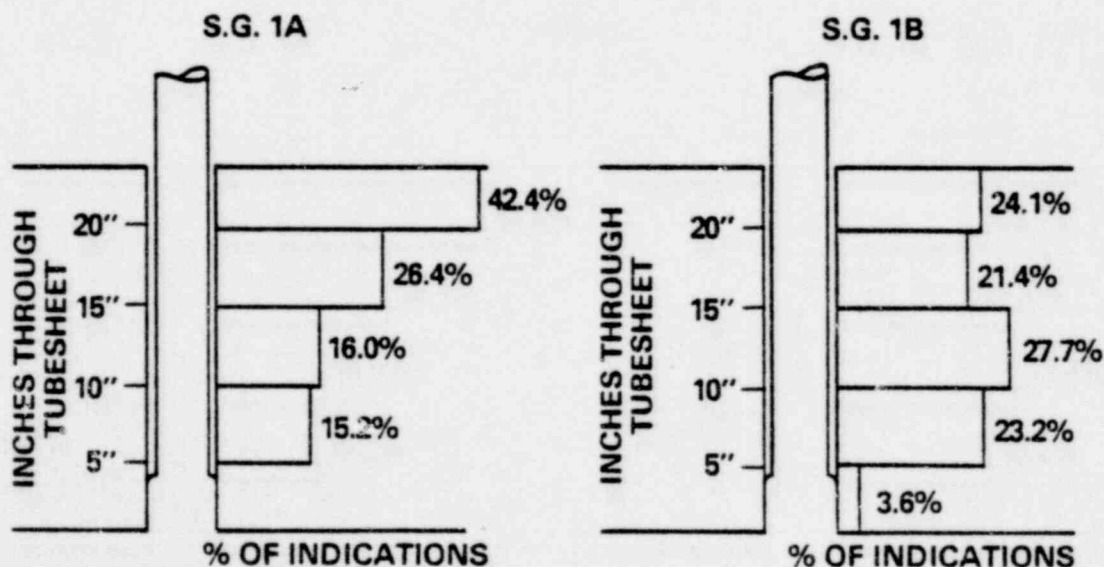
**17 Tubes in S/G-A and 13 in S/G-B Were Classified Defective Because of the More Sensitive Equipment Being Used in October, 1979. These 30 Tubes Probably Should Have Been Plugged in August, 1979.

AUGUST AND OCTOBER 1979 ECT HISTOGRAMS

DEPTH OF WALL PENETRATION



LOCATION IN TUBESHEET



SUMMARY OF LAB EXAMINATIONS AND TESTS

Mechanical Test Show:

- Properties of Unaffected Core Materials Similar to Virgin Material
- Burst Tests Indicate That Corrosion Limited to Tube Sheet Crevice
- Burst Strength of Tube Directly Above and Below TS Similar to Virgin Materials.

Outside the Tube Sheet:

- 40% Remaining Tube Wall Required and Is Indicated to Exist
- Leak Before Break Criteria Valid and Will Require Shutdown Prior to Tube Rupture.

Inside the Tube Sheet:

- 10% Remaining Tube Wall Required and Is Indicated to Exist
- Ductility Will Allow Tube to Expand to Contact Tube Sheet (i.e., No Tube Burst During MSLB)
- Collapse Not Possible Due to Confinement
- Leaks Within Tubesheet Will Either be Deep Enough That the Tube Cannot Pull Out or Leakage Will Require Shutdown.

SUMMARY FOR THE UNIFORM WASTAGE CONDITION

Requirements

- **Minimum Tube Thickness Outside Tubesheet Must be Greater Than .020 Inch (40% of Wall)**
- **Equivalent Tube Thickness Inside Tubesheet Must be Greater Than .005 Inch (10% of Wall)**
- **The Ductility of the Tube Inside the Tubesheet Must Allow Expansion to the Tubesheet Wall**

**Condition of the Tubes Examined and Tests
Performed Indicate That These Requirements
Are Met**

VI. SUMMARY AND CONCLUSIONS

- o INSPECTION, PLUGGING, TESTING APPROACH
OVER SHORT TIME
- o CRACKING/IGA IS INSIDE TUBE SHEET
- o LOW PRIMARY COOLANT ACTIVITY LIMIT; LOW
LEAKAGE LIMITS
- o UNDER ACCIDENT CONDITIONS, DON'T EXPECT
RUPTURES
- o CONSIDERING LONGER TERM SOLUTION
- o OTHER ACTIONS
 - QA OF PLUGGING
 - RECHECKING PROCEDURES
 - SPECIAL OPERATOR RETRAINING

Wisconsin's
Environmental
Decade



November 14, 1979

BY PERSONAL MESSENGER

Mr. Samuel J. Chilk, Secretary
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Re: Point Beach Nuclear Plant Unit 1
Docket No. 50-266

Dear Mr. Chilk:

Please find enclosed for docketing in the above referenced matter an original and twenty copies of the Petition of Wisconsin's Environmental Decade, Inc., dated November 14, 1979.

