Docket No. 50-269

AUG 8 1972

R. C. DeYoung, Assistant Director for Pressurized Water Reactors, Licensing
THRU: A. Schwencer, Chief, Pressurized Water Reactors Branch No. 4

MEETING WITH DUKE POWER COMPANY AND BABCOCK & WILCOX COMPANY - AUGUST 7, 1972
OCONEE VIBRATION MONITORING FOR UNIT 1 HOT FUNCTIONAL TESTS

Enclosed is a summary of the meeting held on August 7, 1972 with Duke Power Company and the Babcock & Wilcox Company. An attendance list is also enclosed.

Original Signed by
Irving A. Peltier

I. A. Peltier, Project Manager
Pressurized Water Reactors Branch No. 4
Directorate of Licensing

Enclosures:
1. Meeting Summary
2. Attendance List

cc w/encls:
R. S. Boyd
D. Skovholt
D. Knuth
R. Maccary
R. Tedesco
H. Denton
PWR Branch Chiefs
R. W. Klecker
M. Rosen
RO (3)
I. A. Peltier
M. Service (2)
D. Lange
S. N. Hou
R. M. Bernero
D. E. Whitesell

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ENCLOSURE I

MEETING WITH DUKE POWER COMPANY AND BABCOCK & WILCOX COMPANY - 8/7/72
OCONEE VIBRATION MONITORING FOR UNIT 1 HOT FUNCTIONAL TESTS

Summary

B&W made a formal presentation on the vibration instrumentation which it proposes for Oconee Unit 1 Hot Functional Test. It is B&W's contention that the proposed scheme meets and exceeds the Safety Guide 20 requirements. The enclosed drawings illustrate the type and location of instruments and their cable routing and the presentation discussion outlined the basis for selection taking into consideration past failure experience, redundancy and analytical modelling.

There was a brief discussion of the status of topical reports, and the repair schedule. The first topical report dealing with the investigation of damage and cause will be delayed from mid-August to the end of August because of the manpower effort B&W put on the vibration monitoring system. The revised design topical and the vibration monitoring topical with a prediction analysis are scheduled for mid-September.

The repair work is going well and on schedule except in one area. Some 14,000 tubes have been welded in steam generator A and the work may be finished in two weeks. B&W has been able to weld 600 tubes a day with two six-hour shifts.

Unit 2 thermal shield modification is complete and Unit 1 thermal shield modification is underway. Unit 2 instrument nozzles have been welded in and Unit 1 nozzles are being welded now. A slight change to the design of the nozzles for Unit 1 was required because after the old nozzles had been ground out and cleaned up less material was left than required by the design drawings.

The only area that could cause as much as a two week delay in the repair schedule is the fact that some weld shrinkage of the flow baffle has been experienced which may require some additional machining or shimming.

Except for some final configuration tests, the vessel model flow tests have been completed. Apparently the revised design has had an impact on the flow characteristics in as much as pressure drops and turbulence have been noticeably reduced and flow is more stable. The decision has been made to remove the flow vanes. The final tests will be run on all pump combinations. The flow test topical reports will be modified for a new reference design. This hydraulic program is on schedule.

B&W pointed out that Arkansas modifications are on the same schedule as Oconee and these plants are the only ones being modified in the field.

