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AIR and WATER Pollution Patrol

BROAD AXE, PA.

U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In The Matter Of
PHILADELPHIA ELECTRIC COMPANY
(Limerick Generating Station,
Units 1 and 2)

Docket Nos. 50-352 OL
and 50-353 OL

TESTIMONY OF AIR & WATER POLLUTION PATROL (ROMANO) CONCERNING CONTENTION VI-I (INFRACTIONS RELATED TO WELDING)

My name is Frank R. Romano, Chairman of the Montgomery County Air and Water Pollution Patrol.

The purpose of my testimony is to show that Applicant, Philadelphia Electric, (1) failed to properly control performance of certain welding; (2) failed to properly inspect certain welding in accordance with Qaulity Control and Quality Assurance procedures* and (3) failed to take proper and effective corrective actions when improper welding was discovered, and (4) failed to take proper preventive actions when improper welding was discovered.

The scope of my testimony addresses the fact of hundreds of Nuclear Regulatory Commission Inspections and Engineering Reports that show failure in performance as numbered (1) (2) (3) (4) above.

In total the facts in these reports, backed by official documentation prove there has been an apparant cover up by Philadelphia Electric (P.E.) involving crucial, safety related welding infractions at the Limerick nuclear reactor.

While there are four facets to the VI-I welding contention, as indicated in the foregoing, an identity from any one of the four constitutes deviation from specified and required procedure and activity.

The 76-06-01, so-called "broomstick affair", is a classical example of failure on all four facets of performance. Facts in the 76-06-01 example are backed by official documentation that prove there has been an apparant cover up by Philadelphia Electric (P.E.) involving crucial, safety related welding infractions at the Limerick nuclear reactor.

* Also as it relates to Auditing.

Testimony of Air & Water Pollution Patrol re Contention VI-I continued:

On November 10, 1976, reacting to an unannounced Nuclear Regulatory Commission (NRC) inspection report, Mr. Robert Carlson, of the NRC, wrote a letter (item 1) to P.E. Vice-President for Engineering and Research Mr. Vincent Boyer. In that letter, Mr. Carlson notified Mr. Boyer of serious violations in mandatory construction procedures involving welding infractions in the on-going construction at the Limerick reactor. (See Inspection Report No. 50-353/76-06 (item 2), and in particular "Notice of Violation", Appendix A, Part A (item 3) of Mr. Carlson's letter.

As discussed under Part A, the most glaring example of repeated welding violations had to do with the welding of safety-related items by non-qualified welders, using unapproved methods in contempt of specified procedures.

In this most glaring example, detailed on Page 5 of "Summary of Findings" under 76-06-01 (item 4), inspectors were recording as O.K. improperly performed welds. On learning of these repeated violations from workmen, the NRC inspector, over the objection of Philadelphia Electric, demanded an immediate inspection of questioned welds, and found them to be grossly deficient...but recorded as O.K. (described in item 4 above)

On December 15, 1976, Vincent Boyer responded to Mr. Carlson's November 19 notice of violations, by writing to Mr. James P.O. O'Reilley, Director, NRC Office of Inspection and Enforcement, at Region 1, King of Prussia, Pa. (item 5). Mr. Boyer wrote, "the inspector involved is no longer employed by the contractor and a reinspection of all other work performed by him has been accomplished where accessible". (see p 1 & 2 of attachemnt 1 of Mr. Boyer's Dec. 15, 1976 letter (item 6) (underlining mine).

The Air & Water Pollution Patrol contends a high potential for accident exists at Limerick because P.E.'s Vice-President Boyer, after welding infractions were discovered, failed to take proper and effective action, in failing to make it his responsibility to unsure accessible as well as inaccessible welds were inspected. Mr. Boyer, therefore, failed to fully exercise

Reference Items 1 through 15 inclusive have been submitted with "Chronology" — instances of welding non-conformance dated March 5, 1984. (F.R.)

Testimony of Air & Water Pollution Patrol re Contention VI-i continued:

his responsibility to inspect inaccessable welds to insure inspection as was crucial in this particular "broomstick affair". Mr. Boyer's failure results in repeated re-counts demonstraiting lack of control in Quality Assurance and Quality Control involving records of welding inspection activity. Such failure must be considered as increasing the potential for failure of welds to support structures, or maintain integrity under adverse conditions.

