

POOR ORIGINAL

U. S. ATOMIC ENERGY COMMISSION  
REGION I  
DIVISION OF COMPLIANCE

Report of Inspection

CO Report Nos. 289/70-1  
320/70-1

Licensee: Metropolitan Edison Company  
Three Mile Island No. 1 and 2  
License Nos. CPPR-40 and CPPR-66  
Category A

Date of Inspection: January 13, 1970

Dates of Previous Inspection: December 1-9, 1969

Inspected By: *F. S. Cantrell*  
F. S. Cantrell, Reactor Inspector

2/5/70  
Date

Reviewed By: *N. C. Moseley*  
N. C. Moseley, Senior Reactor Inspector

2/5/70  
Date

Proprietary Information: None

SCOPE

The purpose of this management meeting was to discuss with Met-Ed and its contractors the comments and findings obtained during the Met-Ed QA inspection during the weeks of December 1 and 8, 1969. (CO Report Nos. 289/69-6 and 320/69-2) The meeting was held in the Met-Ed office in Reading, Pennsylvania.

DETAILS

A. Persons Contacted

1. Metropolitan Edison Company (Met-Ed)

John Miller, Vice President, Project Engineer, Met-Ed  
George Bierman, Construction Project Manager, Met-Ed  
Ron Williams, Design Project Manager, Met-Ed  
K. Mack, Projects, Met-Ed

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General Public Utilities (GPU)

Bill Hirst, Manager of Project, GPU  
Dick Heward, Licensing and Safety Manager, GPU  
Bud Avers, QA Manager, GPU  
Gene Hreczuck, QC Engineer, GPU  
Walt Granger, QC Analyst, GPU  
Earl Allen, QA Monitor, GPU

2. Babcock and Wilcox Company (B&W)

Howie Dobel, QA Manager  
Grant Ward, Assistant Project Manager

3. Burns and Roe, Inc. (B&R)

Pic Nardone, Project Manager  
Jack Brodsky, QA Supervisor

4. Gilbert Associates, Inc. (GAI)

Carrol Bitting, Project Manager  
Wayne Traffas, QA Manager  
Norm Barker, QA Engineer

5. MPR Associates (MPR)

Norman Cole  
Jeff Gorman

B. Management Comments

Mr. John Miller opened the meeting with a statement that Met-Ed had arranged for representatives of their major contractors to be present and suggested that B&W, B&R and GAI be called into the meeting individually and that comments on the inspection be limited to the individual group present. Met-Ed, GPU and MPR were present for all of the discussions.

N. C. Moseley, Senior Reactor Inspector, reviewed the purpose of the management meeting with each group and discussed the findings pertinent to that group. Moseley pointed out that the objective of the meeting was to inform management of our findings and to be sure that Compliance had not reached wrong conclusions. He pointed out that we did not plan to try to resolve these problems in the meeting. These findings are listed by criterion and were discussed with appropriate group as indicated below:

Criterion I

Met-Ed, GPU, Jersey Central

The duties and responsibilities of individuals within the above groups have not been clearly established in writing. Due to the complex arrangement of companies and responsibilities, this must be considered a weakness in the organization.

Met-Ed stated that they felt their job descriptions were adequate and were understood by the organization (CO:I was subsequently provided with an organization chart for the GPU Nuclear Power Activities Group).

B&W

The duties and responsibilities of individuals in the organization are not clearly defined in writing.

Mr. Dobel stated that B&W had a procedure(IG-15-Section II) that defined the responsibilities of the various positions. He stated that he would make a copy of the procedure available to Compliance at the site (Three Mile Island).

The B&W management is not regularly reviewing the status and adequacy of the QA program. The Lynchburg organization is almost wholly dependent upon Barberton for the design and the quality assurance program for each item that Barberton manufactures.

Mr. Dobel pointed out that their (Lynchburg) Resident Inspector submits a monthly report of QA activities conducted at Barberton. Compliance acknowledged that they had seen copies of these reports, but could not determine that followup was being made on items that were highlighted.

Criterion II

Met-Ed, GAI and B&R

The systems, structures and components that are to be covered by the QA program have not been identified.

It was acknowledged that Met-Ed did not have a master list showing the required quality level for each piece of equipment or system. Mr. Nardone showed the inspector how the quality level is shown on equipment drawings and stated that all drawings for Unit 2 would be identified as required. Mr. Bierman stated that Met-Ed would compile a list to show what systems are covered in Unit 1 and 2.

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B&W

A QA program has been established by procedure, but the inspector did not find objective evidence that the program was being implemented as described. It was pointed out that a number of procedures appeared to have been developed just prior to the Compliance inspection.

