

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-352/84-55

Docket No. 50-352

License No. CPPR-106

Priority -

Category B

Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station, Unit No. 1

Inspection At: Limerick, Pennsylvania

Inspection Conducted: September 19-21, 24-28, 1984

Inspectors: K. A. Manoly for A. Varela 11/15/84
A. A. Varela, Lead Reactor Engineer date

K. A. Manoly 11/15/84
K. A. Manoly, Reactor Inspector date

Approved by: J. P. Durr for 11/16/84
J. P. Durr, Chief, Materials and date
Processes Section, EPB

Inspection Summary:
Inspection on September 19-21 and 24-28, 1984 (Report No. 50-352/84-55)

Areas Inspected: Routine, unannounced inspection by two region-based inspectors of licensee actions in response to NRC/IE Bulletins 79-02, Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts; 79-04, Incorrect Weights of Velan Swing Check Valves; 79-07, Seismic Stress Analysis of Safety Related Piping; 79-14, Seismic Analyses for As-Built Safety Related Piping Systems; and verification of design analyses and work performed in construction and in modifications affected by these bulletins. The inspection also included a review and evaluation of licensee actions on previously identified violations and unresolved items relating to these bulletins. The inspection involved 102 inspector-hours onsite and 20 inspector-hours of in-office review.

Results: No violations were identified. These bulletins are considered closed.

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DETAILS

1. Persons Contacted

Philadelphia Electric Company (PECO)

*D. Clohecy, Acting Field Quality Assurance Head
C. B. Harmon, Quality Assurance Engineer
G. Lauderback, Quality Assurance Engineer

Bechtel Power Corporation (BC)

*G. C. Bell, Project Quality Assurance Engineer
S. Bowie, Lead Civil Quality Control Engineer
*G. C. Kelly, Lead Site Quality Assurance Engineer
*G. Memula, Resident Project Engineer
*K. G. Stout, Project Field Quality Control Engineer
P. Witucki, Resident Engineer

NRC

S. K. Chaudhary, Senior Resident Inspector
*J. T. Wiggins, Senior Resident Inspector

*Denotes those attendees present at exit interview conducted September 28, 1984.

2. Inspection Purpose and Scope

The purpose of this inspection was to review with cognizant and responsible licensee and A-E engineers and Quality Assurance/Control representatives at the plant the completeness of their responses to NRC/IE Bulletins 79-02, "Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts"; 79-14, "Seismic Analyses for As-Built Safety Related Piping Systems"; 79-04, "Incorrect Weights for Swing Check Valves Manufactured by Velan Engineering Corporation"; and 79-07, "Seismic Stress Analysis for As-Built Safety Related Piping." The scope of the inspection included a review of correspondence, engineering design and quality assurance/quality control documentation relating to inspection, testing and engineering changes and/or rework of completed pipe hangers/supports effected by the bulletins. A plant walkdown inspection of representative pipelines by the NRC inspectors observed samples of modified hangers and supports and verified design changes resulting from reconciliation of the final as-built configuration and the piping stress walkdowns. Since the plant was in the construction phase and had limited piping installed when these bulletins were issued, the major design changes affected by the bulletins were incorporated in revised construction drawings and specifications.

3. Review of Licensee Responses and Documents

The licensee's formal responses to NRC/IE Bulletins 79-02, 79-04, 79-07 and 79-14 were reviewed. Additional information referred to but not provided in the formal responses, pertaining to specific activities undertaken in addressing bulletin requirements were also reviewed. Some of these activities were incorporated in design criteria and specifications, while others were addressed in procedures specific to the bulletins. The pertinent responses and documents described above for IEB 79-02, 79-04, 79-07 and 79-14 are listed below:

3.1 Licensee's Formal Bulletin Responses to the NRC

- Letter from PECO to NRC on July 6, 1979, in response to NRC Region I letters of March 8, 1979 and June 21, 1979, in reference to IEB 79-02.
- Letter from PECO to NRC on May 25, 1979, in response to NRC Region I letter of March 30, 1979, in reference to IEB 79-04.
- Letter from Bechtel to PECO on May 22, 1979, in reference to IEB 79-07.
- NRC memorandum of July 18, 1979, from RC&ES Branch in relation to IEB 79-14 applicability to construction permit holders.
- Letter from PECO to NRC Region I on October 30, 1979, in reference to IEB 79-14.