Seven years after the 76-06-01 affair, in order to counter our contention, P.E. has changed its story. Mark Wetterhahn, P.E.'s counsel, in correspondence of April 27, 1983 (item 7), responding to questioning by the Licensing Board relating to the possible impact of safety at Limerick, emphatically stated, "all welds inspected by the particular inspector, not only accessible welds were re-examined". (underlining by P.E.) (See p 43 & 46)

Apparantly to further remove any doubts caused by our insistent contention, a follow-up letter of May 20 (item 8) from P.E.'s Counsel to the Licensing Board, contained various work records, in particular Finding Report No. N 093 (item 9), that was stated to be sent as absolute proof that all welds...accessbile as well as inaccessible welds were inspected (see p.2 of May 20 letter, lines 7,8,9,10,11). (Report No. N093 does not even discuss inaccessible welds.)

In an order dated July 26, 1983, (item 10) the Atomic Seafety and licensing Board, inspite of ordering that Air & Water Pollution Patrol's welding contention be thrown out, requested affadavits from Philadelphia Electric to affirm their emphatic statements contained in their April 27 letter that "all welds...not only where accessible were re-examined".

Unable to substantiate, via affidavit, information which had previously and repeatedly been submitted as fact, Philadelphia Electric, through its Counsel Mark Wetterhahn's letter to the Atomic Safety and Licensing Board, dated August 19, 1983 (item 11) wrote:

> In the course of preparing to respond to the Atomic Safety and Licensing Board's request contained in its Second Special Prehearing Order (LPB-83-39) dated July 26, 1983, at 38-39 for an affidavit to verify the state-

Testimony of Air & Water Pollution Patrol re Contention VI-I continued:

> ments contained in Counsel's May 20, 1983 letter to the Licensing Board, it was learned that all inspections performed by the subject quality control inspector had not been identified and, therefore, not re-inspected as previously believed. (underlining AWPP's)

Affidavits by Vincent Boyer is a confused attempt to cover up a severly serious discovery of quasi-criminal neglect in insuring proper welding as described in 353/76-06-01.

This incident occurred and showed up what could be found dangerous at Limerick, as was found at Midland, Zimmer etc. At Zimmer and Midland where Bechtel, the same contractor as Limerick, was the main contractor, NRC CFR-10 applicable regulations were found violated in too many cases, only found by accident by NRC inspectors--or on re-inspections by NRC as happened with 76-06-01. (items 14 & 15)

Even more serious than the failure of the Quality Control and Quality Assurance programs, evidenced by repeated deviations on AWPP submitted IE reports is the attempt by the Applicant to cover up. The 76-06-01 affair again is the example wherein even after all welds were stated to be completely re-inspected the Applicant stated "all welds" , accessible and inaccessible that the inspector had inspected were re-inspected. Subsequent developments, including the Aug. 10, 1983 affidavit of Mr. Kemper of P.E. reveals a coverup approaching fraud.

Such statements indicate the shallowness of the Applicant's Quality Assurance program and failure by the Applicant to assure all responsibility for all activities as per PSAR Appendex D-par. D.1 and CFR-10-Appendix B. More than that, it is evidenced that the Applicant is not above purposely attempting to cover up as has been done at Midland, Zimmer, etc. And as indicated at Zimmer the acceptance of the Applicants reports of corrections which resulted in NRC closeouts of items of non-conformance is no guarrantee the non-conforming items, or subsequent same activity involved in those items were properly dispositioned.

(E)

Testimony of Air & Water Pollution Patrol re Contention VI-I continued:

The Oct. 28, 1983 Memorandum and Order by the Board, page 6, states AWPP's case on the merits will be limited to instances set forth in its required listing, absent a substantial showing of good cause.

On the basis of good cause including absence of proper legal guidance which would have AWPP detail every report of welding infraction and used other discovery routes, AWPP seeks to include specific infractions involving welding not previously listed. The substantial good cause is the enabling of more complete record for the safety of the public.

For example, IE Report No. 50-353/75-05 reporting on inspection of Aug. 26-29, 1975 and Sept. 2,3,4,8, 1975, in Summary of Findings reports at 5) a "Deviation": Spot Radiography of Containment Liner Seams (AWPP page 29 and 34) states 2.5% of welded seam in the critical containment liner were radiographed instead of 4% as per requirement of PSAR, Section 5 and Regulatory Guide 1.19 Revision 1 (Section C-1-a) That demonstrates a careless QA-QC contributing in later safety related infractions. AWPP states the Applicant must show records which conclusively prove that reinspection to conform was done on lengths of liner seam weld that were not previously radiographed. AWPP states the Applicant has not shown that the infraction was properly dispositioned.

