

The documents were not controlled by procedures but have since been included in appropriate procedures. No adverse effects occurred because the document was used only to notify and not to document the correction of discrepancies.

3. Hatfield Electric Company failed to appropriately calculate the maximum cable pull tension. To correct this, the method of calculation and applicable implementation procedures have been revised. Cable pull reports for previously installed cables are being reviewed and corrective action will be taken when necessary.
4. The Hatfield Nonconformance Report included an entry for action to be taken to prevent recurrence, but the body of the associated procedure did not address this portion of the form. No change was necessary in Hatfield's established practice, but the Hatfield procedure was appropriately revised.
5. Both Edison and Hatfield had three non-conformance reports which were voided rather than closed. In each case, a new NCR was generated and Edison and Hatfield have established procedures to prevent future voided NCR's.
6. Two contractors were inappropriately tagging, segregating or storing material or equipment. These problems were corrected, and it determined that the incorrect procedures did not affect quality. In addition, one contractor had several NCR's which did not properly address action to prevent recurrence. All NCR's were reviewed and procedures were revised.
7. The contractors possessed several drawings which were not the current revision. This was corrected immediately.
8. The NRC interpreted the ASME Code to require welders to possess certain welding procedures. Edison asked for a code interpretation from the ASME Code Committee, which responded that Edison's practices are acceptable. In all cases, each welder has access to the procedure.

9. One contractor kept Quality Control records in an unlocked cabinet located in a locked vault which is shared by five contractors. No evidence of record tampering exists, and all contractors were sent a directive stressing the importance of security. Subsequent checks have not revealed any problems.
 10. Certain audit reports did not include all required criteria. All site contractors have been directed to include this criteria and a follow-up check indicates this is being done.
- D. NRC IE Inspection Report 50-454/82-06 identified three concerns in the Byron's pre-operation testing program. These were not items of non-compliance but were unresolved by the inspector. The inspector further reviewed these items and determined them to be acceptable.
 - E. NRC IE Inspection Report 50-454/81-08 identified an aspect of instrument calibration which was not in compliance. The subject instrument was recalibrated and the method used to document calibration was revised.
 - F. NRC IE Inspection Report 50-454/80-24 identified an item of non-compliance regarding equipment anchor belts. A NCR was written, the subject anchor bolts were replaced and inspected, and the contractor's procedures were revised.
 - G. NRC IE Inspection Reports 50-454/81-09 and 50-455/81-08 list two items of noncompliance related to the inspection of piping system shock arrestors and of design change for snubber assemblies. The inspection aspect occurred because of an incorrect interpretation of procedures. Personnel were instructed about this requirement and previous installations were inspected. For the second item, personnel were instructed that according to procedures, all design changes must be approved by Engineering.
 - H. NRC IE Inspection Reports 50-454/81-16 and 50-455/81-12 identified an item of noncompliance relative to Hatfield's implementation of revised procedures for electrical cables. The contractor was told of the correct procedure. Quality of

DIRECT TESTIMONY
OF
MICHAEL A. STANISH ON CONTENTION 1

Q.1 State your name.

A.1 Michael A. Stanish

Q.2 What is your address

A.2 My current address is 1322 Yarmouth Ct., Schaumburg, IL.

Q.3 By whom are you employed and in what capacity?

A.3 By Commonwealth Edison Company as Construction Quality Assurance Superintendent at Byron Station.

Q.4 Please describe your education following graduation from high school.

A.4 I received a Bachelor of Science Degree in Civil Engineering from the University of Illinois at Champaign-Urbana in December 1973.

Q.5 Please describe your employment experience.

A.5 I have worked for Commonwealth Edison Company since February, 1974. My first position was as a construction engineer in the Station Construction Department working on our Collins Station Construction Project. My next position was as a design engineer in our Transmission Engineering Department. My following and current assignment is in the Quality Assurance Department. In the five years I have worked in the Quality Assurance Department, I have spent 10 months in our General Office performing evaluations of vendor Quality Assurance Manuals. I was assigned to Byron Quality Assurance for 9 months as a Quality Assurance Engineer, and 5 months at Byron as a Quality Assurance Coordinator. I have had 12 months of Operating Quality Assurance experience, 3 months on a coal fired plant, 3 months at our Zion Station as a QA Engineer and 6 months as Quality Assurance Coordinator at our Dresden Station. I have been in my current position as Quality Assurance Superintendent since January, 1981.

Q.6 Please describe the scope of your testimony.

A.6 My testimony is in response to portions of Contention 1, relating to alleged inadequate quality assurance with respect to the construction of Byron Station. My testimony describes the Company's response to certain items of non-compliance identified by the NRC in its inspections and other observations made by the NRC concerning quality assurance at

the Byron site. The documents discussed in the balance of my testimony are those identified by the intervenors as allegedly substantiating their assertion that the construction Quality Assurance at Byron Station is inadequate.

Q.7 Have there been other items of non-compliance identified by the NRC in its inspection of construction at Byron.

A.7 Yes, but all of them have been satisfactorily resolved by the Company. This is borne out by the evaluations made of construction Quality Assurance in the so-called SALP Reports. The SALP reports or Systematic Assessment of Licensee Performance reports are an assessment of the various licensee activities based on results of NRC site inspections. The 1980 SALP Report concluded that the overall regulatory performance at Byron is considered average, and that no changes in the routine NRC inspection program are required. The 1981 SALP identifies most areas as adequate. It indicated that management attention and involvement are evident and are concerned with nuclear safety. The electrical installation contractor, Hatfield Electric Company, was rated below average during the early part of the period. The details which resulted in this rating are explained in the portion of Mr. W. J. Shewski's testimony which discusses the stopwork and subsequent corrective actions related to Hatfield Electric. The SALP report qualified the rating by indicating that NRC inspections in the latter part of the evaluation period confirmed that the corrective actions have been effective and activities in this area are now considered adequate.

Q.8 What is the most recent NRC inspection addressed in your testimony.

A.8 A special team inspection by the NRC's Region III Office of Inspection and Enforcement which was conducted on 13 separate days between March 29 and May 11, 1982. As stated in the cover letter to the NRC Inspection Report dated June 24, 1982, the purpose of the inspection was to assess the adequacy of certain aspects of construction quality assurance activities at the Byron Station. The scope of the assessment included audits of "quality assurance program interfaces and overview, corrective action systems, design change, control, material traceability of installed structure and components, electrical cable installation, in process inspections and effectiveness of quality control inspectors". A copy of the NRC inspection report is attached to my testimony as Exhibit 1.

Q.9 What conclusions did the NRC reach following this special safety inspection.

A.9 The NRC stated that in general, within the areas inspected, the Byron Construction Quality Assurance Program appeared "good". However, there were certain items of non-compliance identified in the inspection report. Five of the nine items of non-compliance were Severity Level V, the least significant of all NRC categories of non-compliance. The remaining four items of non-compliance were Severity Level IV. All of the items of non-compliance discussed in my testimony have been resolved to the satisfaction of the NRC.

Q.10 Does your testimony address all the Company's resolution of all the items of non-compliance identified in Exhibit 1.

A.10 No, my testimony describes the resolution of all the items of non-compliance except the item of non-compliance numbered two which deals with the qualification and certification of quality control inspectors. That matter is discussed in the prepared testimony of Mr. Walter J. Shewski.

Q.11 Please describe the resolution of the item of non-compliance identified as number 1 in the notice of violation which is a part of Exhibit 1.

