

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-261 H. B. Robinson Plant, Unit 2, Carolina Power and Light 05000261
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 RECIP. NAME RECIPIENT AFFILIATION
 VARGA, S. A. Operating Reactors Branch 1

SUBJECT: Responds to NRC 830214 request for addl info re containment pressure, water & hydrogen monitors per NUREG-0737 Items II F.1.4., II F.1.5 & II F.1.6. Overall uncertainty determinations to be calculated after receipt of data.

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Carolina Power & Light Company

APR 07 1983

SERIAL: LAP-83-91

Director of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
NUREG-0737, ITEMS II.F.1.4, II.F.1.5 AND II.F.1.6
CONTAINMENT PRESSURE, WATER LEVEL, AND HYDROGEN MONITORS

Dear Mr. Varga:

Carolina Power & Light Company (CP&L) has received your letter, dated February 14, 1983, requesting additional information regarding the containment pressure, water level, and hydrogen monitors for the H. B. Robinson Steam Electric Plant Unit No. 2 (HBR2).

As discussed with the NRC Project Manager, we are unable to provide a complete response at this time. In the attachment to this letter, we have identified each of your requests with our respective response.

Overall uncertainty determinations for the required systems will have to be calculated after receipt of the specific module data currently being obtained. Included are data which is available to CP&L from our records.

If you have any further questions regarding these items, please contact a member of the Nuclear Licensing staff.

Yours very truly,

S. R. Zimmerman
Manager
Licensing & Permits

DCW/pgp (6496DCW)
Attachment

cc: Mr. J. P. O'Reilly (NRC-RII)
Mr. G. Requa (NRC)
Mr. Steve Weise (NRC-HBR)

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PDR ADOCK 05000261
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A046

REQUEST FOR ADDITIONAL INFORMATION ON NUREG-0737 ITEMS

- II.F.1.4 CONTAINMENT PRESSURE MONITOR
- II.F.1.5 CONTAINMENT WATER LEVEL MONITOR
- II.F.1.6 CONTAINMENT HYDROGEN MONITOR

NRC REQUEST

(1) EXCEPTIONS BEING TAKEN TO NUREG-0737 REQUIREMENTS

The submittals we have received to date do not indicate that you plan to take any exceptions to the NUREG-0737 requirements in our scope of review. Please indicate any exceptions you plan of which we are not aware. For each exception indicate (1) why you find it difficult to comply with this item, (2) how this exception will affect the monitor system accuracy, speed, dependability, availability, and utility, (3) if this exception in any way compromises the safety margin that the monitor is supposed to provide, and (4) any extenuating factors that make this exception less deleterious than it appears at face value.

CP&L RESPONSE

Carolina Power & Light Company does not at this time plan to take any exceptions to the NUREG-0737 requirements for Items II.F.1.4, II.F.1.5, and II.F.1.6.

NRC REQUEST

(2) II.F.1.4 - PRESSURE MONITORING SYSTEM (PMS) - ACCURACY & TIME RESPONSE

- (2a) Provide a block diagram of the configuration of modules that make up your PMS. Provide an explanation of any details in the block diagram that might be necessary for an understanding of your PMS accuracy and time response.

CP&L RESPONSE

A block diagram of the configuration of modules which make up the HBR2 containment pressure monitor is included as Figure 1.

NRC REQUEST

- (2b) For each module provide a list of all parameters which describe the overall uncertainty in the transfer function of that module.

CP&L RESPONSE

Module Uncertainty

1. Rosemount Pressure Transmitter, Model 1153HA7

Accuracy:	$\pm 0.25\%$ of span (includes combined effects of linearity, hysteresis, and repeatability)
Dead Band:	None
Temperature Effect:	Maximum Span: $\pm 1.25\%/100^\circ\text{F}$ (includes span and zero effects) Minimum Span: $\pm 5.0\%/100^\circ\text{F}$ (includes span and zero effects)
Static Pressure Effect:	Zero Error: $\pm 0.00042\%$ of span Span Error: $\pm 0.714\%$ of span
Power Supply Effect:	$\pm 0.225\%$ of span

2. Westinghouse Model 121 Power Supply

Unknown at this time. CP&L will provide this information by August 1, 1983.