In same inspection report under 6 "Unresolved: Welded Wire Fabric For Suppression Pool Walls"(AWPP p. 30) Licensee alleged welding on the wire was not safety related, but the NRC inspector pointed out Licensee representative was not using Drawing C-249 as a guide as required. In spite of Licensee's efforts to avoid compliance, the NRC inspector designated Licensee's response as reason item was placed in unresolved status. AWPP states the Applicant failed to properly control adhearance to Quality Control requirements.

Following the foregoing non-compliances and QA/QC, Applicant has been charged with contempt of commitments made to the NRC as indicated under Chapter 7, "Deviations: Containment Liner Fabrication/Erection (AWPP p. 46) which states as follows: The following items had been identified during previous inspections of Unit No 1 and had been identified as resolved on the basis of pending PSAR revisions. The revised PSAR was expected in

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Testimony of Air & Water Pollution Patrol re Contention VI-I continued:

February 1975, as per information perviously provided to inspector by the Licensee (IE Inspection Report No. 50-352/75-02. item 12). As of the date of this inspection, the PSAR revision has not yet been issued for NRC review and approval. Continuation of work without prior PSAR change review by NRC is contrary to commitments made to the NRC in a December 23, 1974 meeting, as documented in a Directorate of Licensing "Summary of Meeting" dated December 31, 1974. This indicates failure by Licensee to take proper and effective action when deviation from specified procedure on welding had been discovered.

Further demonstration of Licensee's failure to take proper corrective action is evident in Chapter 13(a) "Progress On Previously Identified Unresolved Items (AWPP p 49) in that a revision to clarify specified procedure relating to the critical containment liner seam was claimed to be too severe by the Licensee. Licensee would seek to use its own "judgement" rather than NRC specification recommended corrective action. This is a failure to follow Quality Control and Quality Assurance to avoid future possible weld failure.

Further under Appendix B-Notice of Violation (75-06) (AWPP page B,par. 4) it is indicated that Applicant contributed to failure re Quality Control, quote "The inspector stated that the licensee has not fulfilled his commitment to NRC to issue PSAR changes for NRC review prior to adoption, and committed PSAR change submittals are overdue. In a subsequent telephone conversation, the licensee representative stated that changes involving adoption of later issues of codes and standards would not be submitted for prior NRC review. This is contrary to prior agreements and commitments. (Details, Par. 7)".

Additionally inspection of May 28-30, 1975, under C. 1. of General Electric Company (AWPP p. 39) points out another non-compliance infraction discovered under Chapter 4, (AWPP p. 42 through AWPP p. 44) As per PSAR G. 7.7.1 and 7.2 (AWPP p. 44) top paragraph Licensee committed that field practices would be equivelent to shop practices. However, NRC inspectors Haynes and Walton found site practices were less than equivelent to shop practices.

Testimony of Air & Water Pollution Patrol re Contention VI-I continued:

Under Response to Item of Applicant Deviation (AWPP p. 54) relating to July 22, 1975 letter to James O'Reilly (AWPP p. 53) Mr. V.C. Boyer states "the more sensitive radiolographic inspections of the surface irregularities of the stainless steel back-cladding were described as stated in the deviation. However, these discernible indications do not detract from the capability of the process to detect relevant indication of defect". While the discernible indications may not detract from the capability to detect relevant indication of defect, in closing out the infraction Applicant has not shown that the observed discernible indications themselves were not relevant.

AWPP states, absent of final proof that the NRC inspectors concurred in the dispositioning, that Applicant failed to take proper corrective action that ignored the conclusions of inspectors Haynes and Walton, and thereby risk future weld failure.

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Testimony of Air & Water Pollution Patrol re Contention VI-I continued:

The failure by the Applicant to forthrightly take responsibility for all activities involved in the construction of a nuclear facility even after the 76-06-01 affiar is obvious in the March 5, 1984 chronology listing AWPP sent the Board (exhibit 1) .

Just as the 76-06-01 "Broomstick affair" was, inspite of the failures of the Applicant's Quality Control and Quality Assurance program,checked out and closed out...it is now known that many rationalized welding deficiencies remain to increase accident potential and consequences there of.