The four levels of quality are hard to relate to specific systems and their importance to safety. The lowest level appears to only require good commercial practice.

MPR pointed out that items that did not fit in the other three levels were assigned to level 4. Items in level 4 do not have generic QA specifications but the QA requirements are tailored to the equipment.

Criterion III - Design Control

B&W

B&W does not have a procedure for design review nor is there documentation of the extent of the review. The QA group may or may not participate in the review, but does not have a "sign off" function. It appears that designs may be changed without a review by the originator.

Mr. Dobel stated that B&W did have a procedure for design review and would make it available to the Compliance inspector for review. He acknowledged that the QA group did not have to "sign off" on design reviews.

Met-Ed

The lack of a detailed description of Met-Ed's review function and organization must be considered a weakness.

Met-Ed stated that they thought their program met the criterion. (A copy of the QA Plan for TMI-2 was made available for CO:I review. The procedure requires Met-Ed or MPR review of designs.)

Criterion IV - Procurement Document Control

B&W

B&W has a procedure to assure that this criterion is met, but it does not appear to have been consistently implemented. The QA group does not sign off on specifications or procurement documents.

Mr. Dobel stated that his people review these documents, but he had elected not to have his people "sign off".

Criterion VII - Control of Purchased Material

B&W

The Lynchburg QA group does not appear to have adequate control of the work done by the Barberton Division. The Lynchburg field QA group lacks training and experience (i.e., lack NDT qualifications) and is forced to rely on the Barberton QA staff.

Mr. Dobel acknowledged that the above problems existed, but pointed out that they had people in training and he thought they would assume a larger role in the near future.

Criterion IX - Control of Special Processes

B&W

B&W has generic specifications that have been invoked for Unit 2 equipment that meet the intent of this criterion; however, there was no requirement for a written record of the special test required in the purchase order.

In response to questions from B&W, the inspector cited tests that were specified for reactor coolant pump motors. The purchase document did not require written records and the inspectors could not find records of results or even records that the tests had been performed.

Criterion X - Inspection

B&W

It appears that the only inspection hold points specified in procurement documents are for hydrostatic testing. The inspectors were told that the hydrostatic tests on individual sections of nuclear piping were being waived in favor of a hydrostatic test on the completed system.

Mr. Dobel acknowledged that the hydrostatic test was the only specified hold point; however, he stated there were other hold points that were required by QC functions. He stated that where appropriate, radiography, liquid penetrant, etc. must be approved before the next step in fabrication.

Criterion XVI - Corrective Action

B&W

From the size and training of the Lynchburg QA staff, it does not appear that the Lynchburg QA staff has the time or necessary training to see that an adequate solution is achieved. Corrective action or followup was not apparent on deficiencies noted in the QA monthly report from Barberton.

Mr. Dobel stated that B&W was reviewing the system, and that approximately 75 changes have already been made in the Barberton QA Manual.

Criterion XVII - QA Records

B&W

The inspector did not find evidence how this criterion was being met. Mr. Dobel stated that the QA records will accompany the equipment when it is delivered to the site.

Criterion XVIII - Audits

Met-Ed MPR

Met-Ed and MPR have performed a large number of audits, but there does not appear to be a system of preplanned audits.

Mr. Cole described the basic program as one in which each vendor or contractor will be audited at least once. Certain key operations are scheduled to be audited on a regular basis. Where indicated, additional audits are made. Mr. Avers stated a copy of this procedure would be made available for review. (Subsequent to this meeting, the procedure was provided to the inspector.)

B&W

B&W does not have a procedure or an effective program of internal or external audits.

Mr. Dobel stated that an auditing procedure was being prepared and would be implemented.

C. Concluding Comments

The Region I evaluation was explained as being based on the inspection findings as a whole. The B&W program appeared deficient in the following ways:

1. An insufficient management commitment was evidenced to provide a working QA program.
2. The numbers and types of QA people did not appear to be sufficient to administer an effective program.
3. Elements of a program were found but the inspectors were unable to find evidence that the program was effective at the time of the inspection.

It was further stated that Compliance looked to Met-Ed management as being responsible for the entire QA program. Mr. Miller stated that Met-Ed had made several audits at B&W and were unsatisfied with the results. Mr. Miller said that he intended to pursue this concern with the B&W Vice President, Nuclear Power Generating Division. He said that he believed that this meeting would result in upgrading of the B&W program. He said he would keep Region I advised of progress. Mr. Miller also said that review, evaluation and action, as necessary, would be taken concerning the Compliance comments regarding Met-Ed and other contractors.