A.11 This item of non-compliance relates to the organizational structure of a number of the contractors at the Byron site as well as the role of Commonwealth Edison Company's Construction Department in hiring and promoting contractor QA/QC personnel. The numbered subparagraphs which follow correspond to the subparagraphs in the NRC's notice of violation.

1a) It was found that the Hatfield QA Manual Organization Chart indicated that the site QA Manager reports directly to the Vice President, who is located on site and has direct responsibility for cost and schedule.

The Hatfield Electric Company is a fairly small company with no other large scale projects such as at Byron in progress. In as much as this is essentially their only project, the Vice President was assigned to the Byron Site rather than the main office. Also, the Project Manager, who reports to the Vice President, was more intimately involved with cost and schedule. The organization was revised to avoid confusion. The revision resulted in the QA Manager reporting directly to the President who is located off-site. The conflict resulted in no compromise of quality since the QA Manager had sufficient freedom to hire and allocate people, and perform inspections without influence from the project group.

- 1b) It was found that the Powers-Azco-Pope Quality Assurance Manual indicated that the site QA Manager reports to the Project Manager, who has direct responsibility for cost and schedule. Powers-Azco-Pope is a joint venture established for the sole purpose to complete its scope of work for the Byron Project. As such, the organization in reality was not one, but three different organizations off site. The QA Manager reported to the most senior position in the joint venture who is the Project Manager. Although no undue pressures were exerted upon the QA Manager by the Project Manager, an off-site position has been created to whom the QA Manager reports. This change will insure no future confusion relative to independence of production and Quality Assurance.

- 1c) It was found that the Project Construction Department of Commonwealth Edison is part of the approval chain regarding the hiring and promoting of contractor's Quality Assurance personnel.

The Project Construction Department ("PCD") is responsible for the administration of each vendor's contract. Each contract package includes both production and Quality Control of the work. As administrator, PCD is responsible to make all payments to each contractor whether the production or QC portion. It is, however, the contractor's responsibility to hire and promote its people. To clarify this issue, we have directed all requests for hiring and promotion to come from the person off-site to whom the contractor site QA Manager reports. The off-site corporate organization is responsible for wage increases and will submit increases and promotions to PCD for invoicing reports. Quality was not compromised in any way since wage increase requests made by contractors have generally been accepted by PCD as they are essentially pre-established as a contractual matter covering inflation and union negotiated increases as well as associated cost adjustments.

- 1d) It was found that the Hatfield Electric Company has been operating with a Quality Assurance organization other than that described in their QA manual.

Actually, the organization was as described in the manual but did not describe positions in the QA/QC organization down to the supervisor level. This is typical with many QA manuals. However, to clarify the organization structure, the manual was revised to include the supervisor positions.

- 1e) It was found that Johnson Controls, Inc. was operating with a QA organization other than that described in their Quality Assurance Manual in that the title of Quality Assurance Representative was changed to Quality Assurance Manager without updating the manual. This was an oversight and has no effect on the quality of the work. The manual was revised to reflect the actual title, however.

In general, the items found in this area were revisions to organizations charts to reflect actual site organizations or minor revisions to organizations. No compromise of quality resulted from these deviations.

- Q.12 Please describe the resolution of the items of non-compliance in the NRC inspection report identified as Paragraph 3a and 3b in Exhibit 1.

- A.12 Hatfield Electric was using a document to allow the Quality Control group to notify production of inspection discrepancies which was not controlled by a procedure.

The document, called a Trouble Letter, was being controlled using a log to track discrepancies until closed out. The concern was that appropriate Hatfield procedures did not explain the use of the document. No adverse effects on the quality of work by Hatfield resulted since this document usage was only to notify and not to document correction of discrepancies. The inspection report is the document which ultimately verifies the quality of the work. Therefore, the observation that the document was not proceduralized had no effect on the quality of the work.

Powers-Azco-Pope used a similar document called a Fabrication Installation Surveillance to notify production of inspection discrepancies. The use of this document by PAP was for generally the same function as the Hatfield document. Here, again, the inspection report is the document which reflects the quality of the work and the inspection report is proceduralized and controlled.

In both cases, the document was included in appropriate procedures to address the concerns by NRC. In addition, other site contractor programs were reviewed to assure all such documents were properly included in procedures.

Q.13 Please describe the resolution of the item of non-compliance identified as Paragraph 3c in the NRC inspection report.

A.13 When calculating the maximum cable pull tension, a review was not made by Hatfield Electric Company to determine the maximum pressure exerted on the sidewall of the cable. Although maximum pulling tensions were specified, in some instances where extremes of limitations of pulling radius were used and actual tension required to pull a cable were near maximum, it is possible in isolated cases to violate the maximum allowable sidewall pressure as stated by the cable manufacturer.

In order to eliminate the possibility of exerting a sidewall pressure greater than manufacturers recommendations, the method of calculating maximum pulling tension was revised. The applicable contractor implementation procedure has also been revised to include the new maximum pulling tension calculation. In addition, to verify that the sidewall pressure was not exceeded for cables installed prior to these revisions, cable pull reports for cables already installed are being reviewed against the current criteria. Where it is found that maximum sidewall pressure has been exceeded, appropriate corrective action will be specified with the advice of the cable manufacturer. These actions will assure that all cables, regardless when installed, will meet the current criteria.

The Hatfield procedure for cable pulling did not address precautions to take when "reworking" cable pulls. The NRC inspector indicated that he felt precautions should be documented in the procedure. Although these precautions were

not specifically stated in the procedure, the then current practices were to have the personnel performing cable pulling activities exhibit the same care in reworking cables as in initial installation. Including precautions in procedures is an added assurance over and above the presently established criteria, that cables are more than adequately protected from damage during rework. The procedure was subsequently enhanced to include these added assurances.

Q.14 Please describe the resolution of the item of non-compliance identified as Paragraph 3d in the NRC inspection report.

A.14 The Hatfield Electric Nonconformance Report form included, as required, an entry for action to be taken to prevent recurrence, but the body of the associated procedure did not address this portion of the form.

As with most contractors on site, the established practice was to have the same individual who identifies corrective action, also identify action to prevent recurrence. The Hatfield procedure was revised to assign responsibility and direction for action to prevent recurrence. Since identical approvals are required currently as was the case prior to the revision to the procedure, no actual change in practice was required. The change made was more a clarification in the procedure. Commonwealth Edison Company has also reviewed all other contractors nonconformance procedures to assure that no further action was required with other contractors.

Q.15 Please describe the resolution of the item of non-compliance identified as Paragraph 4a thru 4c in the NRC inspection report.

A.15

4a) Three Commonwealth Edison nonconformance reports were apparently voided rather than closed with reference to corrective action to resolve the nonconformance.

In the first case, the NCR was voided because a design change was implemented through a Field Change Request. However, the NCR should have provided for an evaluation of the single identified condition. Subsequently, a new NCR was generated to provide a tracking mechanism for trending as well as to document the evaluation of the condition. An evaluation inspection as a result of the new NCR revealed that, in fact, the condition was not nonconforming.

In the second case, an NCR was written for an out of tolerance instrument. Also, the discrepancy was handled using an instrument discrepancy report (IDR), and thus the NCR was voided. However, since an NCR was used initially, a new NCR to replace the voided NCR, was initiated for trending purposes. The IDR provided adequate assurance of corrective action, however.

In the third case, as NCR was written against an inspection which could not be performed. Subsequently, a controlled design change was issued to provide access, for inspection and the NCR was voided. Only for trending purposes was the NCR reinstated.

