Wisconsin Electric
POWER COMPANY

Point Beach Nuclear Plant
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NPL 97-0450

July 31, 1997

10 CFR 50.4

Document Control Desk
US NUCLEAR REGULATORY COMMISSION
Mail Station P1-137
Washington, DC 20555

Ladies/Gentlemen:

DOCKETS 50-266 AND 50-301
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
GENERIC LETTER 87-02, VERIFICATION OF SEISMIC ADEQUACY
OF MECHANICAL AND ELECTRICAL EQUIPMENT IN OPERATING REACTORS
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Your letter dated May 16, 1997, requested additional information related to Generic Letter 87-02. You requested this information within 30 days of our receipt of that letter. Our letter dated July 7, 1997, replied to the component cooling water system issues in response to your request for additional information. As discussed with our NRR Project Manager, Ms. Linda Gundrum, it was acceptable to postpone our response to the remaining issues until July 31, 1997. This extension has provided us with the opportunity to incorporate knowledge gained from recent industry conferences on the subject.

Our response to the remaining items contained in your request for additional information is provided in Attachment A to this letter.

If you require additional information, please contact us.

Sincerely,

Douglas F. Johnson
Manager,
Regulatory Services & Licensing

Attachment with Enclosures

cc: NRC Resident Inspector (with attachment, w/o enclosures)
NRC Regional Administrator (with attachment, w/o enclosures)

A025 1/1

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PDR ADOCK 05000266
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0 01 Drawings located in Central Files

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POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
UNRESOLVED SAFETY ISSUE A-46 SUMMARY REPORT, DATED MAY 16, 1997

1. Adequacy of Seismic Demand Determination (Ground Spectra and In Structure / Floor Response Spectra).

Question 1a.
Identify structure(s) that have in-structure response spectra (5 percent of critical damping) for elevations within 40-feet above the effective grade, which are higher in amplitude than 1.5 times the Seismic Qualification Utility Group (SQUG) Bounding Spectrum.

Response 1a.
The effective grade for all structures at Point Beach Nuclear Plant (PBNP) is established at 8'. The following table lists those structures for which the 5% damped horizontal ISRS, for elevations within 40' above the effective grade, are higher in amplitude than 1.5 times the Generic Implementation Procedure, Revision 2 (GIP-2) (reference 1) Bounding Spectrum.

Table 1-1

PBNP Structures	**Elevations where 5% damped horizontal ISRS > 1.5 x Bounding Spectrum**
Control Building	26' 44'
Pipeway #1	6.5' 15' 23'
Pipeway #2 (Pipeways # 2 & 3 are similar in construction, use the same building model and have the same ISRS)	26' 36' 47'
Pipeway #3 (Pipeways # 2 & 3 are similar in construction, use the same building model and have the same ISRS)	26' 36' 47'

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Question 1b.

With respect to the comparison of equipment seismic capacity and seismic demand, indicate which method in Table 4-1 of GIP-2 was used to evaluate the seismic adequacy for equipment installed on the corresponding floors in the structure(s) identified in item (a) above. If you have elected to use method A in Table 4-1 of the GIP-2, provide a technical justification for not using the in-structure response spectra provided in your 120-day response.

Response 1b.

The following table provides the number of equipment items on the USI A-46 Seismic Safe Shutdown Equipment List (SSEL) located at each of the buildings & elevations identified in "1a" above.

Table 1-2

PBNP Structures	Elevations where 5% damped horizontal ISRS > 1.5 x Bounding Spectrum	# of Items where Capacity vs. Demand check used Method A in Table 4-1 of GIP-2	# of Items where Capacity vs. Demand check used Method B in Table 4-1 of GIP-2
Control Building	26'	0	52
	44'	0	15
Pipeway #1	6.5'	2	0
	15'	0	0
	23'	0	0
Pipeway #2	26'	0	1
	36'	0	0
	47'	0	0
Pipeway #3	26'	0	2
	36'	0	0
	47'	0	0

Of the 72 items located at these building / elevations, 2 components, 1SI-866A and 1SI-866B were evaluated for seismic capacity vs. demand using Method A of Table 4-1 of GIP-2.

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Method A of Table 4-1 was used because 1SI-866A and 1SI-866B (the Equipment Class 8, Motor-Operated Valves being evaluated) meet the caveats for applying this capacity vs. demand comparison. For PBNP, the Housner Ground Response Spectrum (GRS), anchored at 0.12g is defined at the free field ground surface. The PBNP 5% damped Housner GRS Safe Shutdown Earthquake (SSE) is bounded by the GIP Bounding Spectrum as shown in Enclosure 1, and the valves are located on the 8' elevation which is < 40' above effective grade. Therefore, it is directly applicable for comparison with the Bounding Spectrum (Reference 9, page 100).

Section II.4.2 of the GIP-2 presents two methods that are both technically acceptable methods for verifying that a component has sufficient seismic capacity to withstand the SSE. In fact, SSRAP encouraged the use of the Bounding Spectrum vs. GRS comparison over the Reference Spectrum vs. ISRS comparison in order to avoid having to use ISRS which may be very conservatively determine (Reference 9, page 102).

Both Section II.4.2.3 of GIP-2 and Appendix A of the SSRAP Report (page 105) discuss applying the Bounding Spectrum vs. free-field ground response spectra with judgment, paying particular attention to situations which could cause the amplification factor from the GRS to the ISRS to be greater than that of typical nuclear plant structures. In the case of 1SI-866A and 1SI-66B, the piping system both upstream and downstream of the valves is very well supported. These sections of pipe were estimated to be relatively stiff. It was the judgment of the Seismic Capability Engineers that no out-of-the-ordinary condition existed and that the BS vs. GRS comparison was acceptable.

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Question 1c.

For the structures identified it Item (a) above, provide the in-structure response spectra designated according to the height about effective grade. If the in-structure response spectra identified in the 120-day-response to Supplement No. 1 to GL 87-02 was not used, provide the response spectra that were actually used to verify the seismic adequacy of equipment within the structures identified in item (a) above. Also, provide a comparison of these spectra to 1.5 times the Bounding Spectrum.

Response 1c.

Appendix B of the Point Beach Nuclear Plant (PBNP) Seismic Evaluation Report (References 6 and 7) provides the complete listing of the structures at PBNP and the corresponding 5% damped, horizontal in-structure response spectra (ISRS) for each elevation in a structure's building model. These are the same ISRS provided to the NRC in Wisconsin Electric's 120-day response to Supplement 1 of Generic Letter (GL) 87-02 (Reference 4) and used for the USI A-46 Seismic Verification Project.

Enclosure 1 provides the plot of the 5% damped horizontal Housner Ground Response Spectra (GRS) plotted in comparison to the GIP Bounding Spectrum and the plots of the 5% damped horizontal ISRS for all of the structures at PBNP for those elevations within 40 feet of effective grade plotted in comparison to the GIP Reference Spectrum (1.5 x Bounding Spectrum).

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2. Seismic Adequacy of Tanks and Heat Exchangers

Question 2a

You stated that the RWST [refueling water storage tank], 1(2)T-13, did not meet the Section 7 evaluation rules of the GIP-2 (page 8-5, Ref. 1) (referring to page 8-5 of the WE Seismic Evaluation Report (reference 8) ***and are identified as outliers. You further stated that a detailed evaluation was performed in accordance with Appendix H of EPRI NP-6041. Since the EPRI NP-6041 Appendix H methodology is known to yield less conservative results than those based on GIP-2 methodology, the staff did not accept the Appendix H methodology without a technical justification for its acceptance.***

Your September 30, 1996, response did not provide a technical justification for the tank's evaluation methodology (use of Appendix H to EPRI NP-6041). The staff therefore requests that you identify all the items whose acceptance were based on methodologies that differ from the GIP-2 Guidelines and provide a justification for the acceptability of each item. When computer codes were used in arriving at certain conclusions, validation documents should be provided especially for those codes where non-linear analyses were performed. The validation should be beyond quality assurance / quality control arguments. It should include, as a minimum, a numerical error bound and a comparison with physical data.

In addition, analysis of a soil structure interaction for the tank evaluation should also be validated, documented and submitted for NRC review when it differs from the one used in constructing the floor response spectra in your 120-day submittal or differs from the FSAR [final safety analysis report] when the subject was not discussed in your 120-day response.

Response 2a

The Refueling Water Storage Tank (RWST) analysis was provided to the NRC staff as Enclosure 4 to Wisconsin Electric's response to the NRC's initial request for additional information (Reference 3). Enclosure 4 consisted of 5 documents listed as References 10 through 14.

During a follow-on evaluation of the seismic capacity of the RWST, Wisconsin Electric has determined that the seismic capacity of the tank as calculated in References 10 through 14 does not provide sufficient design margin for final resolution to the USI A-46 outlier. As a result, WE has decided to upgrade the seismic capacity of the tank with a structural modification.

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Question 2b

On page 4/23 of Enclosure 4 (Ref. 2) (referring to page 4/23 of the Point Beach Refueling Water Storage Tank Seismic Capacity Final Report, Reference 11), ***a list of failure modes is provided, including item 4 "Global shell buckling due to overturning moments." However, a calculation was not provided for this mode. Provide such a calculation and discuss why buckling is not a governing mode of failure. Also provide validation documentation as discussed above.***

Response 2b

The calculation for the global shell buckling due to overturning moments is incorporated into the EPRI-6041 Appendix H procedure. The adjusted allowable base moment of 16,037 kip-ft and the CDFM Peak Ground Acceleration (PGA) capacity of 0.127g provided in Section 8 of the Point Beach RWST Seismic Capacity Final Report (reference 11) is based upon the global shell buckling failure mode as the governing failure mode. This RWST capacity is calculated in Stevenson & Associates calculation 91C2696-C003, Revision 0 Reference 12) transmitted as part of Enclosure 4 to Wisconsin Electric's response to the initial request for additional information (Reference 3).

The EPRI NP-6041 Appendix H procedure considers buckling in determination of the allowable tank shell compressive stress. The allowable compressive stress is then used as input into the equations for allowable base moment. These steps are very similar to the steps in the GIP-2 method for allowable base moment determination.

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3. Seismic Adequacy of Cable and Conduit Raceways

Question 3

During our review of the GIP-2 Guidelines, the staff found that the procedure for ductile cable tray systems needed further evaluation. The guideline stated that the ductile cable tray system is not required to be evaluated for a lateral load. The staff is currently pursuing the resolution of this issue with SQUG. A generic resolution, when established, should apply to the Point Beach plant cable trays as well, and you should revise the evaluation of the Point Beach cable tray systems accordingly.

For the interior of the cable spreading room, provide drawings of cable trays, structural drawings of the floor and/or the ceiling at the elevation where the cable trays are attached, floor response spectra (discuss how the flexibility of the floor was taken into consideration) and final results of cable tray evaluation in terms of deflection due to the system stress level. Provide stiffness (natural frequencies) of the cable tray systems and supporting floor and/or ceiling including weight of the cable tray and its contents such as fire retardant. Provide the margins to the design limits and/or failure. In addition, provide validation documents of any computer codes used to produce the results discussed above.

Response 3

Section 7 of the Wisconsin Electric Seismic Evaluation Report, Revision 1 (References 6 & 7) provides the results of the Cable Tray and Conduit Raceway Review. The cable spreading room (CSR) was designated as a separate walkdown area for the review. The results of the walkdown are recorded on the cable spreading room plant area summary sheet (PASS) provided in Enclosure 2.