The Petition seeks immediate entry of an order to show cause and proposed order enjoining Wisconsin Electric Power Company from reopening Point Beach Nuclear Plant Unit 1 on or about November 17, 1979, to be temporarily effective pending further order determining that the limiting conditions for operation as pertain to steam generator tubes have been met and that certain reviews have been conducted.

Inasmuch as the relief which we seek will be in large measure mooted if the utility returns the unit to service on November 17, 1979, before the Commission has acted, we respectfully request that you schedule this matter for immediate consideration and action by the full Commission.

At the same time, this is to request notice of any application by Wisconsin Electric Power Company to increase the limiting condition for operation of Point Beach Nuclear Plant Unit 1 in regard to steam generator tubes and an adequate opportunity to respond before any action is taken.

Your attention is appreciated.

Sincerely,

WISCONSIN'S ENVIRONMENTAL DECADE, INC.

by *Kathleen M. Falk*
KATHLEEN M. FALK
General Counsel

KMF/mt
Enclosures
cc: Wisconsin Electric Power Company

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UNITED STATES OF AMERICA
BEFORE THE NUCLEAR REGULATORY COMMISSION

POINT BEACH NUCLEAR PLANT UNIT 1
DOCKET NO. 50-266

PETITION OF WISCONSIN'S ENVIRONMENTAL DECADE, INC.

I. INTRODUCTION

1. This Petition to the U. S. Nuclear Regulatory Commission(hereinafter referred to as the "Commission") by Wisconsin's Environmental Decade, Inc.(hereinafter referred to as the "Decade"), seeks immediate entry of an order to show cause and order enjoining Wisconsin Electric Power Company(hereinafter referred to as "Wisconsin Electric"), operating licensee of the Point Beach Nuclear Plant Unit 1(hereinafter referred to as "Point Beach"), from re-opening said facility at the end of its present refueling cycle, to be temporarily effective pending further order determining that the limiting conditions for operation as pertain to steam generator tubes have been met and that the potential safety consequences of steam generator tube degradation have been reviewed and the applicable regulatory guides and technical specifications revised accordingly to protect the public health and safety.

II. THE PETITIONER

2. Petitioner Decade is a non-stock, not-for-profit Wisconsin corporation organized under ch. 181 of the Wisconsin Statutes, with offices at 114 East Mifflin Street in Madison, Wisconsin 53703, for the primary purpose of protecting and

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enhancing the quality of the human and natural environment, including protection against undue risks posed by power production facilities. The Decade has approximately 700 members residing within and outside the State of Wisconsin, including members residing in the immediate vicinity of Point Beach. The Decade has become increasingly concerned as to the continued operation of the facility in the face of mounting evidence that Wisconsin Electric is placing economic and political considerations before safety considerations in its decisions and judgments relating to the plant's tube degradation problem.

III. PERSON UPON WHOM SERVICE MAY BE MADE

3. The person upon whom service may be made is Ms. Kathleen M. Falk, General Counsel, Wisconsin's Environmental Decade, Inc., 114 East Mifflin Street in Madison, Wisconsin 53703.

IV. JURISDICTION

4. This Petition is brought before the Commission pursuant to 42 U.S.C. secs. 2233(d), 2236(a) and 2237, 10 C.F.R. secs. 2.204, 2.206(c)(1) and 50.36(c)(2) and the inherent supervisory authority of the Commission to oversee all aspects of the nuclear regulation and licensing process.

5. The Decade has made no prior request for a notice of violation or order to show cause to the Director of Inspection and Enforcement pursuant to 10 C.F.R. sec. 2.206 because: (1) the Staff of the Commission is already fully aware of the violations set forth below and has determined, meeting in informal session with the licensee and the reactor vendor Westinghouse Electric Corporation, to take no action(see: Memorandum of L. Smith to the File of the Public Service Commission of Wisconsin, dated November 7, 1979, at 3, which is attached hereto as Appendix A); (2) the time consumed in filing of the Commission before appealing to the Court of relief in view of the licensee's present failure to service on November 17, 1979(see: Id., at 1527 142

DUPLICATE DOCUMENT

Entire document previously
entered into system under:

ANO

7911290111

No. of pages:

35.