In addition to the actions taken, the other voided NCR's in file were reviewed to assure that they have been voided properly. Also a new policy has been established that voiding of NCR's will no longer be allowed but rather will be dispositioned on the basis of adequate documented resolution. This will assure the problem does not recur.

- 4b) Three Hatfield NCR's were voided because Field Change Requests were issued to provide for a design change. The concern here was that tracking could be lost if the FCR was rejected for some reason. This, in fact, was not the case and adequate tracking was provided with the FCR procedure. However to provide for trending of deficiencies, a new NCR was written to cover the items in the three voided NCR's. Hatfield procedures were updated to prevent recurrence.

- 4c) Hatfield appeared to have closed one nonconformance report before completing corrective action. The corrective

action required for a nonconforming cable was to replace it. The NCR appeared to have been closed before the cable was replaced because the NCR indicated that the action taken was that the cable did not require replacement. A subsequent review revealed that the subject cable was removed and scrapped and that a new cable had been pulled. As a result, the required corrective action had been satisfactorily completed and the information on the NCR was incorrect.

Q.16. Please describe the resolution of the item of non-compliance identified as Paragraph 5a thru 5e in the NRC inspection report.

A.16.

5a) It was found that rejected material was being stored by Powers-Azco-Pope with acceptable material. Although the rejected items were controlled through identification using a "rejected" tag, the rejected material was not segregated.

Subsequently, a separate "reject area" was established to store all such items. Appropriate warehouse personnel were instructed in the revised requirements. Since controls were in place to prevent inadvertent use of unacceptable materials by tagging, no effect in quality resulted.

- 5b) It was found that a defective torque wrench was not properly tagged by Powers-Azco-Pope with a "reject" tag. The torque wrench was marked "defective" but was not tagged with a "reject" tag as required by procedure. The reason it was so marked is that it was only operable in the clockwise direction, which is the only direction in which it was would be used.

The item was subsequently tagged with the proper tag to comply with procedures. The failure to properly tag the item did not affect the quality of work since it was determined that the torque wrench was never actually used after it was identified as being defective. PAP was directed to reject all tools that cannot be properly calibrated.

- 5c) It was found that Hatfield Electric did not tag torque wrenches which were past due for calibration. The subject items were immediately tagged and removed from the storage shelf and sent out for recalibration. The appropriate personnel were instructed in the importance of identifying tools past due for calibration.

This discrepancy did not affect quality for the following reason: a review of the torque wrench check-out log showed that these wrenches were not used after the calibration due date.

- 5d) Several nonconformance reports written by PAP were found not to properly address action to prevent recurrence.

To correct the problem, all NCR's written to date were reviewed to assure action to prevent recurrence was addressed. In addition, procedures were revised to require this item to be addressed in all NCR's. Also, all site contractors NCR reporting systems were reviewed to assure that action to prevent recurrence is addressed. As a further check, Commonwealth Edison Company Quality Assurance performs an annual trend analysis of contractor nonconformances to determine whether or not nonconforming conditions are recurring. If adverse trends are found, a response is required from the contractor indicating actions to be taken to prevent further recurrence. It may also be noted that the latest trend analysis of PAP nonconformance reports identified no trends.

- 5e) It was found that housekeeping in two warehouses were generally poor. After being informed of that finding, all unacceptable conditions were corrected. Routinely, periodic surveillances are performed by CECO. Quality Assurance to identify and assure correction of any poor housekeeping practices. Personnel are assigned to clean up trash and other items on a continuing basis .

Q.17 Please describe the resolution of the item of non-compliance identified as Paragraph 6 in the NRC inspection report.

A.17 Several drawings in the possession of the contractors were not found to be the current revision. These discrepancies were immediately corrected. In addition, a detailed surveillance was performed to verify that this was not a widespread condition. The results of the surveillance confirmed that the items identified were isolated.

Q.18 Please describe the resolution of the item of non-compliance identified as Paragraph 7 in the NRC inspection report.

A.18 It was found that welding procedures which identify appropriate voltage and amperage parameters for welding machines were not in the possession of welders.

This item was an interpretation of an ASME Code requirement that procedures be distributed to and used at the location where the prescribed activity is performed. The procedures are maintained in the work area, in that they are distributed for use to the various document stations and weld material issue stations, of which there are many throughout the plant. In addition, job traveller packages, which are at the location where the activity is performed, in that they are maintained by the supervisor in charge of the work, include many of the essential welding parameters also.

In order to clarify the requirement, Commonwealth Edison Company has requested a code interpretation to the ASME Code Committee governing the subject work. We have received a response indicating that the work practices of our site contractors are considered acceptable. Therefore, the item is not an item of noncompliance. In all cases, each welder has access to the procedure since the procedures are located at each station where welding materials are issued to welders.

Q.19 Please describe the resolution of the item of non-compliance identified as Paragraph 8 in the NRC inspection report.

A.19 It was found that one of the site contractors was storing quality control records in an unlocked cabinet.

The cabinet is located in a vault shared by five contractors. The entrance to the vault is locked at all times and controlled issuance of keys is in place. The fact that the vault was locked should reduce the possibility of tampering, but as an added assurance, a directive was sent to all contractors sharing the vault stressing the importance of maintaining an appropriate level of security. Contractors sharing the subject vault are now required to keep their

records in locked cabinets. Subsequent checks have revealed no further problems. In addition, there was no evidence of any tampering of records.

Q.20 Please describe the resolution of the item of non-compliance identified as Paragraph 9 in the NRC inspection report.

A.20 It was found that audit reports generated by Commonwealth Edison Company and several on-site contractors did not include all criteria as stated in ANSI N45.2.12 which is the standard used in conducting audits. The specific criteria which in some reports were excluded were a listing of personnel contacted during the audit and an evaluation statement regarding the effectiveness of the quality program elements being audited.

As a result of this finding, all site contractors were directed to include the above criteria in all audit reports. A follow-up surveillance by Commonwealth Edison Company confirmed compliance with the requirements of the standard.

Q.21 Did NRC IE Inspection Report #50-454/82-06 Items 454/82-06-02, 454/82-06-03, and 454/82-06-04 involve items of non-compliance discovered by the NRC.

A.21 No, in the above referenced report, (attached hereto as Exhibit 2) the NRC identified several concerns relative to the pre-operation testing program at Byron. The items were identified as follows:

1. The inspector noted that the test procedure did not clearly show how a calculation of L/D in the procedure met the acceptance criteria as stated in the Final Safety Analysis Report.
2. The Safety Injection Accumulators did not have tolerance ranges specified on the test. A memo issued after acceptance of the test dealt with these types of acceptance values on tolerance ranges for data other than specified in the FSAR. The inspector's concern was that the test procedure review was approved before these criteria were addressed.
3. In a certain section of the test, verification of operating procedures was to be done. However at the time the inspector was on site, most of the procedures were not available. Therefore, this item was still incomplete. The inspector was concerned with how procedures not available during performance of the test could be verified at a later date.

All three of the above items were considered unresolved by the inspector. Items considered unresolved are not in noncompliance but only an item which requires additional review by the inspector in order to ascertain whether or not they are acceptable or in noncompliance.

Q.22 Were these three issues subsequently resolved to the verification of the NRC inspector.

A.22 Yes, the three items listed were further reviewed by the inspector and determined to be acceptable. In the first case, a call to the Architect Engineer clarified that the calculation was appropriate. In the second case, further review showed that adequate controls were in place. In the third case, upon further review, Commonwealth Edison Company was found to have adequate controls in place to assure tracking of operating procedures not completed at the time of pre-operational test.