Four Limited Analytical Review (LAR) cable tray supports were selected in the CSR, LAR 3, 4, 5, and 10. The PASS form provides the plan view sketches of these four LARs. The LAR analysis is contained in Stevenson & Associates (S&A) calculation 91C2696-C-018 (Reference 16) and was submitted as Enclosure 5 to Reference 3. The analysis for the CSR LARs is contained on the following pages:

LAR #	Page #'s
3	A18 to A24
4	A25 to A31
5	A32 to A37
10	A89 to A95

The cable tray supports in the CSR are mounted to the underside of the Control Building, 44' elevation floor slab. Bechtel Drawings C-181, C-183 and C-184 provided in Enclosure 3 are the associated structural drawings.

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The horizontal in-structure response spectra for the Control Building, 44' elevation, 5% damping is provided as one of the ISRS in Enclosure 1. It is plotted on the same graph with the Control Building 26' elevation, 5% damping and is plotted in comparison to the GIP-2 Reference Spectrum.

The analysis of the cable tray supports follows the methodology provided in Section II.8 of the GIP-2. As a result, the cable tray deflections, and the stiffness of the cable tray systems and the supporting ceiling have not been determined. The cable tray supports that are identified as outliers will be upgraded using the analysis methodology and to the acceptance criteria provided in Section II.8 of the GIP-2. Therefore, the deflection and stiffness parameters will not be determined for these cable tray systems.

The margins to the acceptance criteria for the LAR analyses are provide in Section 7.5.1, Summary of Results, of the Wisconsin Electric Seismic Evaluation Report, Revision 1 (References 6 & 7). Table 7-2, Critical Interaction Values, provides the resultant critical interaction value(CIV) for each LAR analysis. A CIV > 1 indicates that the cable tray support has exceeded the allowable load limits.

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4. Licensee Event Report

Question 4

The Licensee Event Report 97-008-00 (Reference 3) discussed existence of non-seismic duct work located above safety-related equipment in the containment. This situation existed for some time and it is apparent that the walkdown crew for the A-46 program failed to identify the deficiency. Demonstrate that this is not an indication of a general weakness in the USI A-46 walkdown program.

Response 4

When reviewing the event discussed in LER 97-008-00 (reference 17) and examining its implications on any weakness in the USI A-46 walkdown program, it is important to distinguish between the plant equipment involved in the LER and the equipment in the scope of the USI A-46 seismic verification project. LER 97-008-00 identifies the following safety-related equipment as the being possible targets for impact form the non-seismic ductwork:

* SG channelhead vent piping
* Valve RH-700 and RHR piping
* Letdown piping and valves
* RTD bypass
* Various instruments and sensing lines
* SG blowdown and sample piping
* Various secondary instruments

The USI A-46 seismic verification project only involves that set of equipment identified as being required to place the plant in a safe hot-shutdown condition following a safe shutdown earthquake event. For PBNP, this set of equipment was selected to be consistent with the safety-related (SR) scoping of the equipment, meaning that very few, if any, non-SR components are included on the PBNP Safe Shutdown Equipment List (SSEL). The PBNP SSEL is only a sub-set of the larger set of equipment that is scoped SR. Not all SR equipment is on the SSEL, and therefore, not all SR equipment was walked down by a qualified Seismic Review Team (SRT) made up of two Seismic Capability Engineers (SCE).

In addition, the USI A-46 seismic verification project was not required to walkdown piping or instrument sensing lines even if the sensing line was associated with an instrument on the SSEL. From the list of equipment that was identified in the LER, the only component that is on the PBNP SSEL is 1RH-700. The SRT that walked down 1RH-700 did not identify a spatial interaction concern for this valve. The two licensee engineers that conducted the walkdown of the Unit 1 SG cubicles discussed in LER 97-008-00 are qualified SCEs. Their walkdown was

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consistent with that of the original SRT. Both groups concluded that the 1RH-700 valve would not be affected.

The walkdowns for the USI A-46 seismic verification project were conducted in a controlled and methodical manner. Each piece of equipment on the SSEL was walked down two separate times, both times by a qualified SRT. The first preliminary walkdown was performed to gather field information on the equipment and to fill out a draft screening evaluation worksheet (SEWS) form. The second final walkdown was performed with the final version of the SEWS in hand by a different SRT. Both times, the SRT was checking compliance with the caveats, including the spatial interaction caveats.

Of the 99 equipment outliers identified in Section 9 of the Wisconsin Electric Seismic Evaluation Report, Revision 1 (References 6 &7), 35 of them are associated with a spatial interaction hazard. This is indicative that the qualified SRTs where sensitive to identifying interaction hazard concerns.

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5. Deviations from GIP-2

Question 5

In Reference 4 [Reference 5 to this submittal] ***you stated that you are committed to implement the GIP-2 including clarifications, interpretations, and expectations in SSER-2, and to communicate to the NRC staff any significant or programmatic deviations from GIP-2 guidance. You further stated that the submittal confirms that no significant or programmatic deviations form the GIP-2 guidance were made.***

Provide the worst-case items (from the safety point of view) that deviate from the GIP-2 guidelines but were categorized as not being significant. In addition, we request that you provide a definition of "Significant deviations" that the walkdown crew used to classify the deviation as significant or insignificant and provide a justification for why such a definition is adequate.

Response 5

Section 5 of the Wisconsin Electric Seismic Evaluation Report, Revision 1 (References 6 & 7) provides the a listing of equipment for which the Seismic Review Team (SRT) deviated from the GIP-2 caveats. In these cases, the SRT used engineering judgment based on their Seismic Capability Engineer (SCE) training and their seismic design experience to meet the intent of the screening evaluation worksheet (SEWS) caveats rather than the exact wording of the caveat. Meeting the intent of the equipment caveats is permitted under the walkdown guidance provided in Section II.4.1 of the GIP-2. If the SRT could not justified meeting the intent of a particular caveat, the equipment was declared an outlier.

The SRTs did not have pre-determined definitions of "significant" deviations versus "insignificant" deviations. Following the thought process as stated above, "significant" deviations would be declared outliers, and "insignificant" deviations were ones where the meeting the intent of the caveats was justified.

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6. Relays Mounted on Vibrating Equipment

Question

Your response dated September 30, 1996, to our RAI (Item 11) on "Relays Mounted on Vibrating Equipment" states that you agree with the SQUG position on this issue in the SQUG letter to the NRC, dated August 19, 1996. However, as indicated in the NRC letter to the SQUG, dated December 5, 1996, the SQUG's generic response to the NRC question is not acceptable. First , the specific issue in question is not regarding relays mounted on diesel generators and air compressors. The issue is the inappropriateness of using the "rule-of-the-box" concept and the judgment based on the normal operation of the diesel generators of air compressors to justify the seismic adequacy of devices, such as relays , mounted in the instrumentation and control cabinets anchored on the common skid of the diesel generator or air compressor.

The concept of the "rule-of-the-box" applies to components in a system that has already been successfully subjected to a vibratory environment comparable with or greater than the required motion (e.g., SSE). Therefore, the "rule-of-the-box" concept can also be applicable for acceptance of the relays mounted on vibratory equipment (or in a cabinet supported on the common skid) provided it is demonstrated that the vibratory motion of the equipment (or the skid) is at least equal to the required seismic motion at that location, and that the relays performed all their intended functions during the periods of vibration.

With regard to relays mounted on diesel generators and air compressors, the following specific questions should be addressed:

a. ***Does the mechanical vibration envelop the required input motion (e.g., SSE) from all aspects (e.g., amplitude, frequency, direction, etc.)?***

b. ***Do these vibratory equipment-mounted relays perform all their operational safety functions (e.g., change of state) while the supporting equipment is vibrating (i.e., during startup an normal operation) so that the relays can be considered qualified to that level?***

c. ***For any of these vibratory equipment items, could an SSE occur when the equipment is vibrating? If so, then the earthquake load will be an increment to the normal operational vibratory load, and the relay may need to be reviewed for the increased motion.***

The vibratory motion of the skid is expected to be less severe than the vibratory equipment itself provided the skid is rigidly mounted on a heavy foundation. Therefore, all of the above questions will also apply for relays contained in skid-mounted cabinets with a particular

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emphasis on the vibration level verification, with the understanding that it is the vibration of the skid and not of the vibrating equipment, that will be compared with the required input motion (i.e., Item a. above). In addition, the cabinet that houses the relays may also change the vibration level and characteristics at the relay locations.

Regarding "bad actor" relays, they are so described mainly because of their low seismic capacities, or inexplicable performance characteristics. Therefore, "bad actor" relays mounted on vibratory equipment may be expected to have demonstrated their performance under certain conditions. But, in general, these relays also should be verified following the approach for other vibratory equipment-mounted relays discussed above.

In conclusion, the staff's original RAI has been clarified and divided into three questions as described above. Any USI A-46 plant licensees who have inappropriately used the "rule-of-the-box" concept or exercised the judgment, based on normal operation of the vibratory equipment, to justify the seismic adequacy of component/device mounted on a vibratory equipment or mounted in a cabinet that is anchored to the common skid of the vibratory equipment, should demonstrate the seismic adequacy of the component/device by calculation and/or test data.

The above revised RAIs have been sent to the SQUG. In response to these RAIs, the SQUG did not provide specific responses to the above RAIs in its letter to NRC dated April 18, 1997. Therefore, the staff does not accept the SQUG response as a resolution to this issue. You are requested to provide specific resolutions to the above RAIs.

Response

Wisconsin Electric intends to re-evaluate the seismic adequacy of those contact devices that were originally considered to be seismic adequate based on being mounted on vibrating equipment. WE agrees with the staff's concern that the vibratory excitation caused by the operation of the vibrating equipment may be outside the frequency range of concern for the seismic event.

The types of equipment initially screened as seismically adequate based on the rule-of-the-box application consist of relays, circuit breakers, contactors, mechanically actuated switches and manually actuated switches. The initially screening of these components was broad in scope simply because the only criteria we tried to meet was being mounted on the vibrating equipment and not being "bad-actor" relay.

As a result, the re-evaluation will need to more clearly define what each contact device in the equipment control is (e.g. whether it is a relay, circuit breaker, switch, etc...) and then determine if functional screening for chatter acceptability is appropriate or if the seismic capacity versus seismic demand screening is appropriate.

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WE intends to provide an update to the Relay Evaluation Report (References 18 & 19) once this evaluation is completed.

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7. Human Factors Aspects of A-46

Question 7a.
In response to question 23 on page A32 of 42 of the licensee's submittal (Reference 3), the licensee did not specifically address how the multi-disciplinary team evaluated that sufficient time was available to ensure operators could accomplish the required actions associated with a safe shutdown. Please describe how the team determined that sufficient time was available to accomplish these activities?

Response 7a.
As part of the Safe Shutdown Equipment List (SSEL) equipment selection process, those accidents and transients previously analyzed for in the PBNP Final Safety Analysis Report (FSAR), were reviewed. Those that were considered credible as a result of the PBNP safe shutdown earthquake (SSE) event were identified (References 6 & 7, Section 2). The equipment required to mitigate the consequences of these accidents and transients are included on the SSEL.

The response procedures are grouped in categories of Emergency Operating Procedures (EOPs), Critical Safety Procedures (CSPs), Emergency Contingency Actions (ECAs) and Abnormal Operating Procedures (AOPs). The procedures are written to direct the actions required to support the PBNP design basis accident and transient analysis identified during the FSAR review. The actions taken are based on plant symptoms and indications and are not associated with what initiated the accident or transient. The SSEL equipment selection process also reviewed the applicable procedures to ensure that the equipment selection is consistent with the set of equipment used by the operations personnel in the response to the postulated accidents and transients. However, the equipment is not specifically identified for the operators as being on the SSEL. The operators can rely on this equipment, without specifically knowing the equipment is on the SSEL, because the equipment has been verified to be seismically adequate.