Discussion

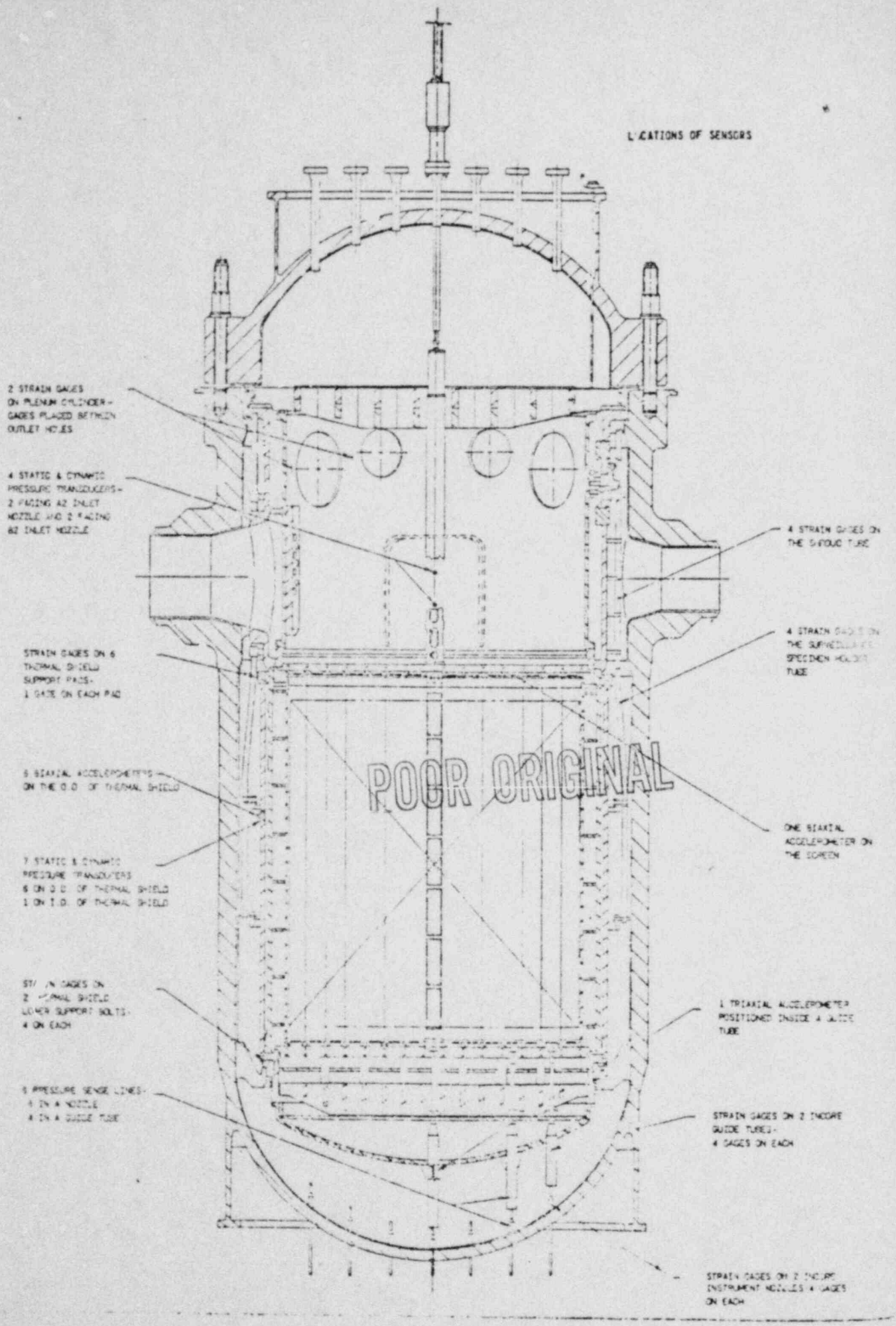
B&W stated that fifteen people have been working full time on the instrumentation scheme. The effort has been made to conform with Safety Guide 20 and a prediction analysis. Strain gages and accelerometers have been planned for the lower grid components, bottom vessel head, upper barrel, shroud tube, vessel specimen holder and thermal shield. Additional triad pressure transducers for static and dynamic pressure are planned for the inlet nozzle, high flow regions of the bottom plenum and the downcomer region. Extensive in air tests have been run on modified internals to correlate the instrument response.

Although B&W will not rely on it, a Hewlitt Packard system of data acquisition and processing through a computer will be used to help the engineers in the monitoring and reduction of data during the hot functional test. The standard 28 channel tape recorder will be used as the main data logging system.