3.2 Verification of Licensee's Plant Specific Responses to the Bulletins

The succeeding paragraphs of this report provide the inspectors' review of the above responses and documents to evaluate the adequacy and conformance to the respective bulletin requirements.

3.3 Engineering Documents Reviewed

<u>Document</u>	<u>Description</u>
• BLP-21592	Letter from BPC to PECO and enclosed report of Torque/Tension Test Results for Shell and Wedge Anchors.
• Spec. 8031-C-115	Specification for Civil and Structural Design Criteria
• Spec. 8031-P-403	Stress Group Design Criteria for Piping Stress Analysis
• Spec. 8031-C-64	Specification for Installation of Expansion Type Shell, Wedge and Sleeve Anchors

<u>Document</u>	<u>Description</u>
• Spec. 8031-P-366	Specification for As-Built Reconciliation Program Procedures
• SFPD-7902-5	Procedure for Inspection and Testing Concrete Expansion Bolts for Pipe Supports Fulfilling Requirements of NRC I.E. Bulletin 79-02
• 8031-JR-G-28 (Rev. 32)	Job Rule for Review and Installation of Expansion Anchors, Through Bolts, Grouted in Threaded Rods and Core Bores
• 8031-P-401	Design Criteria for Design and Documentation of Pipe Supports, Hangers and Restraints for Large Bore Piping
• 8031-JR-C-8 Attachment C	Generic Calculation for Reduction of Concrete Expansion Anchor Load Allowables when center to center and edge distance are violated.
• PSCS-127	Reduced Tension Capacity for Grouted-in Bolts in a Rectangular Pattern w/4 Bolts and Double Overlapping Shear Cones
• Dwg. C-615	Project Civil Standards for Anchor Bolts Schedule and Details
• Spec. 8031-P-319	Specification for Installation of Critical Pipe Supports, Hangers and Restraints

4. Review of Correspondence and Quality Control Records of Inspection and Testing to Meet Requirements of NRC/IEB 79-02

Records were reviewed on verification of anchors on installed large and small pipe supports required to meet NRC/IEB 79-02 inspection parameters. The criteria established by Bechtel Power Corporation (BC) for inspection and testing were approved by PECO following successive conferences and interim plant specific actions relating to the parameters identified in the bulletin. Since PECO was a participant in the generic testing program conducted by Teledyne Engineering Services (TES) for the utility companies' Owners Group, the need was reduced for individual testing at the plant to resolve all of the NRC/IEB 79-02 questions. The NRC inspection effort was initiated by a review of criteria governing the inspection and testing of installed pipe hanger/support base plates and their attachments by welding and by concrete expansion anchors. Quality control records were observed to contain sign off of applicable attributes identified in the following criteria:

- Procedure SFPD-7902-5 dated February 10, 1981, for Inspection and Testing CEBs for Small Pipe Supports Fulfilling Requirements of NRC/IE Bu 79-02.
- EMF 6448 dated June 11, 1981, NRC/IE Bu 79-02 which references QC Instruction QCI C1.50 Installation and Testing of Anchors and Specification P-319, Revision 15, Installation of Critical Pipe Supports, Hangers and Restraints.

The inspector concentrated his review on nonconformance reports resulting from the inspection and testing program, their disposition and ultimate resolution, and the overall beneficial effects on design and installation of uninstalled pipe hangers and supports. A total of twenty-two small and large piping WCRs were evaluated in this effort. These nonconformance reports were observed to require immediate repair, replacement with new anchors, and installation of additional or replacing with new washers; others were accepted as found. The engineering justification for the latter was adequately documented. All NCR documentation was noted to be properly closed out and formerly accepted by project field engineering and QC. Based on the above review and independent evaluation by the inspector, the PECO/BC response was found in conformance to NRC/IEB 79-02 requirements.

No violations were identified.

5. Review of Documentation Relating to Licensee Quality Assurance Verification Actions in Response to NRC/IE Bulletins

The requirements of NRC/IE bulletins 79-02 and 79-14 were responded to by the licensee through the engineering services performed by BC as designer and constructor. BC incorporated these changes into their project engineering effort and construction QA/QC programs. Therefore, requirements of the interrelated bulletins identified in paragraph 2, excluding 79-07, were treated as design changes and revisions to construction drawings and specifications. IE BU 79-07 was not applicable to BC's balance-of-plant piping analysis since none of the computer programs used for the analysis of that piping utilized any of the methods specified in the bulletin. Also, the NSSS piping report by GE was reviewed by the NRC's Division of Operating Reactors. They found the computer code used by GE satisfied the requirements of code verification as stated in IEB 79-07.