The procedures are reviewed during a validation process and any changes are reviewed against the PBNP licensing basis and design basis under 10CFR 50.59. The operating crews continually conduct both classroom and simulator training on the procedures. The auxiliary operator training includes practical factors and job performance measures for training on local equipment operation. The multi-disciplinary team evaluated that sufficient time was available for the operators to accomplish the required actions based the training that demonstrates that operators successfully complete existing procedures. They also based their evaluation on the existence of the procedure validation process which ensures that the procedures are adequate to respond to the PBNP design basis accident and transient events.

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Question 7b.
Regarding question 24, the staff agrees that the USI A-46 scenario is not expected to cause harsh environment conditions. As discussed in a letter from the staff to the SQUG dated December 5, 1996, following a joint meeting of representatives of the NRC and SQUG on August 28, 1996, the staff provided the SQUG with additional clarification of the types of concerns that should be considered including (1) the potential for diminished lighting due to a loss-of-offsite power, (2) other barriers such as damaged equipment or structures which could inhibit operators ability to access plant equipment (e.g., ingress/egress paths to SSEL equipment), and (3) the potential for requiring operators to enter hazardous (e.g., high temperature humidity, steam, flooding, or electrical hazards) or unfamiliar areas to manually reset or realign equipment.

How were these potentially hazardous environmental conditions and additional concerns factored into the analysis?

Response 7b
As stated in Response 7a above, the Point Beach Nuclear Plant (PBNP) Safe Shutdown Equipment List (SSEL) equipment selection process also reviewed the applicable procedures to ensure that the equipment selection is consistent with the set of equipment used by the operations personnel in the response to the postulated accidents and transients.

The majority of the equipment in that equipment set is operated from the control room. In addition, the required system parameter indications are available in the control room so operators can verify proper system and equipment operation from the control room.

As part of this response, the Operating Procedure Review in Section 2.4 of the Seismic Evaluation Report (references 6 & 7) and the response to Question 24 to Wisconsin Electric's initial RAI response (reference 3) were re-evaluated. The initial procedures review for the USI A-46 Seismic Verification Project postulated that the operators would be directed to the Emergency Contingency Actions (ECAs) - 0.0, ECA-0.1 and ECA-0.2 as a result of a loss of all AC power. However, AC safeguards power is considered available because the emergency diesel generators are on the SSEL. Therefore, it is more accurate to postulate that the operators would not transition to the ECAs and remain in the EOPs. As a result, Wisconsin Electric will be preparing a revision to Section 2 of the Seismic Evaluation Report (References 6 & 7) for accuracy and clarification.

Operator Access to Equipment
The equipment which may require local operator action is located within the envelop of the safety-related (SR) structures at PBNP with one exception, the air-operated atmospheric steam dump valves. The equipment that is located within the SR structures is considered to be accessible, the accessibility of the atmospheric steam dump valves is discussed below.

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The air-operated atmospheric steam dump valves are located at the 85' elevation in the Unit 1 and Unit 2 facade structures on a seismic platform attached to the exterior of containment. The atmospheric steam dump valves are used to control SG pressure and therefore reactor coolant system pressure and temperature. In order to operate these valves from the control room, an instrument air supply to the valves is required. The present instrument air system is non-seismic and can not be relied upon to function during and following the SSE event. As a result, if these valves are required to be operated, the PAB auxiliary operator must locally open these valves manually. The Unit 1 and Unit 2 facade structures are directly adjacent to the Primary Auxiliary Building (PAB). An analysis of the facade structures and the PAB super-structure has been done. Therefore, the PAB auxiliary operator's access to the atmospheric steam dump valves is maintained.

Emergency Lighting

A technical evaluation of the emergency lighting capability at PBNP has been done as part of the Fire Protection Program (reference 20). This evaluation is applicable to the USI A-46 Seismic Verification Project. The set of equipment required for the 10 CFR 50 Appendix R, worst case fire safe shutdown scenario and the set of equipment required for the USI A-46 Seismic Verification SSE scenario are similar. The local operator action for the Appendix R worst case fire scenario considers the need to evacuate the control room and operate the safe shutdown equipment from the local control stations. For the USI A-46 SSE scenario the operators remain in the control room. As a result, the local operator action required for the Appendix R scenario is considered to be more extensive than for the SSE scenario.

Emergency lighting is provided in areas of the plant which contain equipment identified as requiring local operator action for the Appendix R scenario. The lighting units are seismically qualified and seismically mounted. Therefore, this emergency lighting is considered adequate for the USI A-46 SSE scenario.

WISCONSIN ELECTRIC
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8. Component Cooling Water System Issues Update

Question
Please provide an updated status on the component cooling water system issues at Point Beach as described in your November 20, 1995, letter.

Response
An updated status on the Component Cooling Water System issues has been provided to the NRC staff under a separate letter (reference 21) submitted to the NRC on July 7, 1997.

9. Outstanding Outlier Status Update

Question
Please provide a status of outstanding outliers that remain to be completed and the current schedule dates of completion.

Response
The USI A-46 outliers are identified in Section 9 of the Seismic Evaluation Report (References 6 & 7).

Equipment Class 1 through 21
For Equipment Classes 1 through 21, 99 outliers were initially identified. Of those 99 outliers, 57 outliers have been resolved either by a modification upgrade or by analysis. Forty two (42) outliers remain to be resolved.

Equipment Class 22
For the Equipment Class 22 Cable and Conduit Raceway review, 3 of the 10 Limited Analytical Review (LAR) cable tray supports were identified as outliers. In addition to these, there were two (2) outliers associated with cables hanging out of their respective cable trays in Unit 1 and Unit 2 containment and one (1) outlier associated with a loose base clip angle on a cable tray support in Unit 1 containment. The outlier resolution for these is in progress.

Outlier Resolution Schedule
The initial outlier resolution schedule presented in Section 9 of the Seismic Evaluation Report (references 6 & 7) proposed to have the outliers resolution completed by February of 1998, following the second refueling outage for the PBNP Unit 2. The outlier resolution schedule has been delayed due to an extended Unit 2 Steam Generator Replacement Outage. At this point the follow-on Unit 1 and Unit 2 outage dates have not been established. The revised proposed completion date for the outlier resolution is after the next available outage for each unit. This is estimated to be in mid-1999.

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UNRESOLVED SAFETY ISSUE A-46 SUMMARY REPORT, DATED MAY 16, 1997

There are two exceptions this proposed schedule:

1) The upgrade of 1T-13 and 2T-13 Refueling Water Storage Tanks
2) The evaluation and any required upgrade of contact devices associated with the G-01 and G-02 emergency diesel generator control circuits.

These two projects are in the preliminary evaluation stages to determine the scope of work.

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References:

1.	Seismic Qualification Utility Group, "Generic Implementation Procedure (GIP), for Seismic Verification of Nuclear Plant Equipment", Revision 2, Corrected, 2/14/92.
2.	Letter from NRC to Wisconsin Electric Power Company, " Supplemental Request for Additional Information on Generic Letter 87-02, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46," dated May 16, 1997.
3.	Letter from Wisconsin Electric Power Company to NRC Document Control Desk, "Response to Request for Additional Information Regarding the Report on the Verification of Seismic Adequacy of Mechanical and Electrical Equipment on Operating Reactors," dated September 30, 1996.
4.	WE Response to GL 87-02, Supplement 1 on SQUG Resolution of USI A-46 Point Beach Nuclear Plant, Units 1 and 2, Letter No. VPNPD-92-313, NRC-91-111, Bob Link (WE) to USNRC, dated September 21, 1992
5.	Letter from Wisconsin Electric Power Company to NRC Document Control Desk, "Generic Letter 87-02 Summary Report for Resolution of Unresolved Safety Issue A-46, Point Beach Nuclear Plant, Units 1 and 2," dated June 30, 1995.
6.	WE Point Beach Nuclear Plant Units 1 and 2, "USNRC Generic Letter 87-02, USI A-46 Resolution, Seismic Evaluation Report," Rev. 0, June 1995.
7.	WE Point Beach Nuclear Plant Units 1 and 2, "USNRC Generic Letter 87-02, USI A-46 Resolution, Seismic Evaluation Report," Rev. 1, January 1996.
8.	Letter from NRC to Wisconsin Electric Power Company, "Request for Additional Information Regarding the Report on the Verification of Seismic Adequacy of Mechanical and Electrical Equipment on Operating Reactors," dated May 23, 1996
9.	Senior Seismic Review and Advisory Panel (SSRAP) Report, Use of Seismic Experience and Test Data to Show Ruggedness of Equipment in Nuclear Power Plants, Revision 4.0, February 28, 1991.
10.	1T-13 Refueling Water Storage Tank (RWST) Screening Evaluation Worksheet (SEWS)
11.	Stevenson & Associates Report 91C2696-DR-004, "Point Beach Refueling Water Storage Tank Seismic Capacity Final Report," June 30, 1995.
12.	Stevenson & Associates Calculation 91C2696-C-003, "Point Beach RWST Seismic Capacity," 6/23/95.

WISCONSIN ELECTRIC
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UNRESOLVED SAFETY ISSUE A-46 SUMMARY REPORT, DATED MAY 16, 1997

References:

13.	Stevenson & Associates Calculation 91C2696-C-004, "RWST Bolt Chair and Tank Shell Nonlinear Analysis," 6/23/95.
14.	Robert P. Kennedy letter to Mr. John O'Sullivan (Stevenson & Associates), "Point Beach RWST Seismic Analysis," March 22, 1994.
15.	EPRI NP-6041-SL, Revision 1, "A methodology for Assessment of Nuclear Power Plant Seismic Margin," August 1991.
16.	Stevenson & Associates Calculation 91C2696-C-018, "USI A-46 Limited Analytical Review, Cable Tray and Conduit Supports," 6/29/95
17.	Licensee Event Report 97-008-00, Wisconsin Electric Power Company, "Non-Seismic Duct Work Located Above Safety-Related Equipment in Containment, Point Beach Nuclear Plant, Units 1 and 2," dated March 3, 1997.
18.	WE Point Beach Nuclear Plant Units 1 and 2, "USNRC Generic Letter 87-02, USI A-46 Resolution, Relay Evaluation Report," Rev. 0, June 1995.
19.	WE Point Beach Nuclear Plant Units 1 and 2, "USNRC Generic Letter 87-02, USI A-46 Resolution, Relay Evaluation Report," Rev. 1, January 1996.
20.	Wisconsin Electric, Fire Protection Evaluation Report, July 1996, Technical Evaluation 9.2, "Technical Evaluation of Emergency Lighting Capability at Point Beach Nuclear Plant."
21.	Wisconsin Electric letter, NPL 97-0401 to the U.S. Nuclear Regulatory Commission, "Component Cooling Water System Issues Update, Point Beach Nuclear Plant, Units 1 and 2," July 7, 1997.

WISCONSIN ELECTRIC
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
UNRESOLVED SAFETY ISSUE A-46 SUMMARY REPORT, DATED MAY 16, 1997

Enclosures:

1.	a. Plot of the 5% damped horizontal Housner Ground Response Spectra (GRS) plotted in comparison to the GIP Bounding Spectrum and; b. Plots of the 5% damped horizontal ISRS for all of the structures at PBNP for those elevations within 40 feet of effective grade plotted in comparison to the GIP Reference Spectrum (1.5 x Bounding Spectrum).
2.	Wisconsin Electric Point Beach Nuclear Plant Cable Spreading Room Plant Area Summary Sheet, SPREADINGRM (Rev. 0) PASS.
3.	a. Bechtel Drawing C-181, Concrete - Turbine Building - Class 1 Structure Plans at El. 26'-0" & El. 44'-0". b. Bechtel Drawing C-183, Concrete - Turbine Building - Class 1 Structure, Elevations and Details c. Bechtel Drawing C-184, Concrete - Turbine Building - Class 1 Structure, Reinforcement - Plans & Sections.