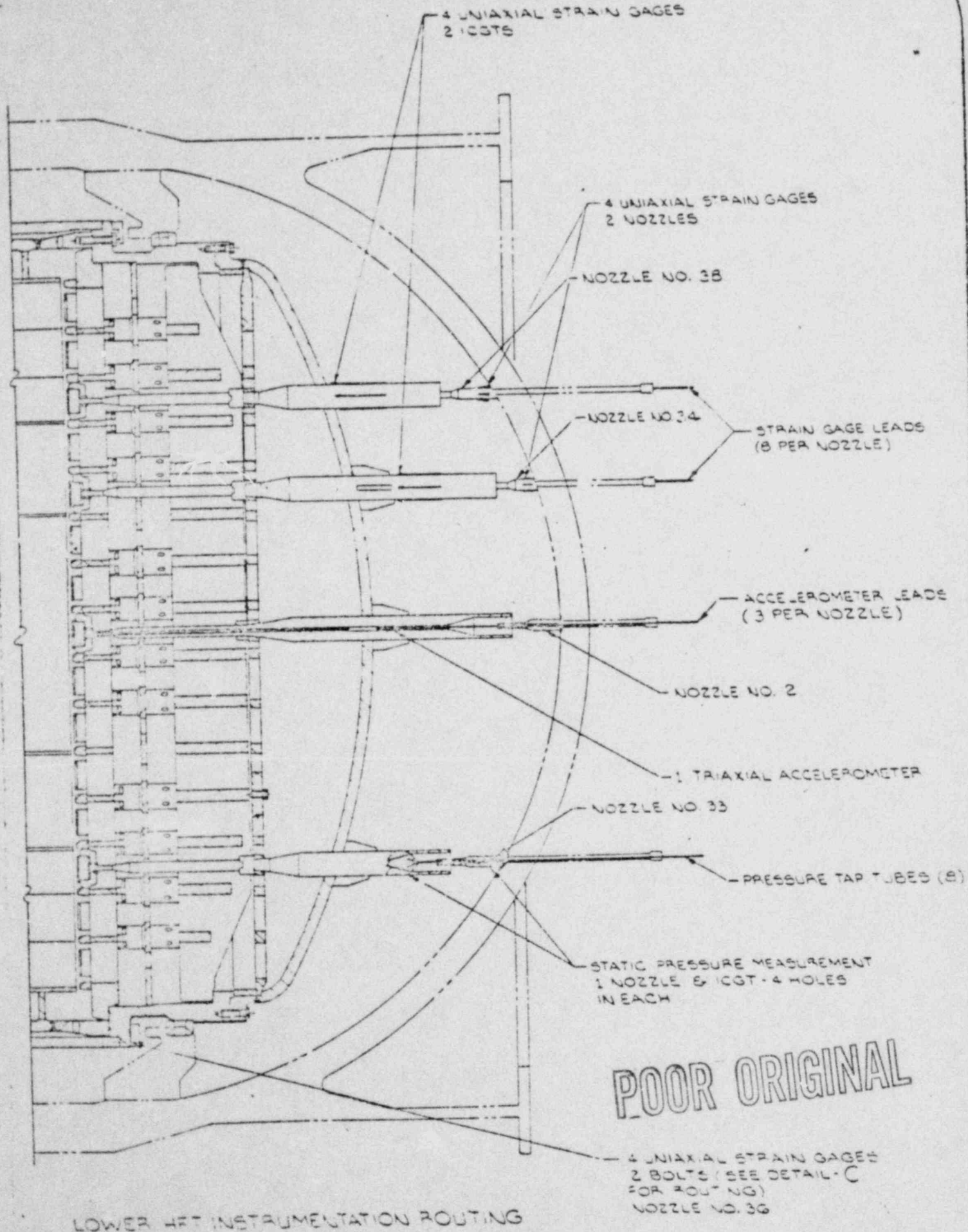
The system is designed to determine overall response of the various components rather than to verify the prediction of a transducer output. Therefore, acceptance, allowable and predicted levels of response will have to be related by sound engineering judgment. The test program will be integrated with Duke's hot functional tests.

At MEB's request B&W will look into instrumenting the outlet nozzle for pressure.