The following licensee QA audit and surveillance reports relating to IEB 79-02 and 79-14 were reviewed and discussed with site QA personnel identified in the reports.

<u>Report No.</u>	<u>Audit/Finding Date</u>	<u>Activity/79-02</u>	<u>Finding</u>
A-C-141	10/1/79	Installation of Concrete Expansion Bolts	Corrective action required
A-C-175	2/16/81	Installation CEB	Satisfactory

<u>Audit/Finding Report No.</u>	<u>Date</u>	<u>Activity/79-02</u>	<u>Finding</u>
A-C-190	2/19/82	Reinspection of CEB Supporting Small Pipchangers	Satisfactory
F-C-220	4/20/79	Installation CEB	CA required
F-C-232	8/8/79	Installation CEB	CA required
A-C-326	1/27/83	Installation CEB	CA required
<u>Activity/79-14</u>			
A-P-257	7/14/81	Compliance for fit-up, alignment and welding of Loop B recirculation suction closure	Satisfactory
A-M-365	8/21/81	Installation of emergency service water system	Satisfactory
F-M-588	8/10/82	Field engineer requirements relating to field sketches where piping installation rework is necessary	CA required
A-M-424	8/15/82	Installation of core spray system	CA required
A-P-445	6/7/84	Installation of standby liquid control system	CA required
A-P-452	9/16/84	Compliance to drawings and specifications of large pipe hangers	Satisfactory

The above findings were noted to require corrective action (CA), and were observed to be documented as having been effectively corrected and/or dispositioned. The inspector's review and evaluation determined that licensee involvement and control in assuring quality and in his approach to resolution of technical issues from a safety standpoint were adequate.

No violations were identified.

6. Review of Bulletin Related Design Activities

The inspectors conducted a sample review of piping and pipe supports design activities affected by IEB 79-02 and 79-14 requirements. The systems selected for this review included the Feedwater System (inside containment), High Pressure Coolant Injection System, and Residual Heat Removal System. The documents reviewed included piping isometric drawings,

pipng as-built reconciliation packages and pipe support design packages for these systems.

The inspection also included interviews with Bechtel's engineering personnel regarding the analytical methods employed in the design criteria, particularly with regard to the reduction of concrete expansion anchors allowable loads when minimum bolt spacing or edge distance are not maintained.

A listing of the design documents reviewed is provided in the following table.

<u>Document</u>	<u>Description</u>
• CALC #ABR-1-12-01	As-Built Reconciliation: Feedwater Piping
• CALC #ABR-1-10-69	As-Built Reconciliation: Residual Heat Removal Piping
• CALC #ABR-1-24-52	As-Built Reconciliation: High Pressure Coolant Injection Piping
• CALC #DBA-112-260	Pipe Support Design for Hanger No. DBA-112-H1
• CALC #DLA-107-1C10	Pipe Support Design for Hanger No. DLA-107-H19
• CALC #DLA-107-1C14	Pipe Support Design for Hanger No. 107-H20
• CALC #GBB-109-2-T25	Pipe Support Design for Hanger No. GBB-109-H25
• CALC #GBB-109-2C1	Pipe Support Design for Hanger No. GBB-109-H52
• CALC #GBB-109-2C2	Pipe Support Design for Hanger No. GBB-109-H53
• CALC #HBB-108-1-T3	Pipe Support Design for Hanger No. GBB-108-1-T3
• CALC #HBB-108-1-T3A	Pipe Support Design for Hanger No. HBB-108-H3A
• CALC #HBB-108-1-T5	Pipe Support Design for Hanger No. HBB-108-H5
• CALC #HBB-108-CH007	Pipe Support Design for Hanger No. HBB-108-H007
• CALC #HBB-108-1-T6	Pipe Support Design for Hanger No. HBB-108-H6

6.1 Licensee Response to NRC/IE Bulletin 79-04

NRC/IEB 79-04 requires licensee action to verify and, if necessary, to correct or evaluate the significance of incorrect weights of 3, 4 or 6-inch diameter Velan swing check valves installed or scheduled to be installed. The licensee responded by actually weighing the valves at the Limerick jobsite. It was found that their weight was always

slightly less than the weight that was used in the piping analyses. It was concluded, therefore, that the analyses were conservative with the use of the higher valve weight. The need for rerunning all the piping analyses was considered unnecessary since the changes in piping stresses would be minimal and the stresses would stay within the allowable range.