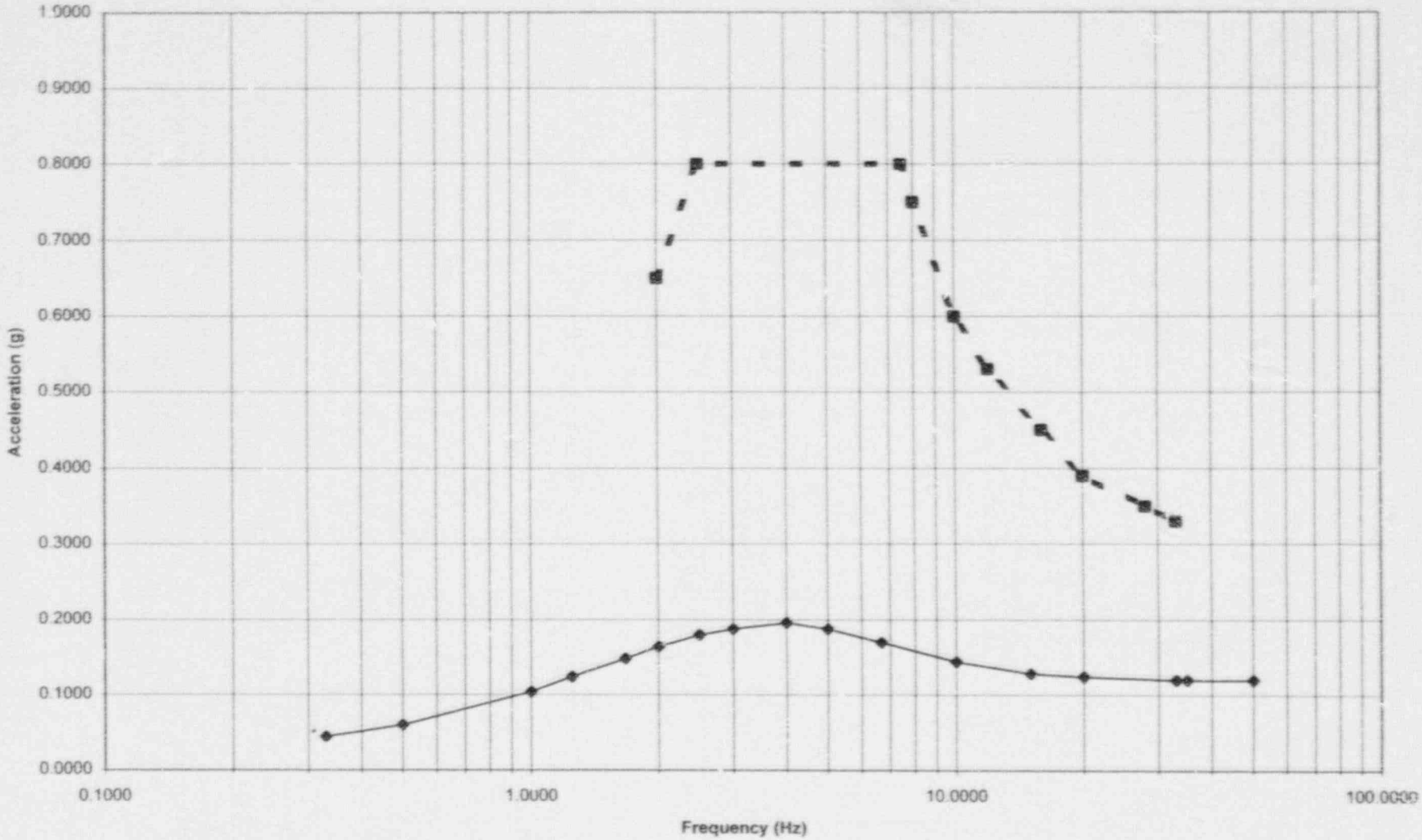
Wisconsin Electric Power Company
Response To Request for Additional Information, Point Beach Nuclear Plant, Units 1 and 2,
Unresolved Safety Issue A-46 Summary Report, dated May 16, 1997

Attachment A - Enclosure 1

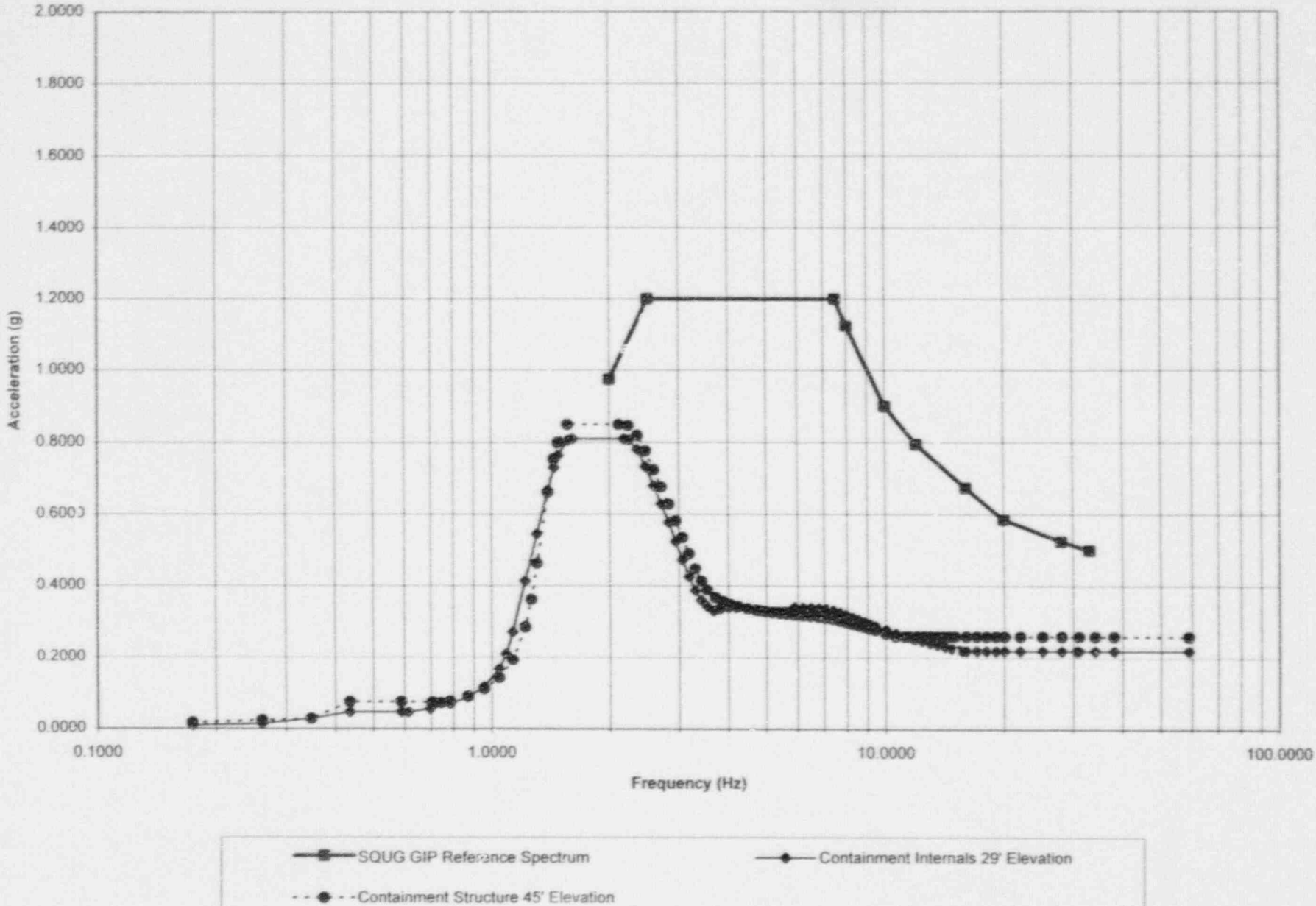
a. Plot of the 5% damped horizontal Housner Ground Response Spectra (GRS) plotted in comparison tc the GIP Bounding Spectrum and;

b. Plots of the 5% damped horizontal ISRS for all of the structures at PBNP for those elevations within 40 feet of effective grade plotted in comparison to the GIP Reference Spectrum (1.5 x Bounding Spectrum).

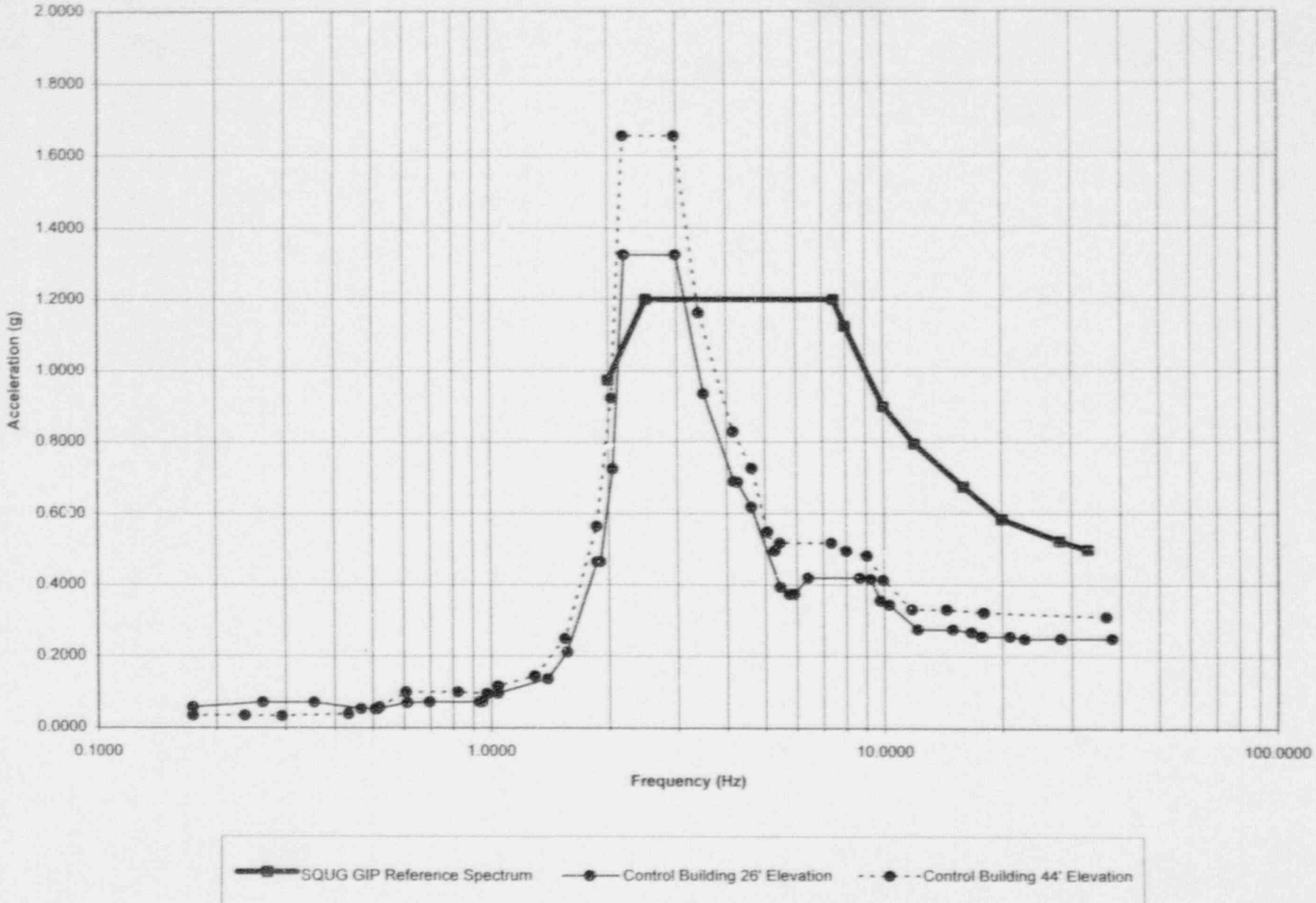
PBNP - Ground Response Spectrum - 5% Damping