Q.23 Please describe the item of non-compliance identified in NRC IE Inspection Report 50-454/81-08 attached hereto as Exhibit 3.

A.23 An item of noncompliance (81-08-02) was identified relative to calibration of instruments. During the NRC inspection, it was found that calibration data recorded for a voltmeter located on a battery charger showed that one of the six readings recorded indicated an out of tolerance condition. In addition, no calibration frequency was specified.

Q.24 How was this item of non-compliance resolved.

A.24 The corrective action included recalibration of the subject instrument. In addition, the form used by the Operations Analysis to document calibration was revised to include a review and sign-off indicating all data points are within tolerance.

It may be noted that the subject voltmeter is not used as a measuring and testing device in activities affecting quality after plant start-up. At that time, battery surveillance readings will be taken using certified portable test instruments.

Also, to assure that instruments calibrated prior to the date the form and practice were changed, a review was conducted of all forms generated prior to this time to assure that calibrations were within tolerances. This action precludes the possibility that out of tolerance conditions exist for

instruments calibrated by the Operations Analysis Department. In a subsequent inspection performed by NRC, all actions were considered acceptable and complete.

Q.25 Please describe the item of non-compliance found in NRC IE Inspection Report 50-454/80-24 attached hereto as Exhibit 4.

A.25 An item of noncompliance (80-24-01) was identified relative to acceptability of equipment anchor bolts. During an NRC inspection, it was found that equipment anchor bolts for the Unit I Essential Service Water Diesel Pump foundation did not meet requirements in that they were bent to accommodate alignment with the equipment.

Q.26 How was this item of non-compliance resolved.

A.26 In order to correct this item, a nonconformance report was written to document the condition. The bent anchor bolts were removed and replaced in accordance with an approved design change. The replaced anchor bolts were inspected and found acceptable by the contractor quality control staff.

In addition, the installation contractor's procedures were revised to provide for a mandatory quality control inspection prior to release of the equipment for grouting. The misalignment had occurred prior to grouting the anchor bolts in place. Previously, this inspection had been performed only on a sampling basis.

Also, a review was made of other installed equipment on a sample basis using ultrasonic examination techniques to confirm the acceptability of equipment installed prior to the date the procedures were revised.

Q.27 Please describe the items of non-compliance found in NRC IE Inspection Report 50-454/81-09 and 50-455/81-08.

A.27 Two items of noncompliance were identified relative to inspection of piping system shock arrestors (snubbers) and of design changes for snubber assemblies.

Q.28 How were the first items of non-compliance resolved.

A.28 In the first instance, it was found that one of the types of inspections required for installation of snubbers was not performed. In general, the piping contractor's requirements included five (5) different types of inspections for installation of piping systems. The type 2 inspection, which includes a verification of the building attachment location, was not performed. The concern expressed by the NRC was not that the installation would be inspected, but that they had not been inspected in a timely manner.

The failure to perform this element of inspection was a result of an interpretation of the procedure by the production supervisor that the inspection would not be performed until after the snubber was installed to the building attachment. The snubber was not yet installed, although the end attachments to the building were. The contractor knew that the inspection was required. Controls were in place prior to identification by NRC to assure the inspection would be performed at a later point in time.

To address this item, appropriate personnel were instructed in this inspection requirement and all previous installations were inspected. A subsequent review by NRC found this item acceptable and was closed by NRC.

Q.29 How was the second item of non-compliance resolved.

A.29 In the second instance, the engineering organization responsible for the design had provided oral design change concurrence. This design change approval should have been by documented approval. Acceptable design control practices dictate that designs and changes thereto shall be approved prior to implementation.

To correct the problem, the engineering organizations and contractors were again instructed that design changes must be approved by engineering prior to implementation and it is their responsibility to assure only approved design changes are used to perform work. Commonwealth Edison Company Quality Assurance has reviewed this item many times since first being identified and have found current practices acceptable.

Q.30 Please describe the item of non-compliance identified in NRC IE Inspection Report 50-454/81-16 and 50-455/81-12 attached hereto as Exhibit 6.

A.30 An item of noncompliance was identified by NRC relative to implementation of revised procedures by Hatfield Electric requiring specific separation criteria for electrical cables. The procedure had been approved by Commonwealth Edison Company for use. The deficiency was that Hatfield did not proceed with the implementation of the procedure because the Project Construction transmittal required the contractor to "revise the procedure to incorporate comments and resubmit" rather than direct the contractor to "revise as noted and resubmit; contractor can proceed based on making revisions as noted". In March 1981, Commonwealth Edison directed the contractor via a letter to stop bundling cables and to unbundle those which were bundled.

Q.31 How was this item of non-compliance resolved.

A.31 A letter was immediately transmitted to the contractor directing implementation of the subject procedure, and the procedure, in turn, was distributed for use. Also, the requirements relative to procedure revisions were clarified with the contractor.

Furthermore, since the contractor was implementing an acceptable revision of the procedure, the quality of the work was not affected as a result of the oversight.

Q.32 Please describe the item of non-compliance identified in NRC IE Inspection Report 50-454/82-02 attached hereto as Exhibit 7.

A.32 An item of noncompliance was found relative to care and preservation of safety related equipment.

During the inspection, the inspector identified instances of conditions potentially damaging to safety related equipment.

Q.33 Had there been other items of non-compliance which were similar.

A.33 Yes, the original violation reported in Inspection Report 454/81-12 and 455/81-10 was concerned with instrument racks being inappropriately used for storage. In response to this violation, all contractors were warned of this care and preservation concern. The instrument installation contractor also began a periodic surveillance program to prevent recurrence of the utilization of instrument racks for storage.

Q.34 How was this item of non-compliance resolved.

A.34 The corrective action for the most recently identified noncompliance was much broader than that action taken previously. Where previously the safety related instrument racks were addressed, we have now included all contractors and equipment. In addition, a large scale surveillance program has been initiated by Commonwealth Edison. The Operating Department has divided the plant into housekeeping areas and assigned management individuals specific areas of responsibility. Inspection reports are required to be submitted to a Housekeeping Subcommittee for evaluation and resolution. All contractors employees have been instructed in the importance of equipment care and preservation.

In addition, signs have been posted throughout the building which summarize required action for equipment protection as a further reminder to all personnel working in the plant.

Q.35 Please describe the items of non-compliance identified in NRC IE Inspection Report 50-454/81-11 attached hereto as Exhibit 8.

A.35 Two items of noncompliance were identified relative to changes made to the controlled manuals, calibration of instruments and adherence to test procedures.

Q.36 Please describe the resolution of the first item of non-compliance.

A.36 The first item resulted from an oversight during proof reading a change to the Byron Start-up Manual used for the pre-operational testing program. One paragraph which should have been deleted was, in fact, not. Consequently, as the manual read, criteria written for making major test procedure changes was the same as that used for making minor test procedure changes. The paragraph was subsequently deleted to correspond with the original intent of the change. Also, the Start-up Coordinator now ensures that revisions are reviewed after typing and prior to distribution. As an added assurance, the Commonwealth Edison Quality Assurance group also reviews each revision to verify that changes were made correctly.

Q.37 Please describe the resolution of the second item of non-compliance.

A.37 The second item concerned establishment of calibration intervals for instruments, verification that test pressures are maintained during hydrostatic testing and verification of current calibration status of piping systems.