The inspectors consider this an acceptable response. IEB 79-04 is considered closed.

7. Verification Walkdown Inspection

A visual and physical inspection of selected portions of plant systems was conducted by the inspectors. The purpose of this walkdown was to verify samples of piping systems and supports for conformance to the as-built conditions as described in the licensee's engineering drawings. The verification of hanger and piping installations included the following attributes:

- Checking actual configuration against support drawing, including dimensions;
- Checking directions in which hangers restrain piping and clearances between pipe and hangers;
- Checking connections to the proper structure;
- Checking sizes of weld on hangers; including welded attachments to pipe;
- Checking baseplate dimensions and location of structural attachment on the baseplate;
- Checking baseplate bolts for tightness, edge distance, and minimum bolt embedment for a representative sample of anchor bolts;
- Checking that restraint bleed holes are open and free from foreign material;
- Checking that spring hangers are locked prior to performance of hydrostatic testing;
- Checking proper grounding of floor mounted supports; and
- Checking that movement of piping due to vibration, thermal expansion, etc., would not likely contact other pipes, supports, equipment or components.

The following piping segments and supports were chosen for field verification. The physical inspection was conducted only for a selected sample of accessible support installations on these piping segments:

<u>System</u>	<u>Piping Segment</u>	<u>Supports</u>
Residual Heat Removal	GBB-109-2-11	H-52
	GBB-109-2-10	
	GBB-109-2-9B	
	GBB-109-217	H-53
	GBB-109-27	H-25
	GBB-109-2-6A	
High Coolant Pressure Coolant Injection	HBB-108-1-5	H5
	HBB-108-1-4	H6, H7
	HBB-108-1-3	H3, H3A
	HBB-108-1-2	
	HBB-108-1-1A	
	HBB-108-1-1	
Feedwater Inside Drywell	DBA-112-2-5E	H1
	DBA-112-2-11	
	DBA-112-2-5D	
	DBA-112-2-5B	
	DBA-112-2-4B	
	DBA-112-2-9	
	DLA-107-1-1	H8
	DLA-107-1-2	
	DLA-107-1-6	H20
	DLA-107-1-4B	H19

No violations were identified.

8. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (352/80-20-04): This item is related to the identification of a structural steel beam, supporting main steam line rigid strut support #EBB-102-H15, which had copes and welding undercut not meeting AISC and AWS codes. The beam is located in the Turbine Auxiliary Bay which is not designed to seismic category I requirements, whereas the main steam line is classified as seismic category I at this location. The inspector reviewed the licensee response to the above finding. The beam is classified as a supplementary structure steel member according to ANSI B31.7 which is the code identified in LGS-FSAR, Section 3.9.3.5, for qualification of nuclear class piping. Thus, the beam is designed to the same requirement as that for the structural steel in Auxiliary Bay Area, which is not considered as Q-structure. The Turbine Enclosure, except the Turbine Auxiliary Bay, is classified as seismic category II as stated in the FSAR Section 3.8.4.1.8. As a seismic category II structure, the turbine enclosure is not designed for a SSE event; however, the FSAR limits the plastic deformation resulting from the SSE to a ductility factor of 2. The Turbine Auxiliary Bay is classified as seismic category IIA which is in agreement with commitment in LGS-FSAR Section 3.2.1 which requires that structures designed to category IIA requirements to maintain integrity against collapse when subjected to seismic loading associated with a SSE event.

The licensee indicated that the identified copes and welding undercut in the steel beam had been previously identified and dispositioned on Balance of Plant (BOP) condition reports. The inspector reviewed BOP condition reports C-371 and C-366 addressing the cope and weld undercut problems respectively and found them acceptable.

This item is closed.

(Closed) Unresolved Item (352/84-03-07): This item is related to the qualification of piping systems inside containment to the design temperature of the process fluid which is less than that associated with the primary containment post LOCA ambient temperature.

The inspector reviewed the licensee's Finding Report #P-615 which addresses the above issue. The disposition of the report involved the revision of specification P-300 to include the requirement for qualification of piping systems to post-LOCA temperature if it exceeded that of the process fluid.