3. Tigraph Recorder, Model 100

Unknown at this time. CP&L will provide this information by August 1, 1983.

4. Westinghouse Type 252 Edge Meter

Unknown at this time. CP&L will provide this information by August 1, 1983.

NRC REQUEST

(2c) Combine parameters in 2b to get an overall system uncertainty. If you have both strip chart recorder and indicator output, give the overall system uncertainty for both systems. If you have systems spanning different ranges, give the overall system uncertainty for each system.

CP&L RESPONSE

Overall System Uncertainty

Unknown at this time. CP&L will provide this information by August 1, 1983

NRC REQUEST

- (2d) For each module indicate the time response. For modules with a linear transfer function, state either the time constant, t , or the Ramp Asymptotic Delay Time, RADT. For modules with an output that varies linearly in time, state the full scale response time. (Most likely the only module you have in this category is the strip chart recorder.)

CP&L RESPONSE

Module Time Response

1. Rosemount Pressure Transmitter, Model 1153HA7
.2 seconds (63%) at 100°F
2. Westinghouse Model 121 Power Supply
N/A
3. Tigraph Model 100 Recorder
Unknown at this time. CP&L will provide this information by August 1, 1983.
4. Westinghouse Type 252 Edge Meter
Unknown at this time. CP&L will provide this information by August 1, 1983.

NRC REQUEST

(3) II.F.1.5 ---- WATER LEVEL MONITORING SYSTEM (WLMS) ---- ACCURACY

- (3a) Provide a block diagram of the configuration of modules that make up your WLMS. Provide an explanation of any details in the block diagram that might be necessary for an understanding of your WLMS accuracy.

CP&L RESPONSE

A block diagram of the configuration of modules which make up the HBR2, containment water level monitor is included as Figure 2.

NRC REQUEST

- (3b) For each module provide a list of all parameters which describe the overall uncertainty in the transfer function of that module.

CP&L RESPONSE

Module Uncertainty

1. Gems Level Transmitters, Models XM-52495 and XM-36495

$\pm .24\%$ of span

2. Gems Receiver Monitor, Model RE-36562

$\pm 2\%$ of span

3. Tigraph Recorder, Model 100

Unknown at this time. CP&L will provide this information by August 1, 1983.

NRC REQUEST

- (3c) Combine parameters in 3b to get an overall system uncertainty. If you have both strip chart recorder and indicator output, give the overall system uncertainty for both systems. If you have systems spanning different ranges, give the overall system uncertainty for each system.

CP&L RESPONSE

Overall System Uncertainty

Unknown at this time. CP&L will provide this information by August 1, 1983.

NRC REQUEST

(4) II.F.1.6 ---- HYDROGEN MONITOR SYSTEM (HMS) ---- ACCURACY & PLACEMENT

- (4a) Provide a block diagram of the configuration of modules that make up your HMS. Provide an explanation of any details in the block diagram that might be necessary for an understanding of your HMS accuracy. If you have different types of HMSs give this information for each type.

CP&L RESPONSE

A block diagram of the configuration of modules which make up the HBR2 containment hydrogen monitor is included as Figure 3.

NRC REQUEST

- (4b) For each module provide a list of all parameters which describe the overall uncertainty in the transfer function of that module.

CP&L RESPONSE

Module Uncertainty

1. General Electric Hydrogen Sensor Assembly 47E24610G2

Unknown at this time. CP&L will provide this information by August 1, 1983.
2. CEC Pressure Transducer 1000-0208, Rev. A

Accuracy: $\pm 0.1\%$ of span

Thermal Error: $\pm 0.5\%$ of span

Non-Linearity, Hysteresis, and Non-Repeatability Error: $\pm 0.25\%$ of span
3. General Electric Hydrogen Analyzer Electronics Panel Assembly

 $\pm 4.0\%$ of span
4. Tigraph Recorder, Model 100

Unknown at this time. CP&L will provide this information by August 1, 1983.

NRC REQUEST

- (4c) Combine the parameters in 4b to get an overall system uncertainty. If you have both strip chart recorder and indicator output, give the overall system uncertainty for both systems.

