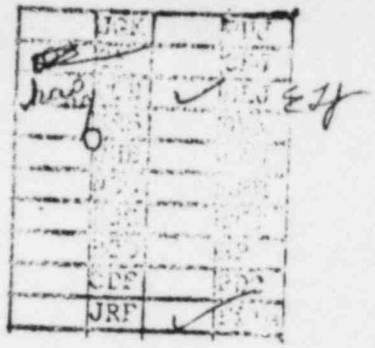
Wisconsin Electric POWER COMPANY
231 WEST MICHIGAN, MILWAUKEE, WISCONSIN 53201



January 22, 1975

Mr. Edson G. Case, Deputy Director
Directorate of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Case:

DOCKET NOS. 50-266 AND 50-301
POSSIBLE GENERIC PROBLEM WITH SAMPLE
LINES WITHIN CONTAINMENT PENETRATIONS
UNITS 1 AND 2, POINT BEACH NUCLEAR PLANT

In accordance with Section 15.6.6.A.3.b of the Point Beach Nuclear Plant Technical Specifications for Units 1 and 2, Facility Operating License Nos. DPR-24 and DPR-27, this report is submitted with respect to a possible generic problem with small diameter sample piping that passes through a containment penetration assembly.

An abnormal occurrence report was filed by Wisconsin Electric Power Company on November 21, 1974, describing a failure of a sample line within the Unit 2 containment penetration assembly 2P28 at Point Beach Nuclear Plant.

Penetration 2P28 was opened for examination and repair in early November, 1974, during the first refueling outage of Unit 2. The 3/4 inch diameter hot leg sample line, one of three sample lines passing through this penetration, was found to have cracked within the penetration at a point approximately two-thirds of its length from where the pipe entered the penetration from the containment side. Thus, during sampling operations, leakage could occur at the crack, that in turn could lead to overpressurizing and rupture leak of the penetration itself. In our case, the penetration assembly was breacked at a weld where the cylindrical penetration shell joins a backing plate on the outside of the liner plate. The abnormal occurrence report noted above contains further details. The 30 psig Type "A" containment leak test and other local leak tests had previously verified that the penetration assembly was capable of performing its function as a reliable containment boundary. The penetration assembly has since been successfully repaired, tested and returned to service.

A visual examination of the sample pipe within the penetration indicated there was insufficient provision for thermal expansion of the pipe during cyclic sampling operations. The four foot length of pipe within the penetration is normally subjected to a rapid temperature rise of approximately 500°F during the taking of a hot leg sample. There is also the possibility of hydraulic shock if the sample valve is opened too quickly.

Following removal and examination of the failed pipe at Point Beach, it was confirmed on January 16, 1975, that the pipe crack had characteristics suggesting fatigue failure. Failure apparently occurred at the point of maximum bending of the tube following rapid expansion with the pipe ends essentially fully restrained by the penetration assembly.

It was deemed impractical in the time remaining in the refueling outage to redesign, procure parts and obtain the necessary approvals to modify the as-built design of the affected sample line. It was therefore replaced with a new pipe using the original design.

A review of containment penetration assemblies has shown that each unit at Point Beach has two assemblies which may be susceptible to the problem outlined above, possibly affecting a total of ten sample lines within the four assemblies. The following table lists the penetrations and sample lines; the asterisk denotes those sample lines subject to significant and repeated thermal cycling:

Unit 1	Unit 2
Penetration 28	Penetration 28
1. Hot Leg Sample*	1. Hot Leg Sample*
2. Pressurizer Liquid Sample*	2. Pressurizer Liquid Sample*
3. Pressurizer Vapor Space Sample*	3. Pressurizer Vapor Space Sample*
4. Deadweight Tester	4. Deadweight Tester
Penetration 34	Penetration 34
1. Pressurizer Relief Tank to Gas Analyzer	1. Pressurizer Relief Tank to Gas Analyzer
2. "A" Steam Generator Secondary Side Sample*	2. "A" Steam Generator Secondary Side Sample*
3. "B" Steam Generator Secondary Side Sample*	3. "B" Steam Generator Secondary Side Sample*
4. Reactor Coolant Drain Tank to Gas Analyzer	4. Reactor Coolant Drain Tank to Gas Analyzer

A number of means of permitting the pipe expansion within the penetration assemblies is presently under consideration; an expansion bellows for each pipe presently appears to be the probable alternative to the present design. It is our intention to continue our review of designs aimed at eliminating this potential problem with a view to modifying the thermally cycled sample piping at each unit's next refueling outage.

As an interim measure, the following action has been taken to preclude a recurrence of a sample pipe rupture and to assure its early discovery if such were to occur again:

1. When not in use, the sample line will be isolated upstream of the penetration, thus relieving pressure on the sample line the greater part of its operating life.

2. The piping will be warmed up slowly by judicious opening of the sample valves during sampling operations.

3. A pressure gauge has been attached to each of the penetrations containing sampling lines. The gauges will be checked weekly for indications of pressure change within the penetration envelope.

Very truly yours,

Sol Burstein

Executive Vice President

cc: Mr. James G. Keppler, Regional Director
Directorate of Regulatory Operations, Region III