The qualification is based on a calculated post-LOCA bounding Drywell temperature profile.

For the piping system identified in the unresolved item, the qualification was based on maximum process fluid temperature for the following reasons:

- Piping expansion resulting from post-LOCA environmental effects is a faulted secondary load for which no code evaluation of the piping stresses is required.

- The requirement for the drywell chilled water and reactor enclosure cooling water lines to withstand post-LOCA temperature is no longer needed, since containment isolation for these lines is currently achieved by the manual isolation valve outside containment (i.e., the containment isolation will be maintained during the LOCA event). This is also discussed in detail in the LGS-FSAR Section 6.2.4.3.1.3.2.10/11.

This item is closed.

(Closed) Violation (352/84-27-01): The violation was identified on pipe support as-built installations which did not meet design drawings. Four support installation discrepancies were cited in this violation:

- The first and second discrepancies were identified on hanger EBB-108-HG which was installed with the pipe clamp bolt to cut edge distance less than 2 bolt diameters, and hanger EBB-129-H8A which was installed without two 3/8x2 1/4"x7 1/4" stiffeners on the beam.

The inspector reviewed the licensee's finding report No. N-403 and Nonconformance Reports (NCR) Nos. 10119 and #10120 for the above hangers.

The licensee's engineering evaluation indicated that the supports were acceptable "as is." In addition, the licensee determined that the subject nonconformances were isolated cases based on the following:

- NRC inspection #84-27 had identified only two nonconformances among the many as-built support installations inspected.
- A sample of 80 hangers randomly selected out of a population of 549 hangers were reviewed with no nonconformances identified.
- About 150 hangers previously accepted by QC were reinspected and no nonconformances of the type in this finding were identified.
- Twenty-four General Electric Hangers were inspected and no similar nonconformances were identified.

The inspector determined that the licensee's evaluation and conclusions were acceptable for closing this part of the violation.

- The third discrepancy was identified on pipe support base plate HBB-138-H24. The anchor bolts were installed such that less than two threads remained below the surface of the base plate on one bolt. The inspector reviewed the licensee's report finding No. N-408 and field inspection report QCG-1 No. C-64-SI-1-31 and C-64-SI-1-34/34A. The inspector also reviewed Startup Nonconformance Report (NCR) No. S-689-C. Reinspection of the base plate indicated that while the nut was close to shanking-out when tightened, its bearing face extended

to within 1/64" of thread run out. Actual transfer of preload, as required by specification C-64, was indeterminate due to close proximity of nut to being shanked out. The engineering disposition of the NCR was to use the base plate as is, since the hanger has six 3/4" Phillips Snap-off concrete anchors while supporting a vertical load equal to 575 lbs.

The licensee's corrective action included the reinspection for "shank out" condition of 21 hangers which involved a total of 127 expansion anchors; no "shank out" condition was identified. The inspector also reviewed BOP condition report No. M-1775 where shank out was identified on two non-"Q" hanger expansion anchors. Additional reinspection by the licensee's QA was performed on 12 "Q" anchors with no "shank out" condition.

The licensee's corrective action is acceptable for closing this part of the violation.

- The fourth discrepancy was identified on pipe support HBC-194-H901 which was installed such that the pipe penetrated the embed anchor 1½" eccentrically. The inspector reviewed the licensee's finding report No. N-406 and NCR No. 10148. The disposition of the nonconformance by engineering was to accept the support "as is." In addition, pipe support installation Specification P-319 was revised to allow a tolerance of 2" for anchor installation of this type. Eight anchors, representing over 10% of the anchors of this type, were inspected for the 2" installation tolerance and were found to be acceptable.

The licensee's corrective action was found to be acceptable for closing this part of the violation.

(Closed) Unresolved Item (352/84-27-02)

This item concerns the adequacy of welds on hanger HBC-138-1-H903. The inspector reviewed the licensee finding report N-407, NCR's 10286 and 10144, and the engineering evaluation of the subject weldment. The licensee response is acceptable and there are no further questions on this subject.

This item is considered closed.

9. Review of Pipe Support/Building Interface

The inspectors performed a review of the licensee's program for addressing the interface between pipe support restraints and building structures. This topic is addressed in design criteria P-401, section 4.2.4.1 and section 4.6.6. The criteria requires the transmittal of coordination prints for hangers with loads of 5 Kips or larger to the civil group, and the identification of support attachments to the building structure. The criteria also provides for the review of all hanger details by the civil

group for the evaluation of gross loads on building structure and the local effects on flanges and webs of structural steel members.