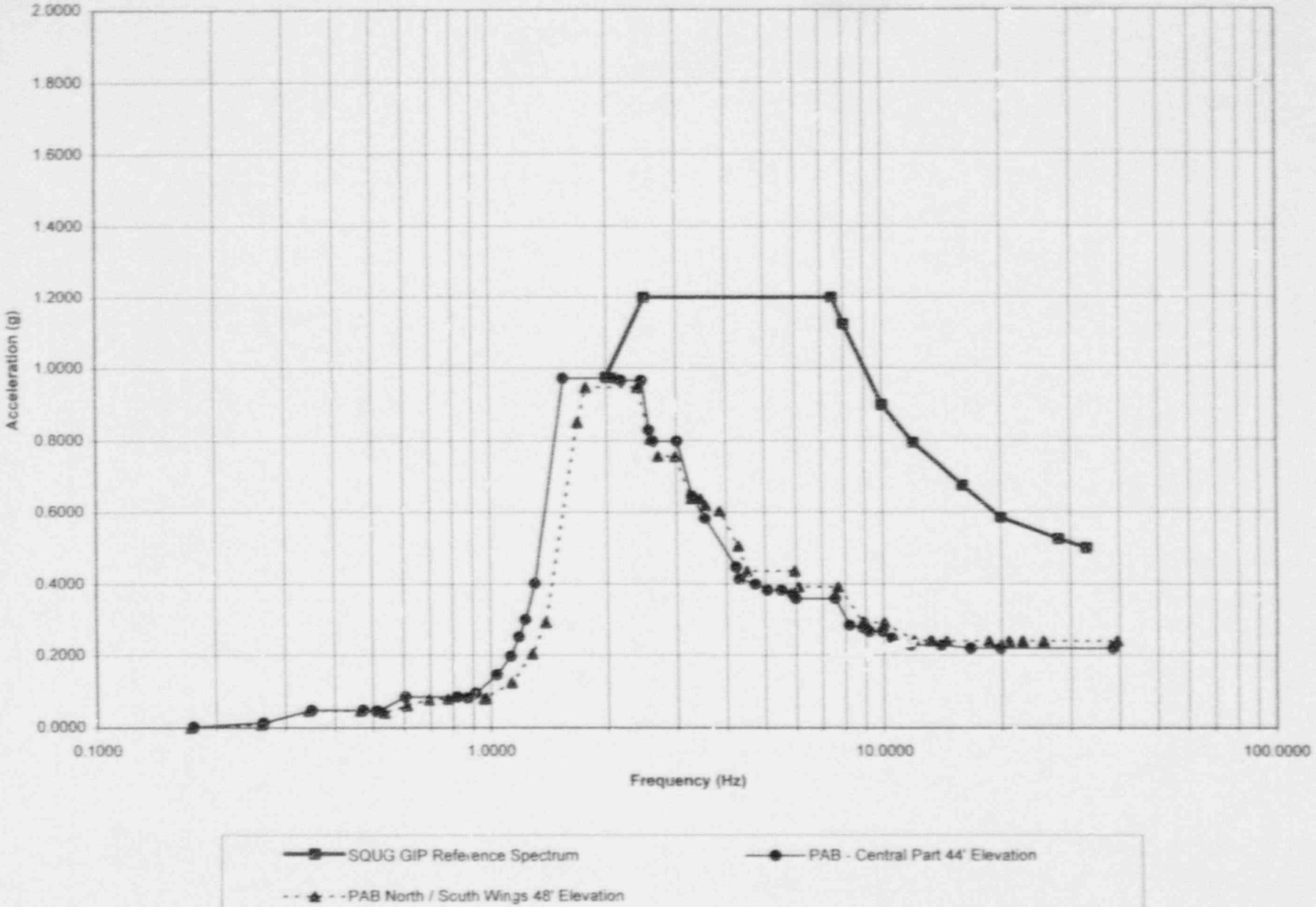
PBNP - Containment In-Structure Response Spectrum - 5% Damping