The confused attempts to explain away the deficiencies by Mr. Boyer's affadavits of Sept 16 and Sept 29, 1983 do not provide the margin of safety the public deserves. AWPP calls for full sworn statements from everyone involved in such confused recount efforts. Further AWPP sees insufficiont proof of validity of the "use as is", or "engineering analysis" catch all means of rationalizing away the infractions.

AWPP's chronology submitted to the Board dated March 5, 1984 with AWPP page numbers for easy reference showed:

(a) AWPP p-139, 139B, AWPP 180b (NRC 1366, three of hundreds of examples of NCR's routinely dispositioned by wordage "use as is". AWPP chalanges P.E. to show proof that information supplied for close out by NRC is substanciated by records.

(b) AWPP-144 /77-02-01 Applicant arbitrarily used its "judgement' to interpret rules which results in deviation from specified procedure.

AWPP requires proof that the response to the infraction that resulted in the close out was sufficient to insure the Applicant did not repeat using its own "judgement" or interpretation of specified procedure. As late as deposition taken of Mr. Boyer and Mr. Clohesey of Philadelphia Electric on March 15, 1984, the use of "judgement" on how to proceed (inspite of specified procedure) by inspectors and even the welder involved in the 76-06-01 affair was condoned as per Mr. Boyer's deposition page 54, line 6,7 and 15, 16.

(c) AWPP 152 (50-352/77-02; AWPP 155(50-352/78-03; 78-04; AWPP 156 (50-352/78-03; AWPP 156,157 (50-352/78-04, on up with AWPP 246 (50-352(81-05), and other listed examples showing one or other of failure to control welding and failure to take proper and corrective action after discovery.

(d) Like AWPP 144 (b) above, AWPP 189 (50-352/79-07-02 AWPP 237

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Testimony of Air & Water Pollution Patrol re Contention VI-I continued:

Applicant again is found to be arbitrarily making decision against specified procedures.

The Applicant was required by the Oct. 28, 1983 Board Order to describe how it assurred that the qualified welders are not qualified by fraud. The Applicant did not file its report in a month of the prehearing as ordered but was received by AWPP, perhaps three or more months later. The undated copy entitled "Report Regarding The Involvement of Philadelphia Electric Company Management in Assuring The Quality of Welding At Limerick Generating Station" , while first talking about levels of control in attempting to insure welders were not qualified through fraud, but that they were properly qualified, admitted at page 37 and 38, in discussing welding audits, states "these audits have confirmed that the first two levels are working effectively to insure the Limerick Generation Station will be a safe and reliable plant". Applicant, thereupon, qualified the previous statement of reliability by saying: "However, this does not mean that the audits have not identified areas that need improvement" AWPP seeks to know what areas need improvement. What type of welds were involved? AWPP challenges the audit itself. In fact Inspection Report No-50-352/82-16 dated Feb. 10, 1983 from NRC's Thomas Martin, Director , Division of Engineering and Technical Programs re inspection on 11/29/82 under Observations, Section 4.3.4 indicated "PECO open audit findings needmore explicit guidance to imporve the timeliness of closure".

AWPP has deposed Mr. Clohesy, inspector for Applicant as stating he uses his own judgement re audits. AWPP's witness will check out the adequacy of judgement as it relates to assurance of validity of audits.

Further on page 37 the report discussed finding of poor quality welding and poor quality assurance programs as it related to "HVAC subcontractor's entire Quality Assurance inspections" Since it is the complete responsibility of the Applicant to be sure subcontractors have a proper Quality Assurance programs, this report only demonstrates weakness-...not assurance of a safe reliable plant.

On page 38 Applicant, after having failed to insure sufficient inspectors were available for HVAC to perform proper work assurance, Applicant states it "is confident its audit program works well. Page 39 and page 40 tells of the HVAC pitiful Quality Assurance program example which seems to be an unreal

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Testimony of Air & Water Pollution Patrol re Contention VI_I continued:

rationalization to cover serious deficiency in the responsibility to take serious concrete action and concern after deficiencied have been discovered.

AWPP submits the name of Dr. Gudmond Iverson, Professor of Statistics, Swarthmore College, Swarthmore, Pa. Who will be witness for AWPP as it relates to the auditing methods used by Applicant and audits performed as their scientific validity as it relates to Quality Assurance

In submitting this testimony, AWPP states it lost the use of Saturday and Sunday because the testimony was due on a Monday rather that a Tuesday. I was denied a one day extension so that the deficiencies resulted. I will check and follow up, via an appendix.