CP&L RESPONSE

Overall System Uncertainty

Unknown at this time. CP&L will provide this information by August 1, 1983.

NRC REQUEST

- (4d) Indicate the placement and number of hydrogen monitor intake ports in containment. Indicate any special sampling techniques that are used either to examine one region of containment or to assure that a good cross section of containment is being monitored.

CP&L RESPONSE

Intake Port Placement and Number

The two transducers are located inside the containment. The Channel A transducer is adjacent to stair number 2 at elevation 280 feet; The Channel B transducer is adjacent to stair number 1 at elevation 293 feet. Since the open containment design includes gratings in all floors, open stairs, etc., the transducer locations are considered satisfactory with regard to sensing representative atmosphere.

NRC REQUEST

- (4e) Are there any obstructions which would prevent hydrogen escaping from the core from reaching the hydrogen sample ports quickly?

CP&L RESPONSE

There are no obstructions which would prevent hydrogen escaping from the core from reaching the hydrogen sample ports quickly.

(6496DCWkjr)

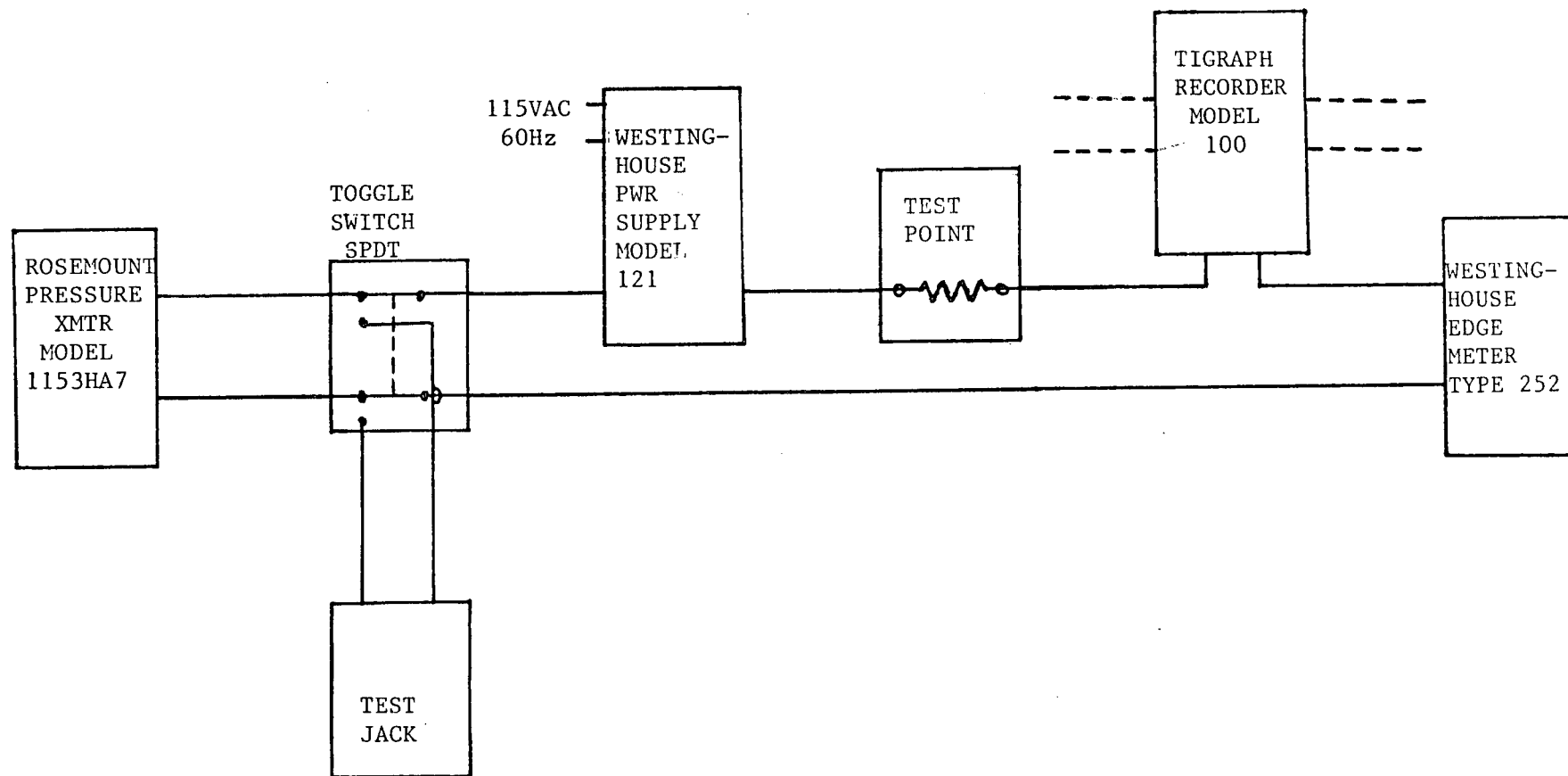


FIGURE 1. BLOCK DIAGRAM OF THE HBR2 CONTAINMENT PRESSURE MONITOR SYSTEM
(DUAL CHANNEL, ONLY ONE CHANNEL ILLUSTRATED)