L CATIONS OF SENSORS

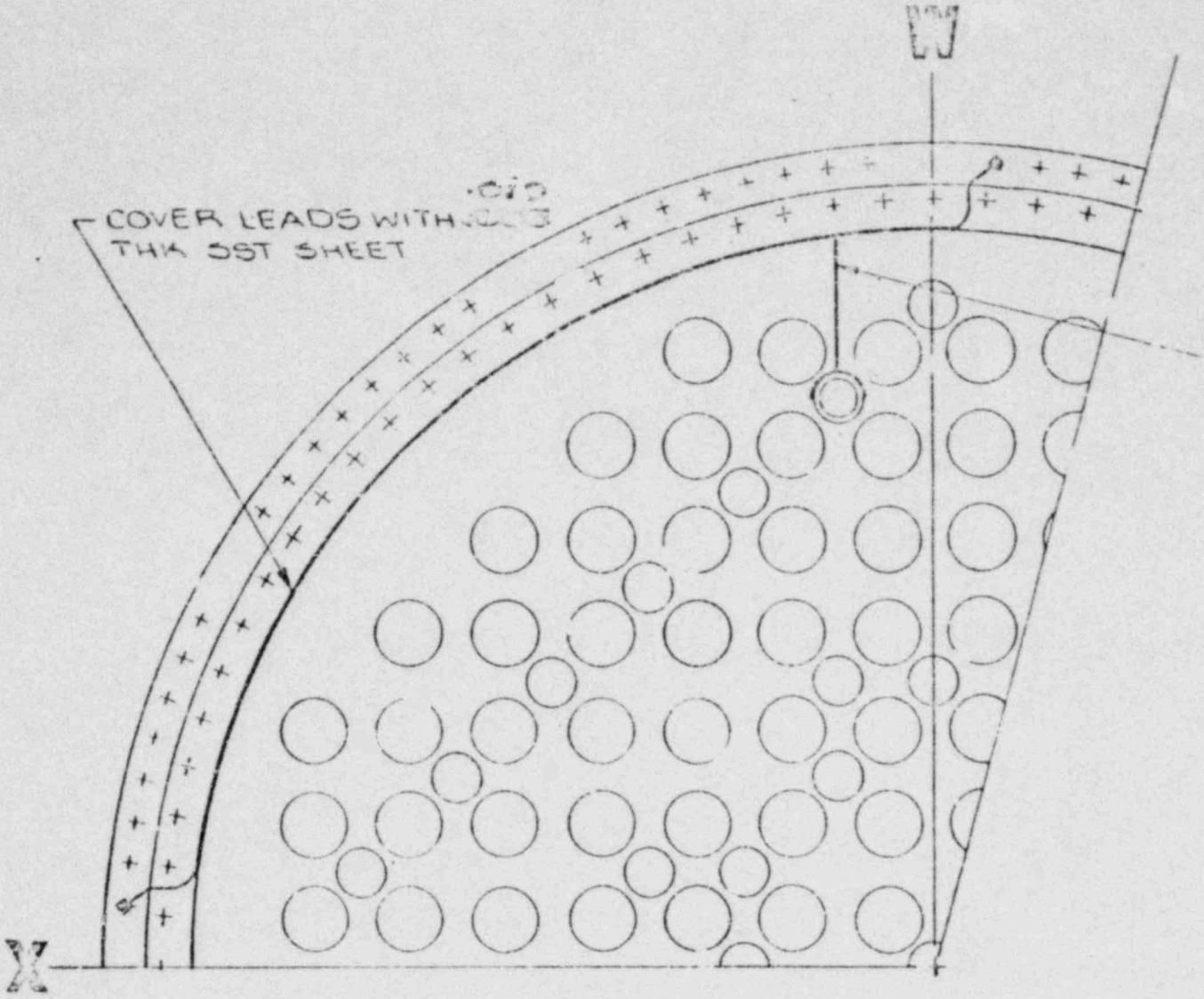


SLIDE #2



POOR ORIGINAL

LOWER HPT INSTRUMENTATION