Respectfully submitted,
AIR & WATER POLLUTION PARTOL

Frank R. Romano, Chairman
61 Forest Ave.
Ambler, Pa. 19002

We certify the above was served on the latest service list.

6. Unresolved: Welded Wire Fabric for Suppression Pool Walls

The inspector noted that welded wire fabric was shown on reinforcing steel design drawings for the containment suppression pool walls. Drawing C-249 Revision 11 shows 6x6 WWF at the outermost layer of number 18 reinforcing steel. Specific location tolerances were not shown. Licensee representatives stated that the wire was not "safety-related," however, this was not so indicated on the drawings. The inspector examined the project Q-list and noted that the wire fabric was not listed under "Exceptions" in Section 5, Containment. The licensee stated that the Q-list would be revised to identify the status of the wire fabric. Mention was also made of the difficulty in recording the quality status of each and every item, especially individual components of larger items, when some of those components are not safety-related. This item is unresolved pending future IE inspection of licensee stated actions.

7. Unresolved: Sampling Point for Concrete Strength Test Specimens

The licensee committed in PSAR, Section 5.2.5.2.1, to the ACI-SP-2 Manual of Concrete Inspection, 5th edition 1970, as a basis for construction procedures and practices. This code of practice states that ready-mixed concrete to be tested for acceptance should be sampled as it is delivered and, should be sampled as near as possible to its final location. The concrete construction specification C-61, "Furnishing and Delivery of On-Site Concrete," originally and in revisions up to #4 of 7/18/75 complied with this code. However, in the latter revision C-61 states that samples for compressive strength shall be at the batch plant.

The NRC audit disclosed that specification C-61 up to revision #4 also contained in section 6.3.9, "Concrete Compressive Strength, Unit Weight and Temperatures," the statement that sampling procedures may be revised by the Project Engineer once correlation is established between the batch plant and the point of placement. Preceeding concrete mixing and placing for the reactor vessel pedestal on 9/2/75, the NRC inspector requested to see the documentation of correlation testing and was informed that no documentation was available. Preceeding the start of concrete mixing and placement for the pedestal on 9/3/75, the NRC inspector was informed that compressive strength testing and temperature would be performed on concrete samples obtained at end of pipe discharge. The NRC inspector observed that this practice was adhered to throughout all the pedestal placement.

R. Ha[illegible]tern, Quality Control Engineer
C. O. Wright, Quality Assurance Engineer
D. Wells, Quality Assurance Engineer
R. Sevo, Quality Assurance Engineer
W. Moring, Quality Assurance Engineer
T. Larson, Subcontract Engineer

Chicago Bridge and Iron Company

T. Dougherty, Welding and Quality Assurance Supervisor
J. Vandergrift, Quality Assurance Engineer

General Electric Company

S. J. Bellows, Quality Control Representative

The following inspection findings were presented by the inspectors, and were discussed as noted below:

A. The principal scope of the inspection included reactor pressure vessel field fabrication records, containment liner welding and associated records, containment suppression pool wall rebar installation, valve wall thickness verification program and previous unresolved items.

B. Specific areas were examined and are considered acceptable as noted under "Current Findings." (Details, Paragraph 14)

C. 1. Certain activities were found by the inspector to involve Items of Noncompliance or Deviations as noted under "Enforcement Action." Extensive discussion was held on the item relating to the radiography of reactor pressure vessel field welds. The inspector stated that IE:I would contact the ASME code inspector for this work to obtain further data. (This contact was made on June 4, 1975). In a subsequent June 5 telephone conversation with the NRC inspectors, the licensee stated that his metallurgist had now examined the radiographs in question and was of the opinion that unacceptable defects could not be masked or confused with the images of weld irregularities. (Details, Paragraph 4)

2. Extended discussion also was held on the noncompliance relating to the installation of containment rebar contrary to design. The inspector acknowledged that QC inspection had not yet been made of the installation, and that all rebar was not yet in place, but that this did not alter the fact that work forces were accomplishing installation activities contrary to instructions and drawings. (Details, Paragraph 6)

Appy 39

2. General

This inspection encompassed welding in progress and records of containment liner penetration and hemisphere dome sections, installed rebar for containment suppression pool walls, records of reactor pressure vessel field fabrication, valve wall thickness verification program, and status of previous unresolved items. General site tour/inspection was included.