The inspector noted four instruments for which it appeared that no calibration frequency were specified, which would be a violation of the test procedure. Upon further review, it was found that three of the four instruments reviewed by NRC were not required to be calibrated. The fourth instrument was not calibrated. However, an Instrument Discrepancy Report for this instrument had been generated prior to the time frame of the NRC inspection. Therefore, a tracking mechanism was in place to correct the problem. In order to prevent recurrence, test engineers were instructed to ensure all required instruments are calibrated and all instruments not necessary for the test are so identified to avoid any confusion.

It was also identified by NRC that a piping system was apparently overpressurized during a test. A revised test range received from the architect-engineer was attached to the test procedure but the test procedure itself had not yet been updated utilizing the revised test range. As a result no

overpressurization occurred. In order to prevent recurrence, test engineers who are authorized to modify test procedures were instructed to ensure that proper steps are taken when making such changes.

In another case, a voltmeter in use was found to not have a calibration interval specified. To correct the deficiency the voltmeter was recalibrated and found to be in tolerance over the range used during the pre-operational test. Therefore no retesting for the particular test was required. In addition, the Instrument Maintenance Department now has a procedure to define and require establishment of instrument calibration intervals. The intervals will be established at the time of the first calibration of the instrument. The above action, plus required verification of calibration. At the time of a test by the responsible test engineers, will preclude further problems. Calibration intervals were established for all instruments whether they have been involved in a test or not.

Q.38 Describe the circumstance under which the letter from Norelius of the NRC to C. Reed of CECO. dated 4-23-81 attached hereto as Exhibit 9 was issued.

A.38 The above referenced letter dealt with weld size and quality for electrical cable pan stiffener plates supplied by Systems Control Corporation.

Initially, Commonwealth Edison Company discovered and documented, via a nonconformance report, that welds on cable pan stiffeners did not conform to the purchase documents. As a result, an evaluation was made of length and spacing of the subject welds. The results of a sampling inspection and engineering evaluation indicated they would meet design requirement. The NRC inspector during a December, 1980 inspection determined that resolution was not timely and, in addition, hold tags were not applied. Hold tags were subsequently attached to identify the nonconforming conditions. On February 3, 1981, the nonconformance was closed based on the engineering evaluation. Commonwealth Edison subsequently on February 26, 1981 notified NRC of the completion of corrective action. The subject NRC letter, dated 4-23-81 was transmitted to CECO by NRC with questions directed at our evaluation. The concern was one of weld quality, not weld length and spacing. In our response to NRC, Commonwealth Edison committed to a field inspection for weld quality. The same pan pieces were inspected for weld quality. It also addressed the basis for an inspection sampling plan as well as the use of such a sampling plan. The acceptance criteria used was based on a worst case seismic analysis in the most critical location of the safety related structure. A clarification of acceptance and quality criteria as outlined in the FSAR was also explained relative to

inspection requirements for cable trays. The item has been complete and is waiting closure by NRC.

Q.39 What were the results of the inspection program for welds on cable pan stiffeners.

A.39 The results of the inspection program indicated that 100% of the stiffeners surveyed have weld in excess of the minimum required by design. Based on the sampling plan used, these results yield a 98.7% reliability at a 95% confidence level that all welds for cable pan stiffeners in the plant are acceptable.

MAS:jc:0232M



STANISH: EXHIBIT 1
UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

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JUN 24 1982

Docket No. 50-454
Docket No. 50-455

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the special safety inspection conducted by Mr. D. H. Danielson and other staff members of this office on March 29-31, April 1-2, 5-9, 12-14, and May 11, 1982, of activities at Byron Station, Units 1 & 2, authorized by NRC Construction Permits No. CPPR-130 and No. CPPR-131. This also refers to the discussion of our findings with Mr. W. Stiede and others of your staff during a meeting in our offices on May 7, 1982.

The purpose of this special team inspection was to assess the adequacy of certain aspects of the quality assurance/construction activities at the Byron Station. The scope of this assessment included audits of quality assurance program interfaces and overview, corrective action systems, design change control, material traceability of installed structures and components, electrical cable installation, inprocess inspections, and effectiveness of quality control inspectors. Within these areas the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel. In general, within the areas inspected, the quality assurance program for the Byron Station appeared good. However, examples of program implementation deficiencies were identified which require corrective action on your part. Please note that we expect Commonwealth Edison Company to review programs for its other facilities under construction to assure that similar problems do not exist at these facilities.

The activities that appeared to be in noncompliance with NRC requirements are specified in the enclosed Appendix. A written response is required.

In responding to noncompliance Item #2, please describe the action taken or planned to assure that: (1) other quality control inspectors are properly

JUN 24 1982

trained and certified, (2) quality control inspectors working for contractors that have completed safety-related work and no longer have personnel on site were properly trained and qualified to perform the inspection functions assigned, and (3) inspections performed by quality control inspectors that were improperly trained and qualified were valid.

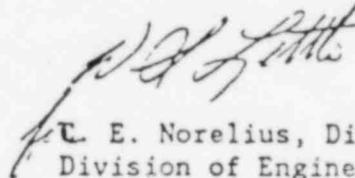
We are also concerned about your past performance concerning the staffing of the Byron QA Superintendent position and the on-the-job training of your Byron Site Quality Assurance personnel as discussed in the details of this report. Please provide us with a response explaining what action you will be taking to assure that your Quality Assurance Organization is staffed and trained to a level that will ensure effective oversight of quality activities.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractors) believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within ten (10) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. If your receipt of this letter has been delayed such that less than seven (7) days are available for your review, please notify this office promptly so that a new due date may be established. Consistent with Section 2.790(b)(1), any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which are the bases for the claim that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

JUN 24 1982

We will gladly discuss any questions you have concerning this inspection.

Sincerely,



E. Norelius, Director
Division of Engineering
and Technical Programs

Enclosures:

1. Appendix, Notice
of Violation
2. Inspection Report
No. 50-454/82-05 and
No. 50-455/82-04

cc w/encls:

Louis O. DelGeorge, Director
of Nuclear Licensing
V. I. Schlosser, Project Manager
Gunner Sorensen, Site Project
Superintendent
R. E. Querio, Station
Superintendent
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII Byron
Resident Inspector, RIII
Braidwood
Karen Borgstadt, Office of
Assistant Attorney General
Myron M. Cherry

Appendix

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454
Docket No. 50-455

As a result of the inspection conducted on March 29-31, April 1-2, 5-9, 12-14, and May 11, 1982, and in accordance with the NRC Enforcement Policy, 47 FR 9987 (March 9, 1982), the following violations were identified:

1. 10 CFR 50, Appendix B, Criterion I, states in part, "The authority and duties of persons and organizations performing activities affecting the safety-related functions of structures, systems, and components shall be clearly established and delineated in writing" and "Such persons and organizations performing quality assurance functions shall report to a management level such that this required authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations, are provided."

The Licensee's Topical Report, CE-1-A, Revision 20, Section 1.A states "Edison has prime responsibility for controlling the quality of on-site work by field contractors,"... "The Commonwealth Edison Company Quality Assurance Program for Nuclear Generating Stations covers the organization arrangement whereby the Quality Assurance Department is a separate and independent organization."

Contrary to the above:

- a. On March 30, 1982, it was identified that the Quality Assurance Manager for Hatfield Electric Company, as shown in the Quality Assurance Manual, reports to the Vice-President, who is located on site and has direct responsibility for cost and schedule. 14
- b. On April 2, 1982, it was identified that the Quality Assurance Manager for Powers-Azco-Pope, as shown in the Quality Assurance Manual, reports to the Project Manager, who has direct responsibility for cost and schedule. 11
- c. On April 8, 1982, it was identified that the Project Construction Department of the licensee is part of the approval chain regarding the hiring and promoting of contractor's quality assurance personnel. 70
- d. On March 30, 1982, it was identified that the Hatfield Electric Company has been operating with a Quality Assurance Organization other than that described in their Quality Assurance Manual. 11

- e. On April 4, 1982, it was identified that Johnson Controls, Inc. has been operating with a Quality Assurance Organization other than that described in their Quality Assurance Manual.