A sample review for evaluation of attachments to structural steel by the civil groups was performed for the following two selected supports:

- Hanger #HBB-108-H5 (FCN #5616)
- Hanger #GBB-109-H52 (FCN #2976M)

No violations were identified.

10. Unresolved Items Identified in This Inspection

No violations were identified during the inspection on site and subsequent follow-up review in the regional office. However, three major unresolved items were identified:

10.1 Closely Spaced Rigid Supports (Including Snubbers)

Three cases of closely spaced snubber supports were identified during the walkdown inspection of piping.

- a) Area 16C in the reactor building at elevation 285 ft., snubbers DLA-112-H9 and DLA-112-H21 are spaced approximately 5'-8" apart.
- b) Area 16E in the reactor building at azimuth 150° and elevation 302 ft., snubbers DLA-107-H18 and DLA-107-H28 are spaced approximately 4'-4" apart.
- c) Area 12C in the reactor building at azimuth 30° and elevation 295 ft., snubbers DLA-107-H18 and DLA-107-H26 are spaced approximately 6'-5" apart.

The licensee's A/E (Bechtel), indicated that the installation of snubber supports in proximity to one another has resulted from the evaluation of piping systems for the effects of Mark II - Hydrodynamic loads after the evaluation of those systems was completed for other loading conditions (including seismic loads). However, the installation of snubbers in proximity to other snubbers, rigid supports or anchors could result in the inoperability of these snubbers if the dead band in a snubber is larger than the pipe translation between the two successive close supports.

A similar problem could also exist if rigid supports were installed in proximity to other rigid supports or anchors. Typically, this would be caused by the same circumstances which resulted in closely spaced snubbers identified above and would result in an overloading of the supports and/or the piping if the gaps between piping and supports exceeded certain limits.

The inspectors presented these concerns to the licensee and pointed out the need for the identification of all cases in which rigid supports (including snubbers) were placed in proximity to other rigid supports (including snubbers) or anchors.

The same issue was identified by the NRC in other facilities designed by Bechtel, and an acceptable guidance for the resolution of the issue has been established.

This item is unresolved pending the licensee response and NRC review (352/84-55-01).

10.2 Support Attachment to Structural Steel

As a result of the review of pipe support design criteria P-401 and calculations for evaluation of attachments to building structural steel, two concerns were identified.

- a) No specific criteria is provided for the inclusion and the evaluation of structural steel members for torsional moments induced by eccentric attachments. The AISC steel construction manual, the standard used for the design of steel structures according to specification C-115, does not provide guidance for the evaluation of warping normal and shear stresses in open sections or St. Venant shear stresses in closed sections and open sections not restrained from twisting.

The inclusion and evaluation of structural steel members for torsional moments induced stresses should be addressed where it is significant.

- b) No specific criteria is provided for the evaluation of local stresses induced by hanger support attachments to flanges and webs of building steel. Attachments which result in connections deviating significantly from standard steel connections should be evaluated either generically or on a case-by-case basis. In addition, no design basis was provided for those cases where stiffeners were added to building steel members at attachment location. This was identified during the review of FCN No. 2976M, where stiffeners were added to the building steel at the web attachment from support #GBB-109-H52. The calculations did not provide any basis for sizing of web stiffeners to perform their intended local stiffening function.

This issue of support attachments to structural steel is unresolved pending the licensee response and NRC review (352/84-55-02).

10.3 Welding Configurations

Figure 22 of Specification No. 8031-P-319 for installation of critical pipe support hangers, allows the substitution of fillet

welding from the outside to the inside flange of wide flange shapes. This substitution is unconservative since it results in a reduced weld section modulus, and subsequent increase in weld stresses.

This item is unresolved pending the licensee's evaluation of the degree of overstress caused by this substitution and NRC review (352/84-55-03).

11. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable, violations or deviations. Unresolved items are discussed in Paragraph 10.

12. Exit Interview

The inspectors met with licensee and contractor personnel (denoted in Paragraph 1) at the conclusion of the inspection on September 28, 1984, at the plant site. The findings of the inspection were summarized, the licensee acknowledged these findings. No written material pertaining to the inspection findings was provided to the licensee at anytime during this inspection.