3. Construction Status

A heavy equipment operator strike has delayed most site activities since May 5. Containment liner is in place including the drywell, except for the top flange/dome sections. There are some penetrations and hatches which remain to be installed and some seams to be installed. Rebar is almost complete up to the diaphram floor; rebar for the diaphram floor has not commenced. Turbine floor support columns and the lower floor of the auxiliary building are in place.

4. Deviation: Reactor Pressure Vessel Field Weld Radiography

Contrary to the licensee's commitment in Appendix G to the PSAR, Sections G.7, G.7.1 and G.7.2, the inspector found that the site practices associated with the stainless steel back-cladding of the reactor pressure vessel field welds and the radiographic inspection of these welds were less than equivalent to shop practices. As a result, radiographs of the welds contained discernible indications which were attributed by the licensee, his representatives and the Authorized Inspector to the surface regularities of the back-cladding.

During this inspection, the inspector observed that several of the radiographs of the reactor pressure vessel circumferential welds, identified as AA and AB (lower head to #1 ring and #1 ring to #2 ring), contained faint lines running in a direction parallel with the weld. The inspector noted that the indications were located in the area of the pressure boundary weld. The inspector found that the responsible Chicago Bridge & Iron Company (fabricator) inspectors, General Electric Company (NSS Supplier) inspector and the inspector of the Authorized Inspection Agency had accepted the radiographs and attributed the faint lines to the as-welded condition of the back-cladding.

The inspector observed the back-cladding and found that cladding had been applied using the manual metal arc process. The inspector saw that the stringer beads of the cladding were left, for the most part, in the as-welded condition, i.e., some surface

be met without grinding. General Electric Company representatives concurred with this position.

In view of the licensee's PSAR commitments on the site fabricated reactor pressure vessel that field practices would be equivalent to shop practices and that the only differences between shop and site radiographic inspection would be the processing of radiographic films and the method of radiography, i.e., more extensive use of gamma-ray radiography for the site fabricated vessel, it appears that the site practices which resulted in the several discernible indications showing on the radiographs of reactor pressure vessel field welds were less than equivalent to the corresponding shop practices.

5. Deficiency: Bolting Material For Structural Steel

Contrary to the requirements of 10 CFR 50 Appendix B Criterion VII, documentary evidence that the material conformed to procurement requirements was not available onsite prior to installation of the hardened washers for bolted connections inside the RPV pedestal at elevations 217 and 234.

Nonconformance report NCR-1124 identifies that washers for safety related bolting had been received onsite without the vendor certificate of compliance called for by the purchase specifications. Nonconforming Material Installation Release dated March 17, 1975 identifies that the material was released for installation on structures within the reactor pressure vessel pedestal space, based upon site management review and concurrence. However, procedure FIM-G-3 paragraph 5.4.b prohibits installation of material which lacks required documentation unless a supplier's notification by TWX or written report exists at the job site indicating that the item conforms to the procurement documents. The licensee could produce no such TWX or written report to demonstrate that the vendor had been contacted and verified conformance of the material.

The licensee representative stated that he had already identified this deficiency in the constructor's QA program and he showed the inspector an April 28, 1975 memo (QC-FMC-31) which documents the fact. He stated that the matter had been discussed between site QA and corporate QA management on May 5, 1975, and that an nonconformance report was to be initiated by the site QA. The inspector noted that such an nonconformance report had still not been issued as of May 30, 1975, nor was other action yet initiated for proper corrective action to be completed within a reasonable time.

e. The tie rod and No. 18 bar reinforcing steel did not satisfy the 1 inch clearance from penetration sleeves specified in the tolerance notes of drawing C-247 Revision 6 at position 55° elevation 220, position 50° elevation 218, and position 290° elevation 192.

The inspector interviewed the contractor quality control (QC) personnel responsible for inspection of reinforcing steel, to discuss contractor inspection planning and applicable records. The QC personnel stated that no inspection of reinforcing steel location and security had been conducted to date on the containment suppression chamber walls, except for positioning bars for cadwelding. The staff demonstrated some initial uncertainty as to who would ultimately be responsible for verifying reinforcing steel location, but the licensee representative subsequently clarified who was responsible for the verification. The QC staff stated tha the inspection effort would require about two days effort by two inspectors to verify conformance with drawings and specifications. The inspector subsequently discussed nonconforming dimensions with the responsible field engineer who stated that reinforcing steel work is in progress and not yet complete and that nonconforming dimensions would be corrected by jacking the steel or by other appropriate means just prior to each of the several concrete placements.