ROUTING



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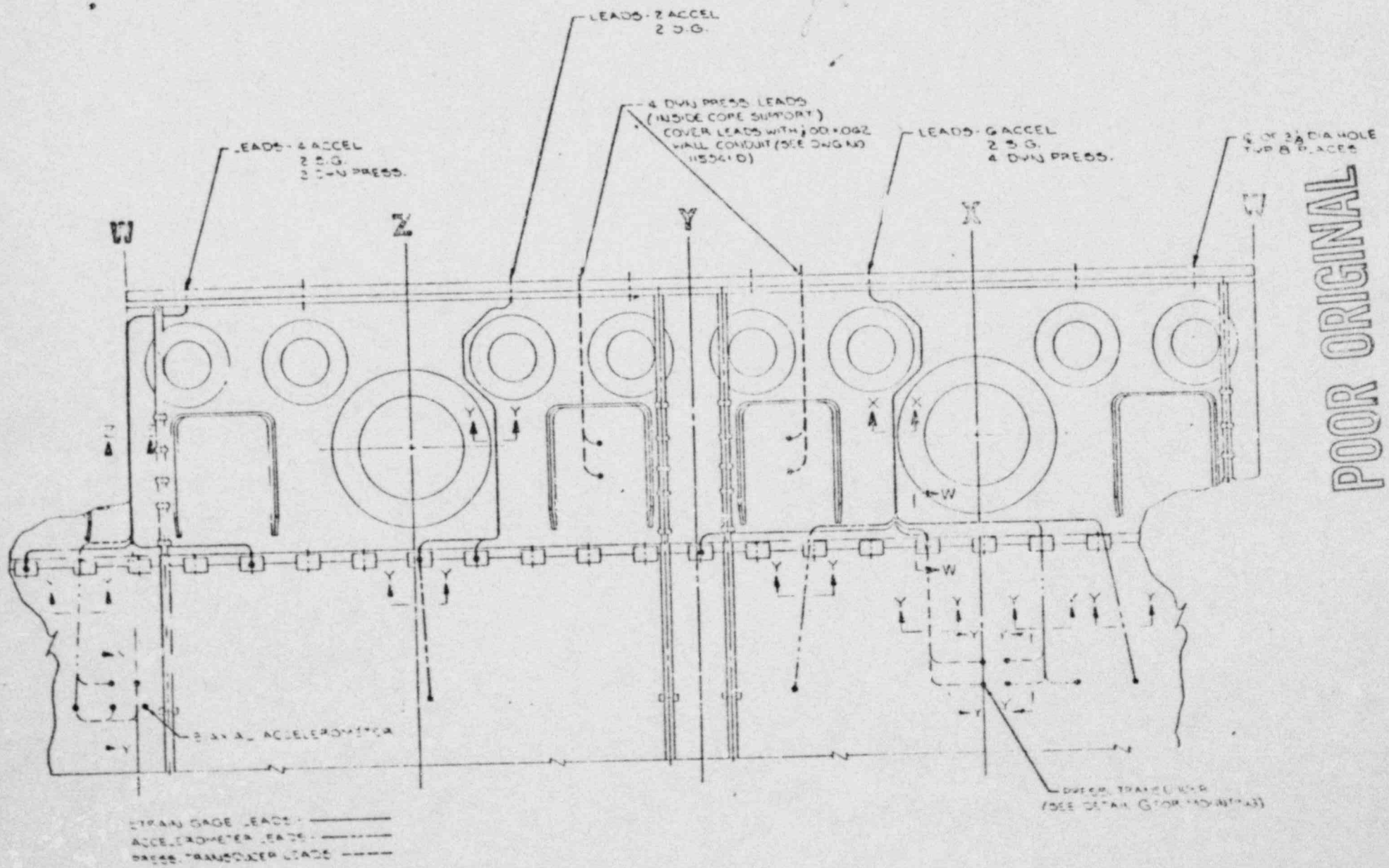