22

This is a Severity Level IV violation (Supplement II).

2. 10 CFR 50, Appendix B, Criterion II - Quality Assurance Program states in part, "The program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained."

Commonwealth Edison Company (CECo) letter, L. O. DelGeorge to D. G. Eisenhut, U.S. NRC, Director, Division of Licensing, dated August 17, 1981, affirmed CECo commitment to Regulatory Guide 1.58, ANSI N45.2.6-1978 as required by Generic Letter 81-01.

ANSI N45.2.6-1978 - Paragraph 1.1 states in part, "This Standard delineates the requirements for the qualification of personnel who perform inspection, examination and testing to verify conformance to specified requirements of nuclear power plant items (structures, systems and components of nuclear power plants) where satisfactory performance is required to prevent postulated accidents which could cause undue risk to the health and safety of the public, or to mitigate the consequences of such accidents if they were to occur."

ANSI N45.2.6-1978 - Paragraph 1.2 states in part, "The requirements of this Standard apply to personnel who perform inspections, examinations, and tests during fabrication prior to and during receipt of items at the construction site, during construction, during peroperational and startup test...." The requirements apply to personnel of the owners..., plant designers and plant constructors...."

ANSI N45.2.6-1978 - Paragraph 2.2 states, "The capabilities of a candidate for certification shall be initially determined by a suitable evaluation of the candidate's education, experience, training, test results, or capability demonstration."

ANSI N45.2.6-1978 - Section 3.1 states, "The requirements contained within this section define the minimum capabilities that qualify personnel to perform inspections, examinations, and tests which are within the scope of this standard."

ANSI N45.2.6-1978 - Sections 3.2, 3.3, and 3.4 specify the personnel capabilities of Level I, II, and III inspectors respectively. Sections 3.5, 3.5.1, 3.5.2, 3.5.3 provide education and experience recommendations for Level I, II, and III inspectors.

ANSI N45.2.6-1978 - Section 4 states in part, "Personnel who are assigned the responsibility and authority to perform functions covered by this Standard shall have, as a minimum, the level of capability shown in Table 1...."

Contrary to the above, certain contractor QA/QC supervisors and inspectors were not adequately qualified and/or trained to perform safety-related inspection functions. Examples of apparent noncompliance are identified in paragraph h.(2) of the attached report. 67

This is a Severity Level IV violation (Supplement II).

3. 10 CFR 50, Appendix B, Criterion V states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances ..."

The licensee's Topical Report, CE-1-A, Revision 20, Section 5 states, "The quality assurance actions carried out for design, construction, testing, and operation activities will be described in documented instructions, procedures, drawings, specifications, or checklists." "Activities affecting quality are required by the Edison quality program to be prescribed by documented instructions, procedures or drawings."

Contrary to the above; the following activities were not controlled by procedures or instructions:

- a. On March 30, 1982, it was identified that Hatfield Electric Company was utilizing a Discrepancy Report System, which was not referenced or controlled by a procedure, to track and correct discrepancies and nonconforming conditions discovered during inspections of safety-related equipment. 76
- b. On April 2, 1982, it was identified that Powers-Azco-Pope was utilizing a Fabrication Installation Surveillance System, which was not controlled by a procedure, to track and correct discrepancies and nonconforming conditions discovered during inspections of safety-related equipment. 20

- c. On April 9, 1982, it was identified that Hatfield Electric Company procedures did not contain an electrical cable rework procedure nor the requirements to calculate electrical cable sidewall pressures prior to pulling cable. 59
- d. On April 7, 1982, it was identified that the Hatfield Electric Company's NCR form contained a section titled "Action to Prevent Recurrence" but there was no direction in the body of Procedure Number 6 for actions to be taken to satisfy this requirement nor does the procedure assign responsibility for this section of the NCR. 40

This is a Severity Level IV violation (Supplement II).

4. 10 CFR 50, Appendix B, Criterion XV, states in part, "Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation."

The licensee's Topical Report, CE-1-A, Revision 20, dated February 17, 1982, Section 15, states in part, "Items involving construction, maintenance, and modifications which are found nonconforming...will be controlled to prevent their inadvertent use or installation."

Contrary to the above:

- a. On March 31, 1982, it was identified that three (3) CECO nonconformance reports (F-634, F-645, and F-682) had been voided rather than closed, with reference to corrective action taken to resolve the nonconformance. By voiding the subject NCRs, the tracking system to verify that the approved disposition has been completed and corrective action to prevent recurrence is negated. Also, the voided NCRs are removed from the trend analysis system. 35
- b. On April 7, 1982, it was identified that three (3) nonconformance reports (98, 99, and 100) had been voided by the Hatfield Electric Company rather than closed, with reference to corrective action taken to resolve the nonconformance. The subject NCRs were voided because an FCR was or would be issued to accept the items as installed. At the time the NCRs were voided, there was no assurance that all the FCRs would be approved. By voiding the NCRs, the tracking system to verify that the proposed disposition was accepted, was negated and the NCRs were removed from the trend analysis system. 42

- c. On April 7, 1982, it was identified that the Hatfield Electric Company had improperly closed NCR 168, in that after CECo engineering dispositioned the subject NCR to replace the item, the Hatfield Electric Company closed the NCR without accomplishing the approved disposition. At the present time, there is a nonconforming cable installed, and the tracking system to replace the cable, has been negated. 42

This is a Severity Level IV violation (Supplement II).

5. 10 CFR 50, Appendix B, Criterion V states, "Activities affecting quality shall be prescribed...and shall be accomplished in accordance with these instructions, procedures or drawings."

The licensee's Topical Report, CE-1-A, Revision 20, Section 2.2 commits to comply with the Regulatory Position of Regulatory Guide 1.38, Revision 2, which endorses ANSI N45.2.2-1972. Also Section 5 states, "The quality assurance actions carried out for design, construction, testing, and operation activities will be described in documented instructions, procedures, drawings, specifications, or checklists."... "Activities affecting quality are required by the Edison quality program to be prescribed by documented instructions, procedures or drawings."

Contrary to the above; the following activities were not accomplished according to procedures or instructions:

- a. On April 2, 1982, it was identified that Powers-Azco-Pope was storing rejected material among accepted material in Warehouse No. 4. This is contrary to their Procedure No. FP-3. 30
- b. On April 2, 1982, it was identified that Powers-Azco-Pope had not tagged a defective torque wrench with a Reject Tag. This is contrary to their Procedure No. FP-11. 78
- c. On March 30, 1982, it was identified that Hatfield Electric Company did not tag torque wrenches which were past their calibration due date. This is contrary to their Procedure No. 24. 78
- d. On April 5, 1982, of 13 reports reviewed it was identified that 12 nonconformance reports prepared by Powers-Azco-Pope did not address corrective action to prevent recurrence. This is contrary to their Quality Assurance Manual, Section B-8, paragraph B-8.8.2. 79
- e. On April 7, 1982, it was identified that the conditions maintained by the licensee in Warehouse No. 1 and No. 5 were contrary to CECo Quality Procedure 13-1 and to the requirements of ANSI N45.2.2-1972. 79

This is a Severity Level V violation (Supplement II).