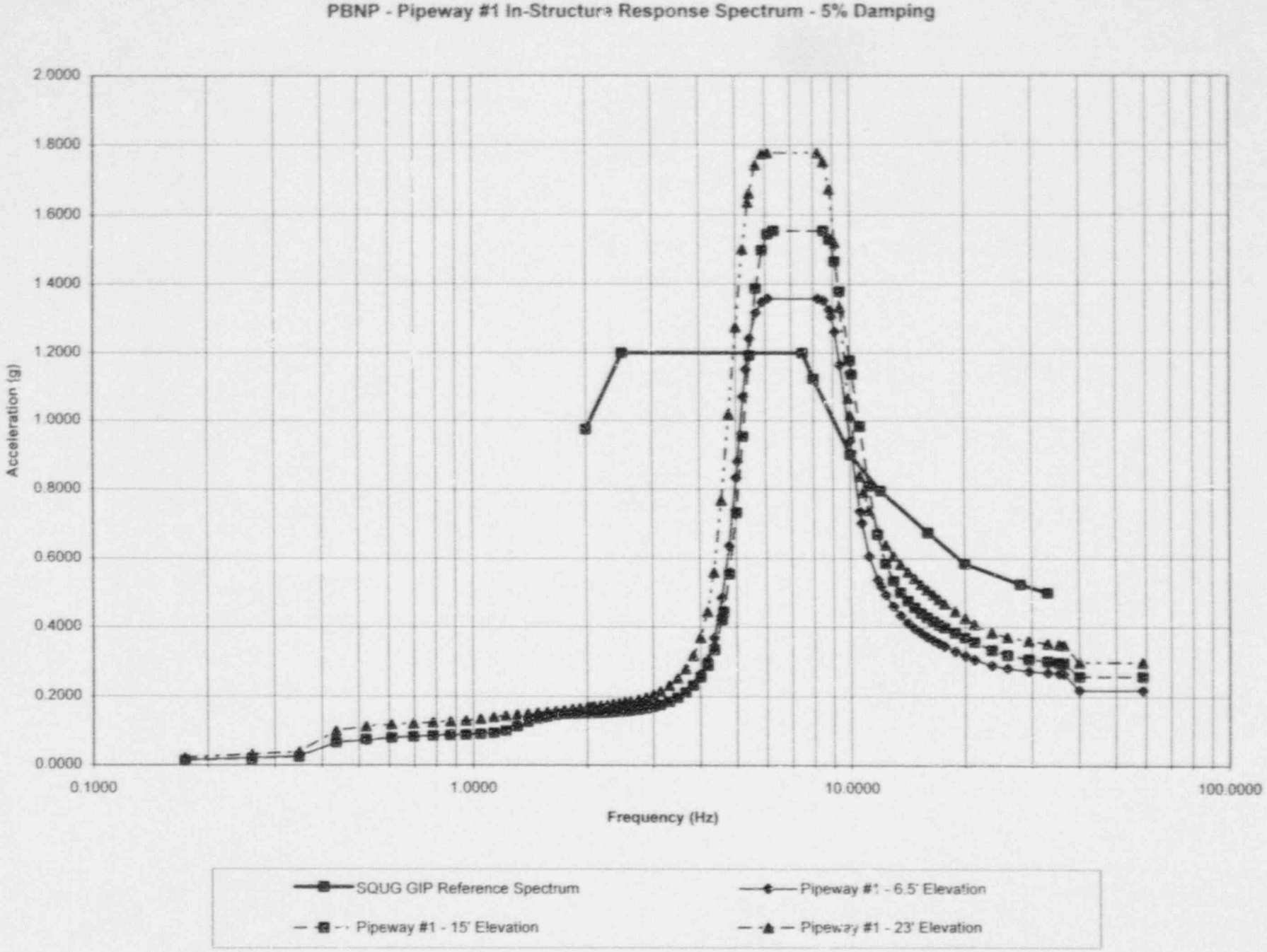


PBNP - Control Building In-Structure Response Spectrum - 5% Damping

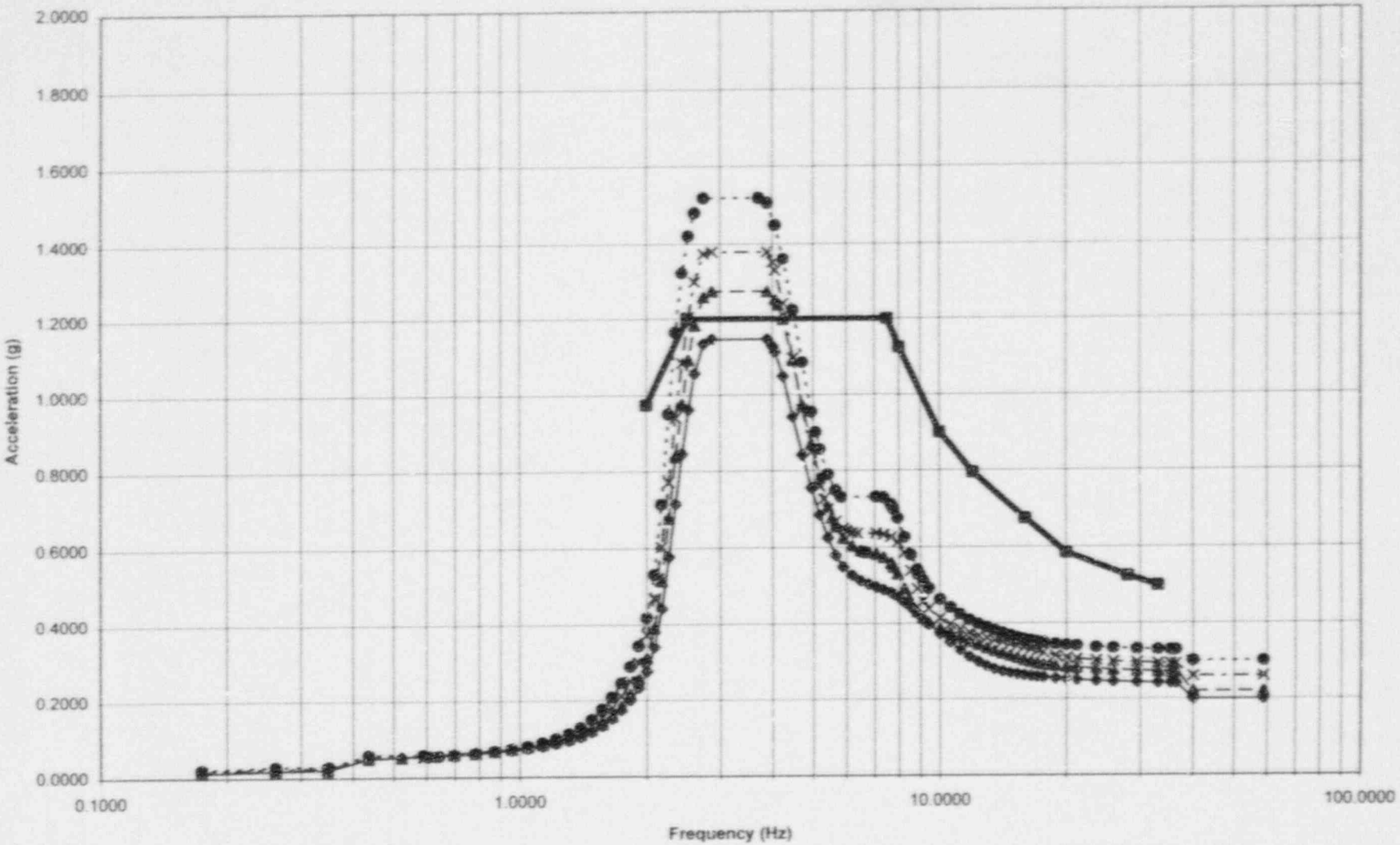


PBNP - Primary Aux Building In-Structure Response Spectrum - 5% Damping

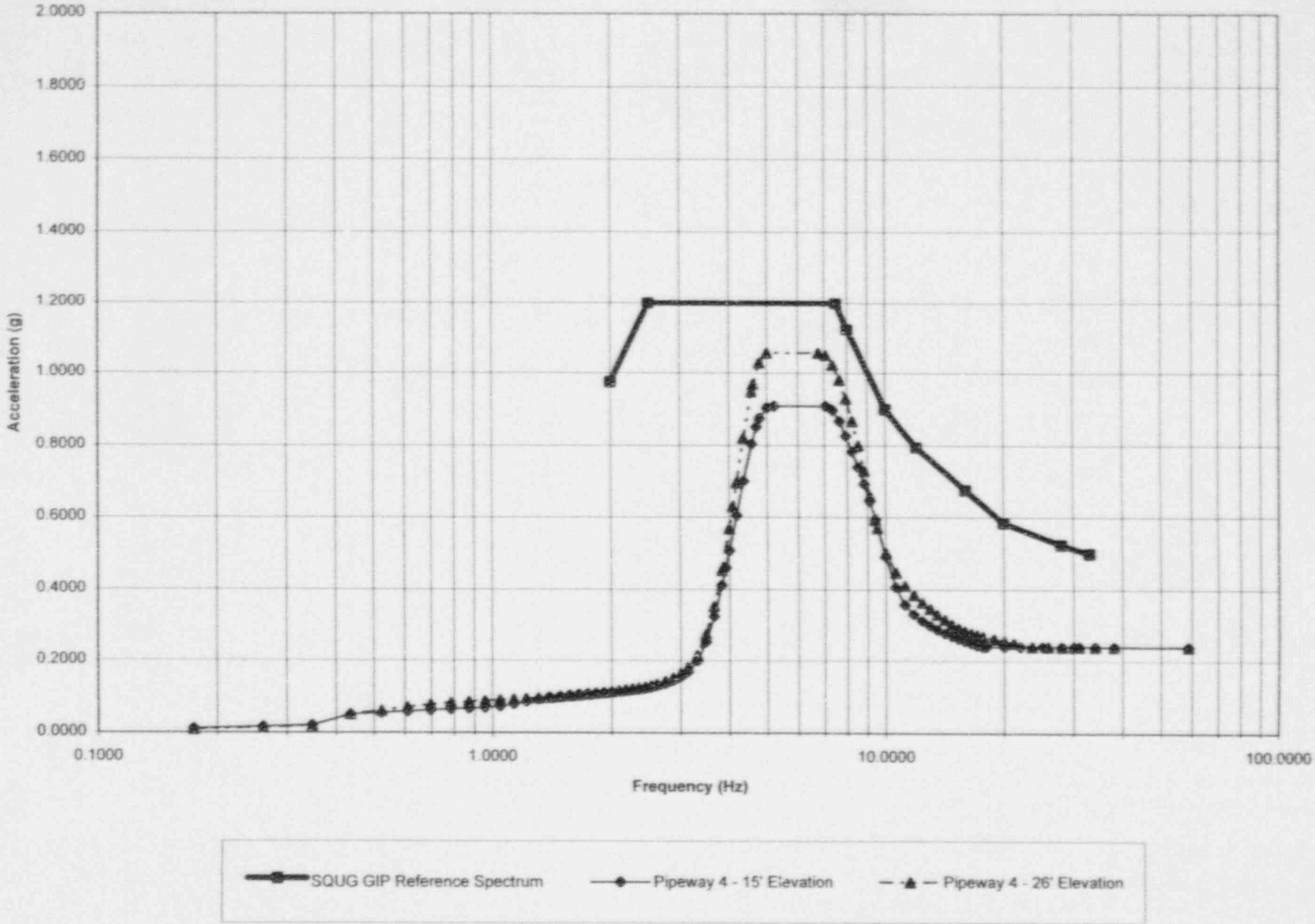



PBNP - Pipeway #1 In-Structure Response Spectrum - 5% Damping
Acceleration (g)
2.0000
1.8000
1.6000
1.4000
1.2000
1.0000
0.8000
0.6000
0.4000
0.2000
0.0000
0.1000
1.0000
10.0000
100.0000
Frequency (Hz)
SQUG GIP Reference Spectrum
Pipeway #1 - 6.5' Elevation
Pipeway #1 - 15' Elevation
Pipeway #1 - 23' Elevation

PBNP - Pipeways 2 & 3 In-Structure Response Spectrum - 5% Damping



PBNP - Pipeway 4 In-Structure Response Spectrum - 5% Damping



Attachment A - Enclosure 2

Wisconsin Electric Point Beach Nuclear Plant Cable Spreading Room Plant Area Summary Sheet, SPREADINGRM (Rev. 0) PASS

Wisconsin Electric Power Company - Point Beach Nuclear Plant OUTLIER SEISMIC VERIFICATION SHEET (OSVS)		GIP Rev 2, Corrected 2/14/92 Sheet 1 of 2
ID : SPREADINGRM (Rev. 0)	Class : 22. Cable Tray and Conduit Raceways	
Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM		
Building : CB	Floor El. : 26.00	Room, Row/Col :

1. OUTLIER ISSUE DEFINITION - Cable and Conduit Raceways

a. Identify all the screening guidelines which are not met. (Check more than one if several guidelines could not be satisfied.)

Inclusion Rules	
Other Seismic Performance Concerns	
Limited Analytical Review	X
Other	

b. Describe all the reasons for the outlier (i.e., if all the listed outlier issues were resolved, then the signatories would consider this item of equipment to be verified for seismic adequacy).

According to S&A's LAR - Cable Tray and Conduit Supports Report, 91C2696-C-018, both LARs 3 & 4 do not meet the requirements of section 8.0 of the GIP, therefore they are outliers.

2. PROPOSED METHOD OF OUTLIER RESOLUTION (Optional)

a. Defined proposed method(s) for resolving outlier.

b. Provide information needed to implement proposed method(s) for resolving outlier (e.g., estimate of fundamental frequency).

3. SEISMIC OPERABILITY EVALUATION:

Wisconsin Electric Power Company - Point Beach Nuclear Plant OUTLIER SEISMIC VERIFICATION SHEET (OSVS)		GIP Rev 2, Corrected 2/14/92 Sheet 2 of 2
ID : SPREADINGRM (Rev. 0)	Class : 22. Cable Tray and Conduit Raceways	
Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM		
Building : CB	Floor El. : 26.00	Room, Row/Col :

4. CERTIFICATION:

The information on this OSVS is, to the best of our knowledge and belief, correct and accurate, and resolution of the outlier issues listed on the previous page will satisfy the requirements for this item of equipment to be verified for seismic adequacy.

Approved by: _____ Date: 6/29/95

_____ 6/12/96

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 1 of 10
ID : SPREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

Check List

Inclusion Rule Review	Acceptance
1. Cable Tray Span	Yes
2. Conduit Span	Yes
3. Tie Downs	Yes
4. Channel Nuts	Yes
5. Rigid Boots	N/A
6. Beam Clamps	N/A
7. Cast Iron Inserts	N/A

Other Seismic Performance Concern Review	Acceptance
1. Anchorage	Yes
2. Welded Connections	Yes
3. Concrete Condition	Yes
4. Corrosion	Yes
5. Sagging Raceways	Yes
6. Broken or Missing Components and Sharp Edges	Yes
7. Restraint of Cables	Yes
8. Cable Fill/Ties	Yes
9. Aging of Plastic Ties	Yes
10. System Hardspots	Yes
11. Short Rods	N/A

Seismic Interaction Review	Acceptance
1. Proximate Features	Yes
2. Falling Hazards	Yes
3. Differential Displacement	Yes
4. Isolated Outliers	Yes

Limited Analytical Reviews

LAR No.	Document Name
003	Five Tier Unbraced Cantilever Hanger
004	Seven Tier Braced Cantilever Hanger
005	Three Tier Trapeze Hanger
010	Four Tier Cantilever Trapeze Hanger

COMMENTS

The SRTs are T. C. Muehlfeld and W. Djordjevic - 10/22/93.

General: Trays have 4" side rail with 3.75" fill height. Trays are solid bottom, but mostly ladder type with bottom covered with sheet metal. Trays are covered with tray cover for the most part. Tray risers (covered vertical tray) are found throughout. Hanger spacings vary from 5' to 8'. Splice plates appear riveted with 6 rivets (3 per end) in total. Trays are attached to cross-members by channel nut hardware. Hanger assembly is specified to be all Unistrut Corp. hardware.

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 2 of 10
ID : SPREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

This room is the most densely populated room in the plant with relatively full trays. Tray configurattion are mostly cantilever strut hangers with some trapeze strut hangers. Cable tray runs of 4, 5, 6 and 7 tiers are found throughout the room. All members are P1001 (double channel) construction. Anchorages are directly to embedded strut, to runners (stringers) bolted to embedded strut, or to concrete expansion anchors (CEA). Conduits are supported alongside trays, on posts, or mounted directly to the ceiling or wall.

LAR 3 is a 5 tier 24" wide tray run supported on an unbraced cantilever strut. The strut is anchored (bolted) to a 30" runner whose ends are bolted to embedded strut. It supports trays designated by 1AJ14,15 and CC05,04 among others and is located above Bus 2B04. It is shown in the attached sketch and in the attached photo figures 1 to 4.

LAR 3 is an OUTLIER because it does not meet the requirements of Section 8.0 of the GIP. See S&A's LAR - Cable Tray and Conduit Supports Report, 91C2696-C-018.

LAR 4 is a 7 tier braced cantilever strut 24" wide tray hanger. It is similar in general configuration to LAR 3 except that it is longer, holds more tiers, and has a P1000 brace to provide lateral support. Hanger spacing is 5'. It is shown in the attached sketch and in the attached photo figures 5 to 7.

LAR 4 is an OUTLIER because it does not meet the requirements of Section 8.0 of the GIP. See S&A's LAR - Cable Tray and Conduit Supports Report, 91C2696-C-018.

LAR 5 is adjacent to LAR 4 and is a 3 tier strut trapeze hanger with 1-3 trays (9" to 24" widths) per tier level. Hanger spacing are 3.75' and it is anchored to the concrete ceiling by bolting to Unistrut emberts at two places. It is shown in the attached sketch and in the attached photo figures 8 to 11.

LAR 10 is west of LAR 3 & LAR 4 and is a 4 tier cantilevered trapeze type hanger. There are 4 tray tiers (1 tray per tier) cantilever off and braced to an 1 tier (with 1 tray) trapeze hanger. The hanger spacing is 6' and it is anchor to the concrete ceiling by bolting to Unistrut embeds at two places. It is shown in the attached sketch and in the attached photo figures 12 to 14.

Evaluated by: _____ Date: 6/29/95

_____ 6/12/96

Attachment: Pictures
Attachment: LAR 003 - Five Tier Unbraced Cantilever Hanger
Attachment: LAR 004 - Seven Tier Braced Cantilever Hanger
Attachment: LAR 005 - Three Tier Trapeze Hanger
Attachment: LAR 010 - Four Tier Cantilever Trapeze Hanger

~~THREE & FOUR TIER CABLE TRAY~~
CABLE TRAY SUPPORTS WITH ~~FEWER THAN 4~~ TIE LESS THAN OR EQUAL TO 4 TIERS ARE CONSIDERED TO BE SEISMICALLY ADEQUATE BASED ON THE BOUNDING ANALYSIS OF LAR #S 5 & 10. ONLY THOSE CABLE TRAY SUPPORTS WITH 5 OR MORE TIERS ARE CONSIDERED OUTLIERS.