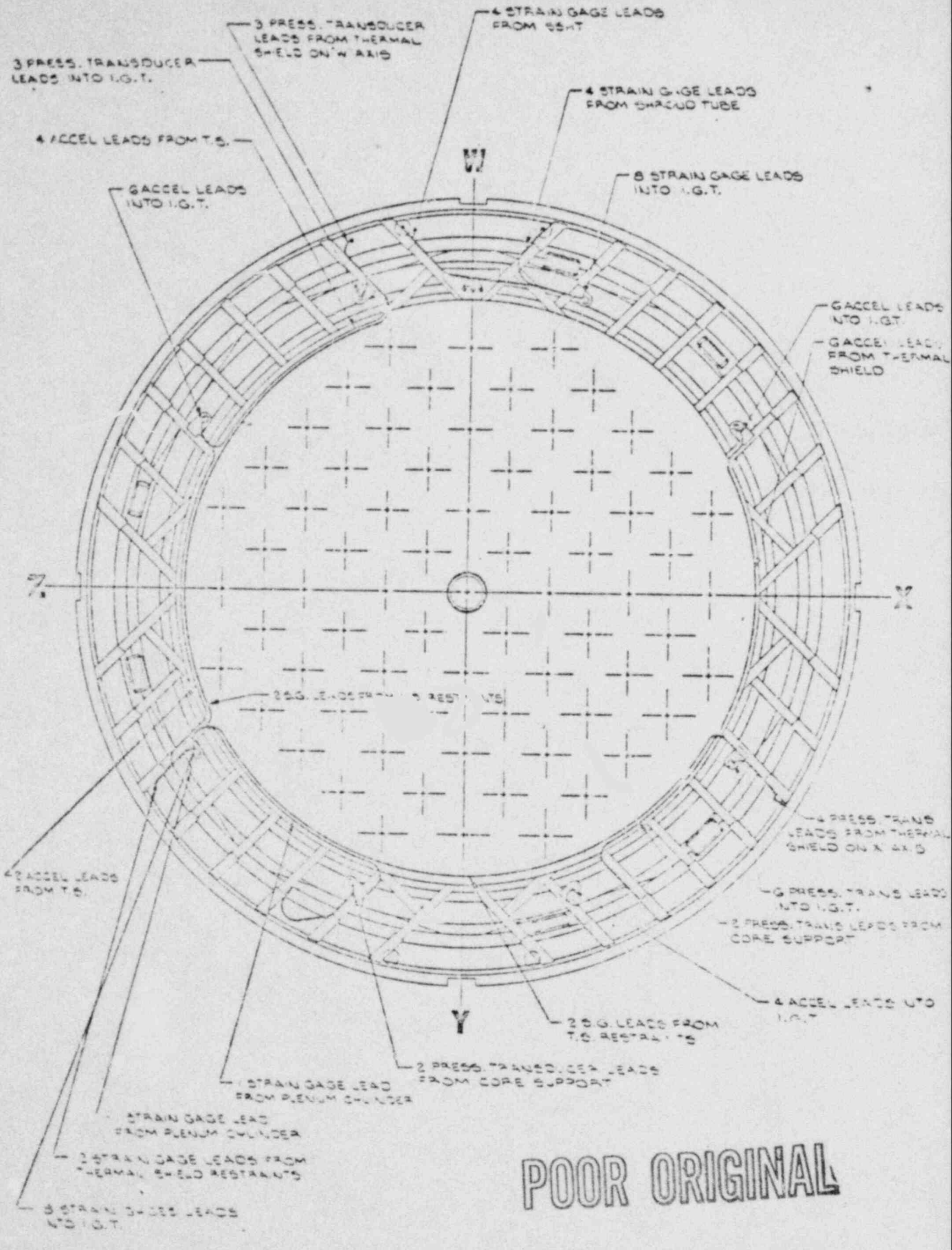

ENCLOSURE II

ATTENDANCE LIST

NAME	ORGANIZATION	TITLE OF FUNCTION
I. A. Peltier	AEC, Licensing	FWR-4 Project Manager
D. C. Aabye	DPC	Project Engineer
R. R. Steinke	Babcock & Wilcox	Licensing
E. O. Hooker	Babcock & Wilcox	Un Manager - System Design
G. E. Kulynych	Babcock & Wilcox	Oconee Project Manager
K. S. Canady	Duke Power Company	System Nuclear Engineer
D. E. Thoren	Babcock & Wilcox	Component Engineering
B. L. Dey	Babcock & Wilcox	Nuclear Service - Oconee Site
E. K. Fair	Babcock & Wilcox	Oconee Project Managers - Staff
J. L. Watkins	Babcock & Wilcox	Component Engineering
J. C. Sironis	Babcock & Wilcox	Research Specialist
D. F. Lange	TR - AEC	Chief, Mechanical Engineering Branch
S. N. Hou	TR - AEC	Mechanical Engineering Branch
S. K. Blackley, Jr.	Duke Power Company	Principal Mechanical Engineer
H. J. Lark	Duke Power Company	Mech. Inst. & Control
W. O. Parker	Duke Power Company	Assistant Manager, Steam Production
J. W. Hampton	Duke Power Company	Asst. Supt. Oconee Nuclear Station
R. M. Bernero	AEC, Licensing	Project Manager, PWR-4
D. E. Whitesell	AEC, Regulatory Oper.	Reactor Construction Branch
A. Schwencer	AEC, Licensing	Branch Chief PWR-4