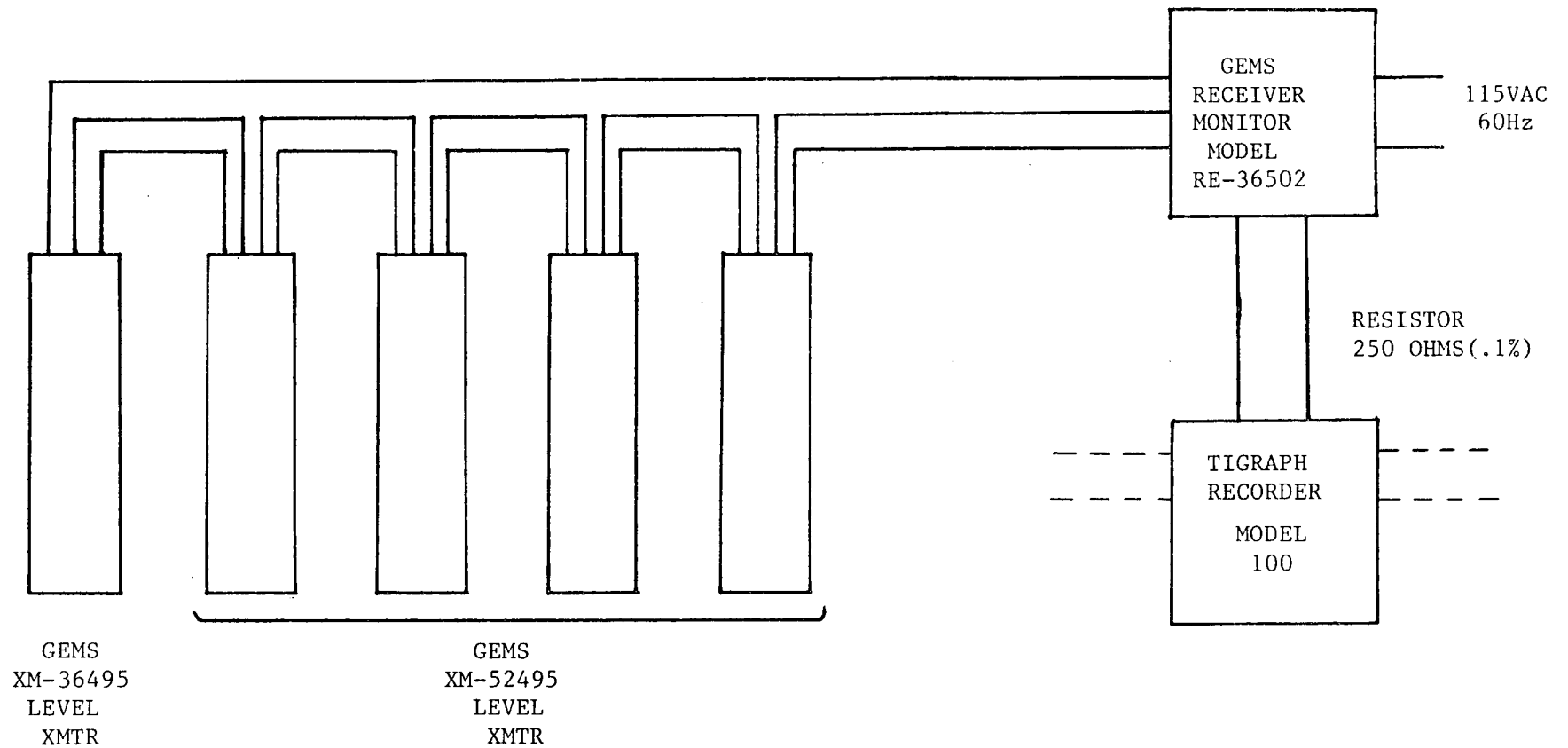


FIGURE 2. BLOCK DIAGRAM OF THE HBR2 WATER LEVEL MONITOR SYSTEM
(DUAL CHANNEL, ONLY ONE CHANNEL ILLUSTRATED)