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 3 of 10
ID : SPREADINGPM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

PICTURES

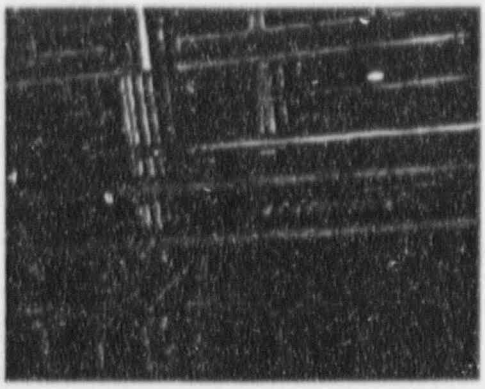


Fig. 1: LAR 003

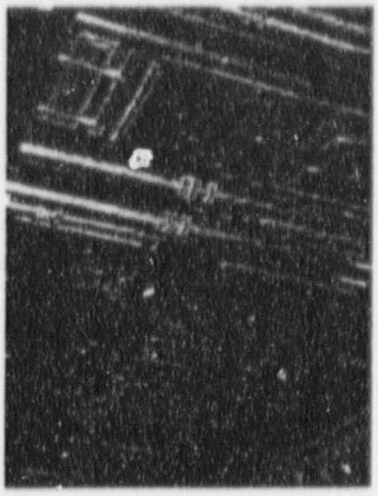


Fig. 2: LAR 003

Fig. 3: LAR 003

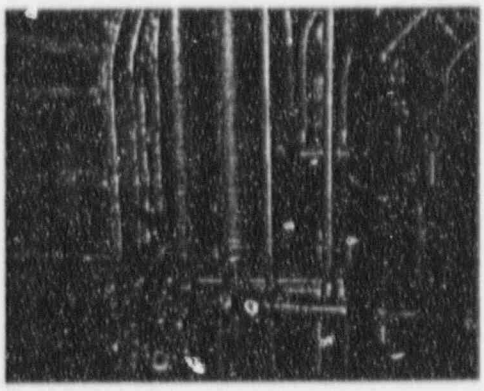


Fig. 4: LAR 003

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 4 of 10
ID : SPREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

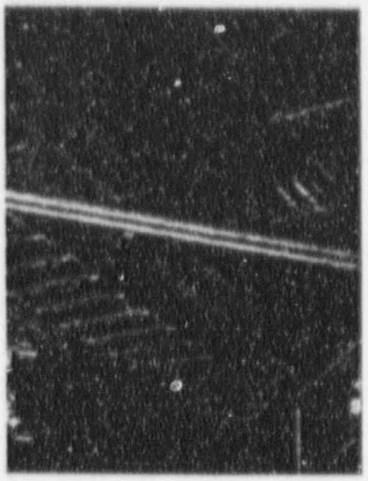


Fig. 5: LAR 004

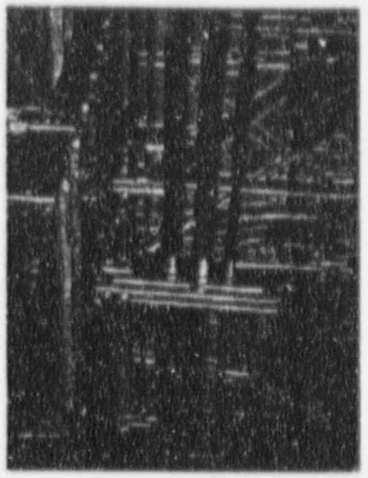


Fig. 6: LAR 004

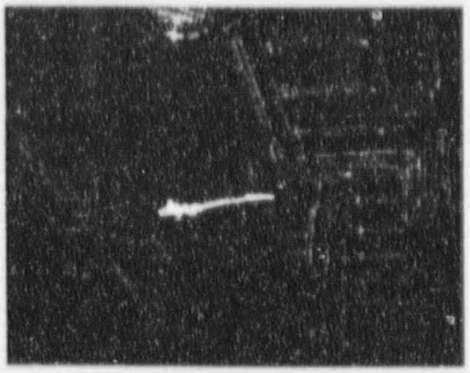


Fig. 7: LAR 004

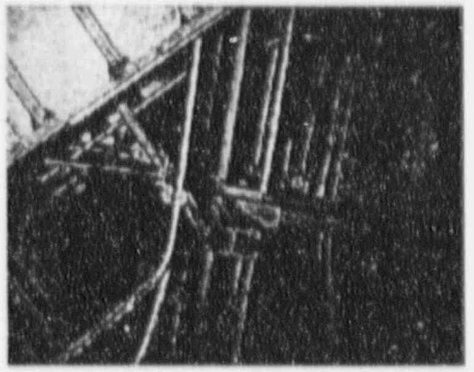


Fig. 8: LAR 005

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 5 of 10
ID : SPREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

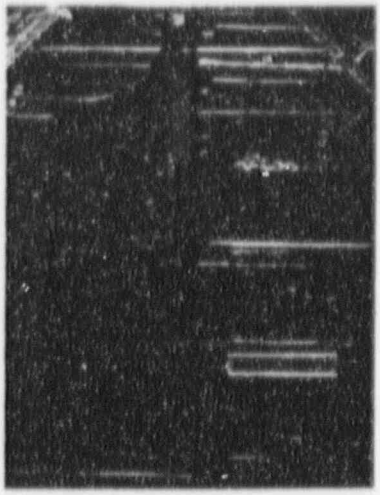


Fig. 9: LAR 005

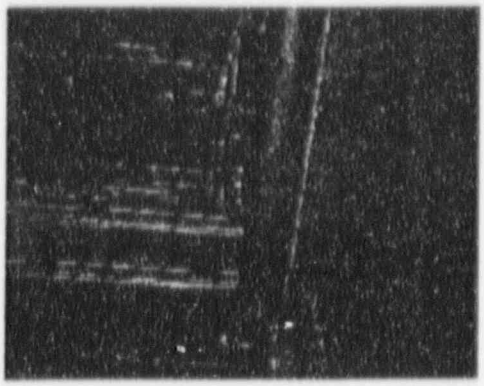


Fig.10: LAR 005

Fig.11: LAR 005

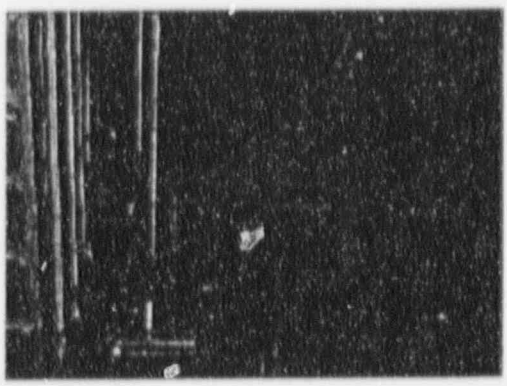


Fig.12: LAR 010

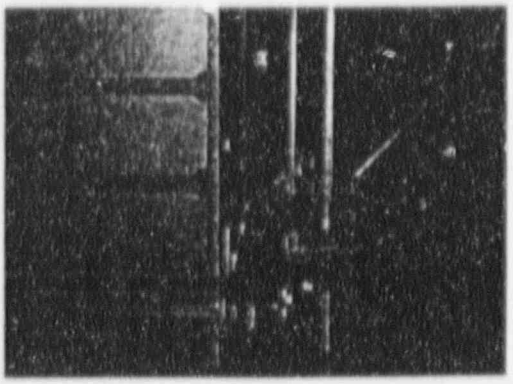
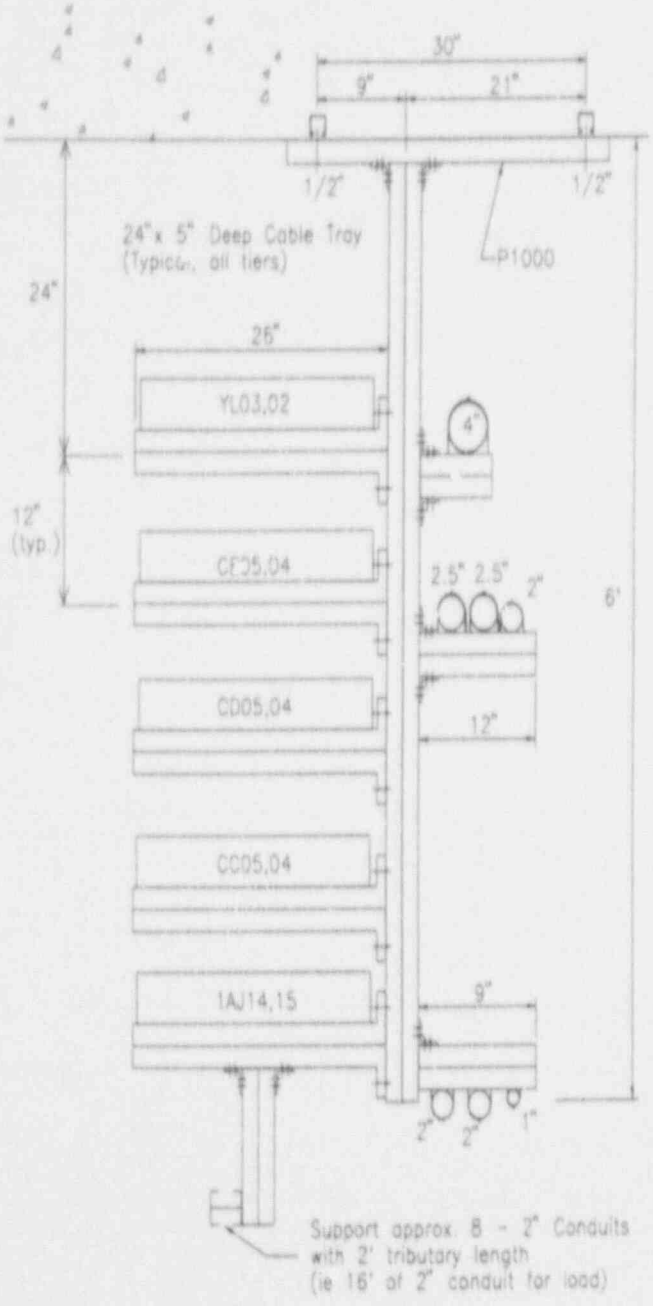


Fig.13: LAR 010

Fig.14: LAR 010

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 7 of 10
ID : SPREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

LAR 003 - Five Tier Unbraced Cantilever Hanger



LAR 003

PASS ID: SPREADINGRM
BUILDING: CB
ELEVATION: 26'

Hanger located above 2B04 bus.

Covered trays are 4"-5" deep.
Fill height is 3.75".
Hanger Spacing is 5' - 8'.