The inspector noted that the reinforcing steel work was practically complete with the exception of two hoop rings at the level of the diaphram floor, installation of horizontal ties above approximate elevation 195, and installation of exterior mesh. Eight layers of principally No. 18 rebar have been installed, plus reinforcement around penetrations. Three catwalks within the rebar matrix have not yet been removed. Continuing work has been deferred due to the heavy equipment operators strike.

The licensee representatives repeatedly stated their position that since the work had not been completed and inspected it should not be considered as having been accomplished contrary to drawings and instructions. The inspector stated that the construction staff had clearly not accomplished their assigned quality affecting activities in accordance with drawings and instructions, in spite of the possibility that the contractor quality control staff may at a future date detect these facts.

7. Deviations: Containment Liner Fabrication/Erection

The following items had been identified during previous inspections of Unit No. 1, and had been identified as resolved on the basis of pending PSAR revisions. The revised PSAR was expected in

App - 11

Response to Item of Apparent Deviation

As a result of the more sensitive radiographic inspection the surface irregularities of the stainless steel back-cladding were discernible as stated in the deviation. However, these discernible indications do not detract from the capability of the process to detect relevant indications of defects per Code requirements for the following reasons:

1. The density differences in the radiographs for the surface irregularities are less than or equal to the density difference for the 1T sensitivity hole in the penetrameter and the penetrameter itself thereby indicating that any relevant indication equal to or exceeding a nominal 1% would be discernible and not masked; and

2. The density differences in the radiographs for the surface irregularities are gradual thereby allowing detection of relevant indications; such as non-fusion defects, which exhibit abrupt density differences in radiographs.

In summary, the above reasons support the fact that the sensitive radiography, although revealing the surface irregularities of the back-cladding, meets the quality assurance requirements referred to in Section G.7 of Appendix G to the PSAR and also meets the applicable Code requirements. This reasoning is supported by qualified personnel from Chicago Bridge & Iron Company, General Electric Company and Philadelphia Electric Company and the Authorized Code Inspector who have reviewed the radiographs.

12. Resolution: CBIN NDE Procedures for Reactor Pressure Vessel

All indications, arising from liquid penetrant or magnetic particle examination of pipe, tubes and fittings for the RPV, are intended to be explored as described in procedures without exceptions. This resolves item number 3 of the Details section of IE Inspection Report No. 50-352/75-01.

The inspector previously reviewed procedures MTP-10, PTP-9 and MTP-11, and had questioned the acceptance criteria regarding unacceptable indications. The licensee has clarified the intent of the procedures in advising the inspector that "all indications will be explored by the method described in paragraph 7.3." The inspector stated that he has no further questions on this item at this time.

13. Progress on Previously Identified Unresolved Items

a. Containment Liner Specifications - Removal of Imperfections:

The inspector reviewed revision 7 to specification 8031-C2 for the containment liner. This revision was intended to clarify the definition of "shallow imperfections" which are to be removed from the liner plate by grinding. The revision is now clear in that it requires removal of all imperfections not deeper than a specific depth. However, the licensee noted that he has not yet closed out this item in that the criteria appears overly severe and may be further revised. This item 7 of IE Inspection Report 50-352/75-03 is still unresolved pending review of licensee followup action.

b. Reactor Pressure Vessel Pre-fabrication Cleaning:

A-028
A-031
Pending

The licensee representative stated that an engineering change notice ECN-38587 has been prepared to clarify acceptance criteria of procedure CCS-1, and that it will be available onsite by July 1, 1975. The licensee also noted that the procedure qualifications identified in item 4 of report 50-353/75-01 would also be available on that date.

Not issued CI initiating pro to get copy the qualifications into.

14. Inspection Items Which Are Considered Acceptable

a. Reactor Pressure Vessel Field Fabrication Records - The inspector audited the following records of the field fabrication of the reactor pressure vessel.

(1) Final postweld heat treat records of the bottom head to #1 ring and the #1 ring to #2 ring weld were reviewed.