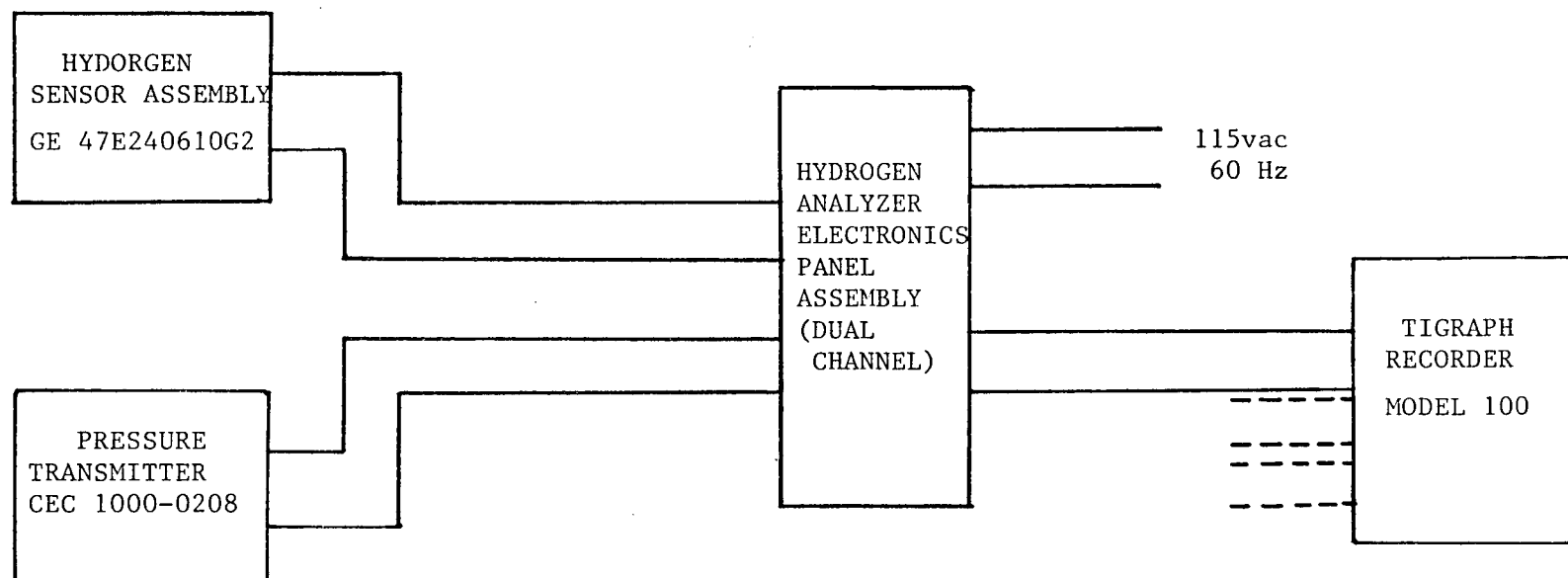


FIGURE 3. BLOCK DIAGRAM OF THE HBR2 HYDROGEN MONITOR SYSTEM
(DUAL CHANNEL, ONLY ONE CHANNEL ILLUSTRATED)