6. 10 CFR 50, Appendix B, Criterion VI, states, "Measures shall be established to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality."

The licensee's Topical Report, CE-1-A, Revision 20, Section 6 states, "A document control system will be used to assure that documents such as specifications, procedures, and drawings are reviewed for adequacy and approved for release by authorized personnel."... "Each receiving office or area shall have a controlled method for checking receipt of new or revised documents and assuring that the latest revised document is in use."

Contrary to the above:

- a. On April 4, 1982, of 12 drawings reviewed it was identified that one drawing located in the Johnson Controls Incorporated on-site office drawing file was not of the proper revision. 25
- b. On April 7, 1982, of 10 drawings reviewed it was identified that two drawings located in the Hunter Corporation document station 1-H were not of the proper revision. 27

This is a Severity Level V violation (Supplement II).

7. 10 CFR 50, Appendix B, Criterion IX, states in part, "Measures shall be established to assure that special processes, including welding..., are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes,...."

The licensee's Topical Report, CE-1-A, Revision 20, dated February 17, 1982, page 9-1, Revision 15, dated January 2, 1981, Section 9, "Control of Special Processes," third paragraph, states in part, that, "Process control procedures will be used as required by specifications, codes or standards, as applicable...."

The ASME B&PV Code Section III, 1974 Edition, Summer 1974 Addenda, Article NA-4000, Subarticle NA-4411, states in part, that "The program shall include measures to control the issuance and disposition of documents, such as..., instructions, procedures,...., including changes thereto, which prescribe the activities affecting quality. These measures shall assure that documents including changes..., and distributed to and used at the location where the prescribed activity is performed."

Contrary to the above, on April 13, 1982, it was identified that welding was not being accomplished in accordance with applicable codes, in that, controlled welding procedure specifications with the associated welding parameter sheets were not located at the prescribed activity (welding) in 3 out of 4 locations checked. 64

This is a Severity Level V violation (Supplement II).

8. 10 CFR 50, Appendix B, Criterion XVII states, "Sufficient records shall be maintained to furnish evidence of activities affecting quality. Consistent with applicable regulatory requirements, the applicant shall establish requirements concerning record retention, such as duration, location, and assigned responsibility."

The licensee's Topical Report, CE-1-A, Revision 20, Section 2.2, commits to the Regulatory Position of Regulatory Guide 1.88, Revision 2, which endorses ANSI N45.2.9-1974.

Contrary to the above, on April 7, 1982, it was identified that Midway Industrial Contractors did not provide the security standards established by ANSI N45.2.9-1974, to preclude the entry of unauthorized personnel into the storage area and to guard against larceny and vandalism. 23

This is a Severity Level V violation (Supplement II).

9. 10 CFR 50, Appendix B, Criterion XVIII states, "A comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program."

The licensee's Topical Report CE-1-A, Revision 20, Section 2.2 commits to comply with the Regulatory Position of Regulatory Guide 1.144, Revision 1, which endorses ANSI N45.1.12-1977.

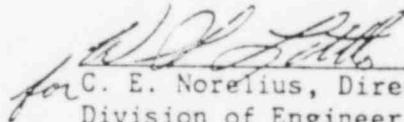
Contrary to the above, on March 29, 1982, it was identified that the audit reports of Commonwealth Edison Company, Powers-Azco-Pope, Pittsburgh Testing Laboratory, Johnson Controls, Incorporated, Hunter Corporation, and Hatfield Electric Company failed to include the criteria, established in ANSI N45.2.12-1977, regarding persons contacted in the audit and a summary of audit results including an evaluation statement regarding the effectiveness of the quality assurance program elements which were audited. 77

This is a Severity Level V violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

Date

June 24, 1982

for 
C. E. Norelius, Director
Division of Engineering and
Technical Programs



UNITED STATES MAY 28 1982
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

~~LET~~
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MAY 26 1982

Docket No. 50-454

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the routine safety inspection conducted by Mr. M. A. Ring of this office on May 3-6, 1982, of activities at Byron Nuclear Power Station, Unit 1, authorized by NRC Construction Permit No. CPPR-130 and to the discussion of our findings with Mr. R. Querio and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

No items of noncompliance with NRC requirements were identified during the course of this inspection.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractors) believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within ten (10) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. If your receipt of this letter has been delayed such that less than seven (7) days are available for your review, please notify this office promptly so that a new due date may be established. Consistent with Section 2.790(b)(1), any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which are the bases for the claim that the information should be withheld from public disclosure. This

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 50-454/82-06(DETP)

Docket No. 50-454

License No. CPPR-130

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

Facility Name: Byron Station, Unit 1

Inspection At: Byron Site, Byron, IL

Inspection Conducted: May 3-6, 1982

Inspector: M. A. Ring

Approved By: I. N. Jackiw, Chief
Test Program Section

5/20/82

5/20/82

Inspection Summary

Inspection on May 3-6, 1982 (Report No. 50-454/82-06(DETP))

Areas Inspected: Routine unannounced inspection to review preoperational test procedures, witness the performance of preoperational testing, review the evaluation of preoperational test results, and review previous open items. The inspection involved 30 inspector-hours onsite by one NRC inspector including 0 inspector-hours onsite during off-shifts.

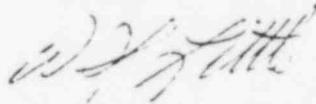
Results: No items of noncompliance were identified.

MAY 26 1982

section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter and the enclosed inspection report will be placed in the Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,



W. S. Little, Chief
Engineering Inspection Branch

Enclosure: Inspection Report
No. 50-454/82-06(DETP)

cc w/encl:

Louis O. DelGeorge, Director
of Nuclear Licensing
V. I. Schlosser, Project Manager
Gunner Sorensen, Site Project
Superintendent
R. E. Querio, Station
Superintendent
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII Byron
Resident Inspector, RIII
Braidwood
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry

DETAILS

1. Persons Contacted

- *R. Querio, Station Superintendent
- *C. Tomashek, Startup Group
- *D. St. Clair, Technical Staff Supervisor
- *R. Ward, Assistant Superintendent, Administration and Support
- *R. Pleniewicz, Assistant Superintendent, Operations
- *A. Chomacke, Assistant Tech Staff Supervisor
- *R. Westberg, QA Engineer, Operations
- *R. Schwartz, QA Engineer, Construction

*Denotes those attending the exit interview.

Additional station technical and administrative personnel were contacted by the inspector during the course of the inspection.

2. Licensee Action on Previous Inspection Findings

- a. (Open) Open item (454/82-02-01): This item involves providing acceptance values and tolerance ranges for data such as alarms and trip points being checked by a test (other than those values addressed as acceptance criteria in the FSAR). The inspector reviewed a Tech Staff Supervisor memo describing the licensee's method of providing these values. The item remains open pending review of the implementation of this method.

3. Preoperational Test Results Evaluation

The inspector reviewed the results of Preoperational Test 2.73.11 Safety Injection Accumulator System to verify the following attributes:

- a. All test changes approved in accordance with administrative procedures, annotated in the procedures, and completed without changing the basic objectives of the test.
- b. Deficiencies resolved, resolution accepted by appropriate management, retest requirements completed.
- c. Engineering evaluation of results, agreement that testing demonstrated the system met design requirements, comparison with established acceptance criteria.
- d. Data sheets completed, data within acceptance tolerances, deficiencies identified, test steps properly initialed and dated.
- e. Quality assurance audit performed.

f. Results approved in accordance with administrative procedures.