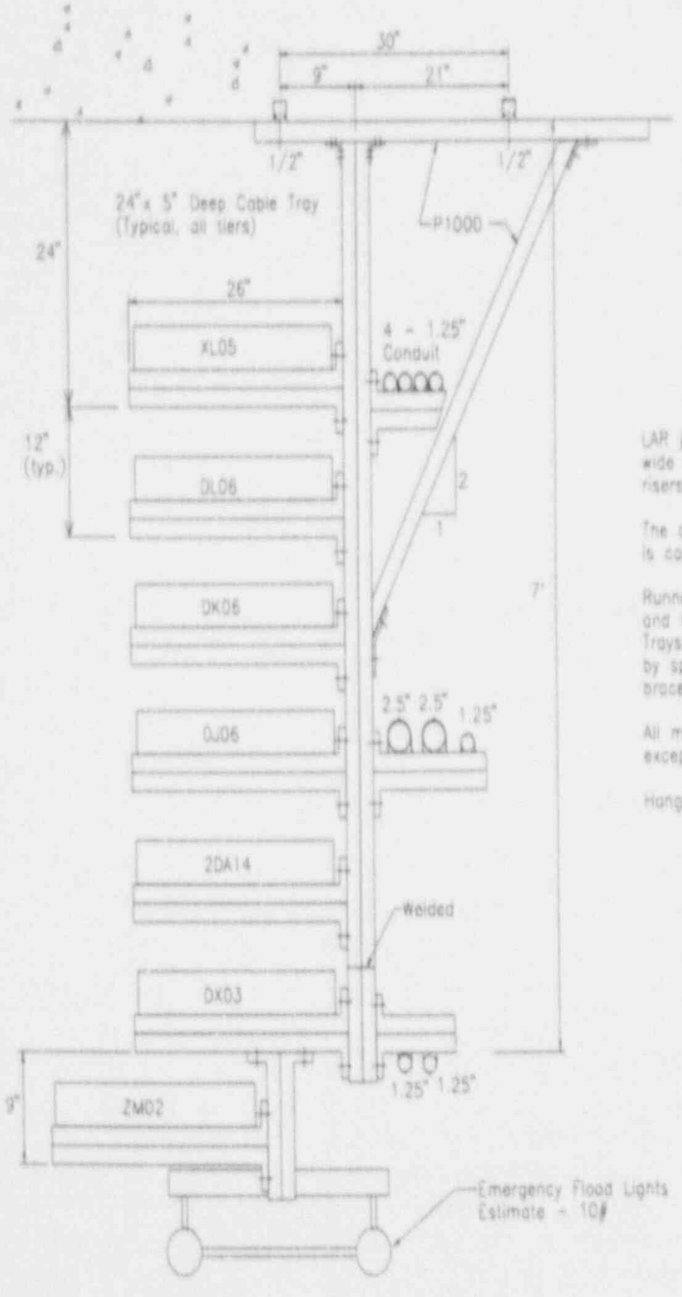
General Configuration is Cantilever P1001 bolted onto runners (stringers), spanning between embedded strut. Trays attached to horizontal member by spring nuts.

Post supports vertical riser trays (R55 and R57) on either side. Trays are 24"x7" deep, with a 6' tributary length. Add full tributary weight for both vertical trays to this post.

1/1

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 8 of 10
ID : SPREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

LAR 004 - Seven Tier Braced Cantilever Hanger



LAR 004

PASS ID: SPREADINGRM
BUILDING: CB
ELEVATION: 26'

LAR #4 consists of 7 tiers with 24" wide trays and is located between risers R11 & R13.

The areas general configuration is cantilever P1001.

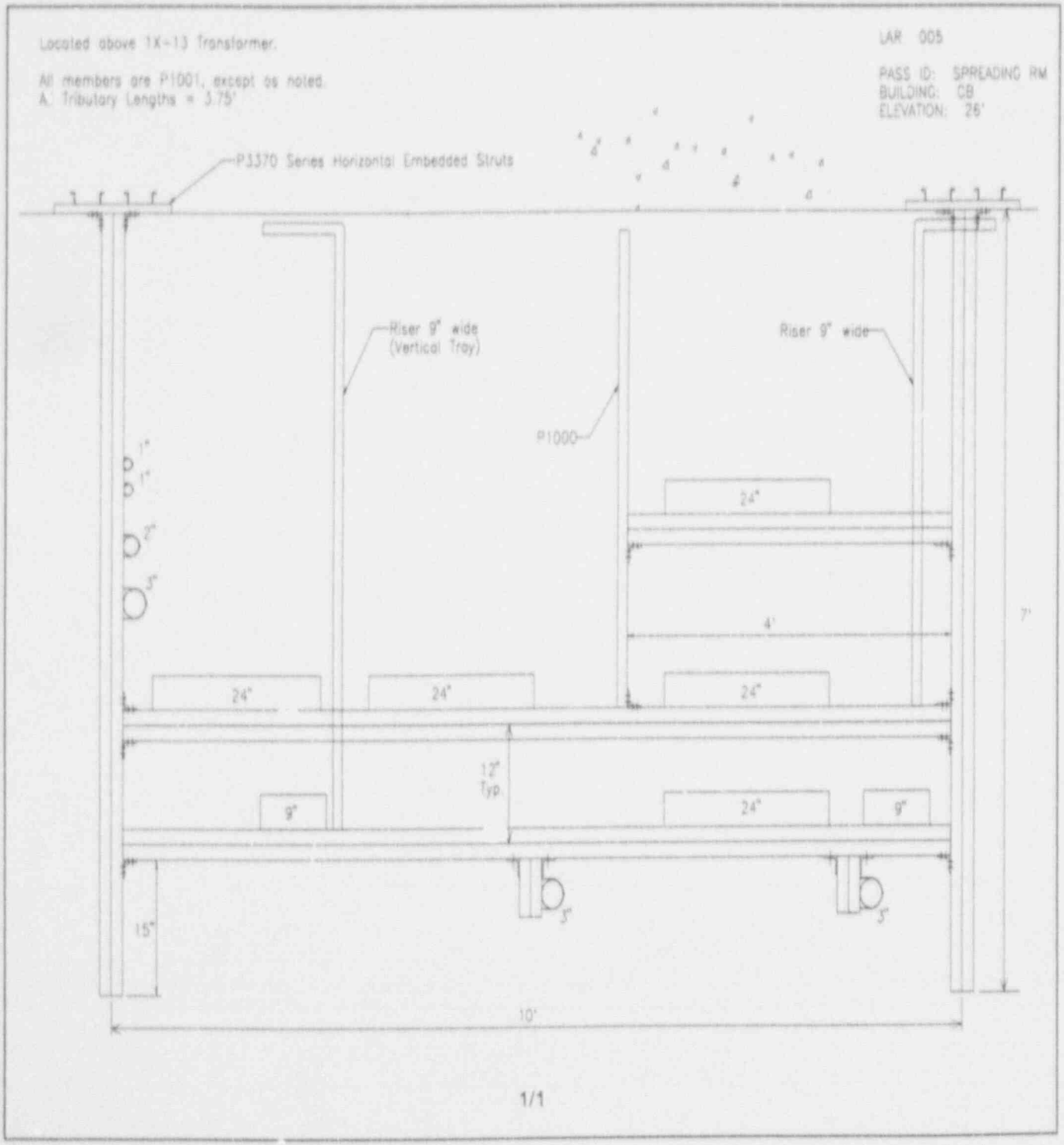
Runners (stringers) span between and tie directly to embedded struts. Trays attached to horizontal member by spring nuts. It has a P1000 lateral brace to provide lateral support.

All members are P1001, except as noted.

Hanger Spacing is 5'.

Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 9 of 10
ID : SPREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

LAR 005 - Three Tier Trapeze Hanger



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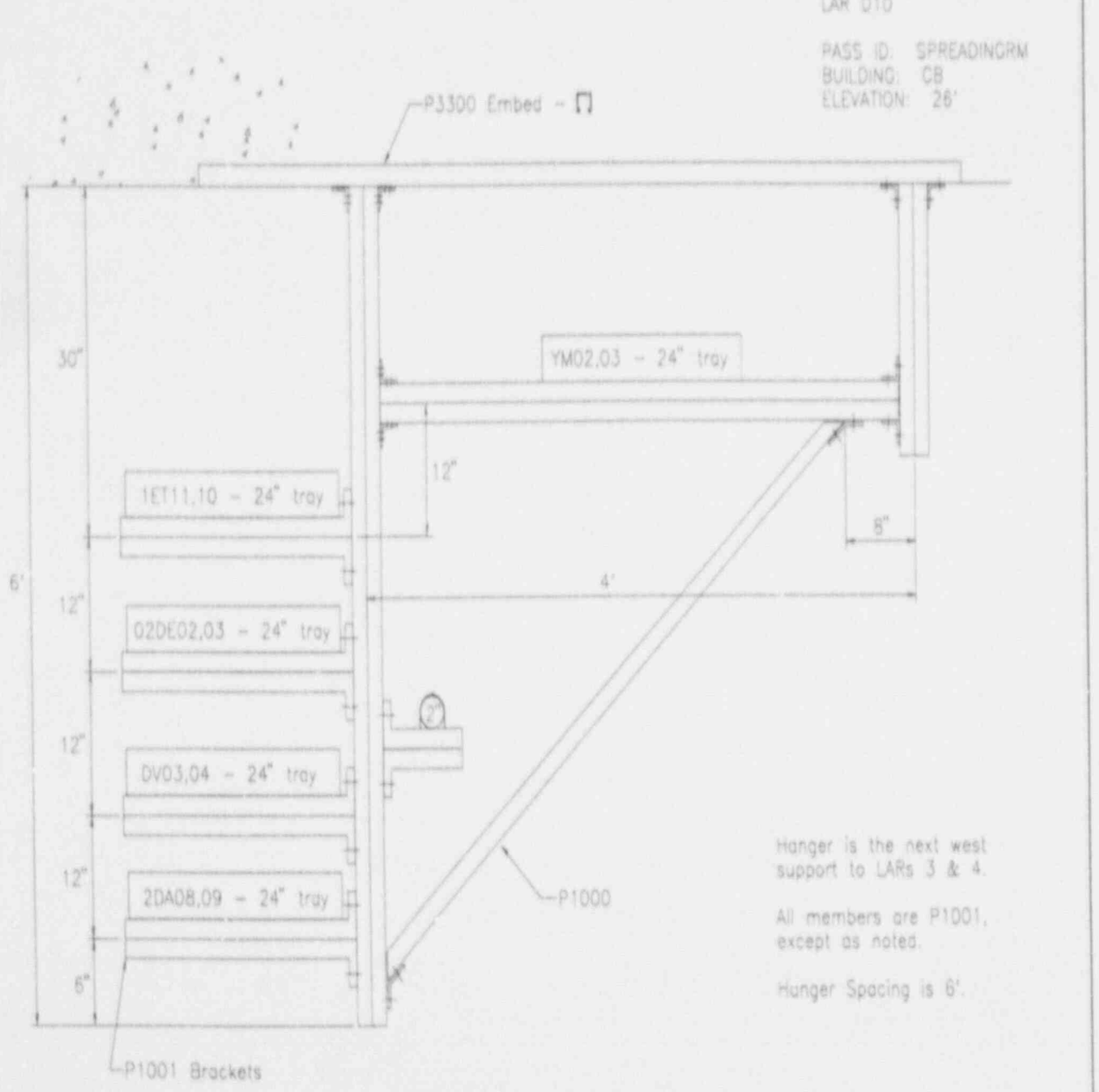
Wisconsin Electric Power Company - Point Beach Nuclear Plant CABLE AND CONDUIT RACEWAY REVIEW PLANT AREA SUMMARY SHEET		GIP Rev 2, Corrected, 2/14/92 Sheet 10 of 10
ID : SFREADINGRM (Rev. 0)	Equipment Description : ELECTRICAL RACEWAYS - CABLE SPREADING ROOM	
Building : CB	Floor El. : 26.0000	Room, Row/Col :

LAR 010 - Four Tier Cantilever Trapeze Hanger



Attachment A - Enclosure 3

a. Bechtel Drawing C-181, Concrete - Turbine Building - Class 1 Structure Plans at El. 26'-0" & El. 44'-0".

b. Bechtel Drawing C-183, Concrete - Turbine Building - Class 1 Structure, Elevations and Details

c. Bechtel Drawing C-184, Concrete - Turbine Building - Class 1 Structure, Reinforcement - Plans & Sections.

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