The inspector reviewed the test following completion of the Test Review Board review, but prior to Project Engineering review, consequently, attribute c. above concerning Engineering evaluation is not complete and will be treated as an open item (454/82-06-01) pending completion of Engineering evaluation and subsequent inspector review. The inspector noted that the test procedure did not clearly show how the calculations of L/D in the procedure demonstrated the objective stated in Table 14.2.31 of the FSAR that "flow rate is as expected" or the acceptance criteria of Table 14.2.31 that "blowdown response is conservative with respect to the value used in the safety analysis." The licensee replied that the correlation between calculation results and FSAR criteria would be provided by the Project Engineering Department. This is an open item (454/82-06-02) pending Engineering evaluation and subsequent review by the inspector. This test also was approved by the Test Review Board prior to issuance of the Technical Staff Supervisor memo referenced in Paragraph 1 of this report and dealing with acceptance values and tolerance ranges for data other than those addressed as acceptance criteria in the FSAR. Consequently, the Safety Injection Accumulators did not have tolerance ranges specified for this "secondary" class of acceptance criteria. The licensee intends to reassess the procedure with respect to the "secondary" class of acceptance criteria and this is an open item (454/82-06-03) pending inspector review.

The inspector noted that Section 10.0 of this test provides for verification of operating procedures, however, most of the operating procedures were not available at the time of test performance and consequently not verified. The inspector questioned the licensee's method of ensuring that those operating procedures which require verification during the test program will receive verification and that those operating procedures not available at time of test procedure performance will be examined for possible verification by later test procedures. This is an open item (454/82-06-04) pending additional inspector review.

At the time of performance of 2.73.11, the licensee's Turnover/Testing Deficiency documentation form did not contain provisions for retest determination and signoff. Subsequently, the Startup Manual and the Turnover/Testing Deficiency form have been updated to require retest evaluation and to provide a retest signature. The evaluation of deficiencies associated with tests completed prior to the revision to the Startup Manual and the Turnover/Testing Deficiency form is considered an unresolved item (454/82-06-05) pending inspector review to ensure adequate retest.

No items of noncompliance were identified.

4. Preoperational Test Procedure Review

The inspector reviewed test Procedure 2.18.10 Chemical and Volume Control - VCT and Charging Pumps against the FSAR, SER and Regulatory Guide 1.68. The inspector made several comments against the procedure

which the licensee agreed to review for incorporation. This is an open item (454/82-06-06) pending further discussion with the licensee.

No items of noncompliance were identified.

5. Preoperational Test Witnessing and Related Items

During the course of witnessing portions of the Diesel Generator Pre operational Test 2.22.10, the inspector noted and followed up on the following related items.

- a. The control room meter monitoring Diesel Generator output in kilowatts appeared to be inadequately sized since the meter was a 0-6000 kw full range meter while the Diesel Generator had a 6050 kw two hour load rating. The inspector's review found the inadequately sized meter to be documented in the licensee's deficiency system.
- b. The inspector reviewed certificate of conformance records to determine that adequate documentary evidence was available at the site to show conformance to procurement requirements for diesel generator type qualification testing as described in IEEE-387.
- c. The 1A Diesel Generator suffered a "crankcase explosion" in March of 1982. The inspector attempted to review the circumstances surrounding the event and the assessment of reportability with respect to 10 CFR 50.55(e). The licensee stated that Project Engineering had made the evaluation and that specifics of the assessment were not available at the site. This is an open item (454/82-06-07) pending review of the evaluation with Project Engineering.

6. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, Items of Noncompliance, or Deviations. An unresolved item disclosed during the inspection is discussed in Paragraph 3.

7. Exit Interview

The inspector met with licensee representatives denoted in Paragraph 1 at the conclusion of the inspection on May 6, 1982. The inspector summarized the scope of the inspection and the findings. The licensee acknowledged the statements made by the inspector with respect to the open items and the unresolved item.



STANISH: EXHIBIT 3
UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

AUG 07 1981

Docket No. 50-454
Docket No. 50-455

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the routine safety inspection conducted by Messrs. R. N. Gardner, R. S. Love, R. B. Landsman and J. F. Norton of this office on July 7-10, 1981, of activities at Byron Station, Unit 1 and 2, authorized by NRC Construction Permit No. CPPR-130 and No. CPPR-131 and to the discussion of our findings with Mr. G. Sorensen and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as specified in enclosed Appendix A. A written response, submitted under oath or affirmation, is required.

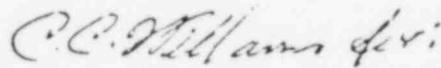
In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room. If the enclosures contain any information that you or your contractors believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within seven (7) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. Section 2.790(b)(1) requires that any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought

AUG 9 7 1981

to be withheld, and which contains a full statement of the reasons on the basis which it is claimed that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,



C. E. Norelius, Director
Division of Engineering and
Technical Inspection

Enclosures:

1. Appendix A, Notice
of Violation
2. IE Inspection Report
No. 50-454/81-08 and
No. 50-455/81-07

cc w/encls:

Louis O. DelGeorge
Director of Nuclear
Licensing
Gunner Sorensen, Site
Project Superintendent
V. I. Schlosser,
Project Manager
R. E. Querio, Station
Superintendent
DMB/Document Control Desk (RIDS)
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry

Appendix A

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454

Docket No. 50-455

As a result of the inspection conducted on July 7-10, 1981, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violation was identified:

10 CFR 50, Appendix B, Criterion XII, states, "Measures shall be established to assure that . . . instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits."

Commonwealth Edison Company Topical Report CE-1-A, Revision 15, Section 12, states, in part, "Measuring and test equipment which is used . . . to perform the pre-operational testing . . . will be periodically calibrated or adjusted to assure that accuracy is maintained within necessary limits . . ."

Contrary to the above, on July 9, 1981, the inspectors identified that the approved calibration data, dated May 15, 1980, for the voltmeter (located on battery charged 1DC03E) which was used in obtaining data during pre-operational test No. 2.21.10 was out of tolerance at one of the six recorded data points. Furthermore, there was no calibration period specified for the subject meter.

The licensee's efforts to reverify the subject voltmeters calibration on July 10, 1981, identified that the meter is now out of tolerance at several data points.

This is a Severity Level VI violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation. Consideration may be given to extending your response for good cause shown.

Dated

8/7/81

Cordell C. Williams for:
C. E. Norelius, Director
Division of Engineering and
Technical Inspection



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

EXHIBIT 4
STANISH

JAN 26 1981

Docket No. 50-454
Docket No. 50-455

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the routine safety inspection conducted by Mr. C. E. Jones of this office on December 9-12, 1980, of activities at Byron Nuclear Generating Station, Units 1 and 2, authorized by NRC Construction Permits No. CCPR-130 and No. CPPR-131 and to the discussion of our findings with Mr. G. Sorensen at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

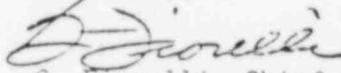
During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as described in the enclosed Appendix A, and a written response is required.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room, except as follows. If the enclosures contain information that you or your contractors believe to be proprietary, you must apply in writing to this office, within twenty-five days of the date of this letter, to withhold such information from public disclosure. The application must include a full statement of the reasons for which the information is considered proprietary, and should be prepared so that proprietary information identified in the application is contained in an enclosure to the application.

JAN 26 1981

We will gladly discuss any questions you have concerning this inspection.

Sincerely,



G. Fiorelli, Chief
Reactor Construction and
Engineering Support Branch

Enclosures:

1. Appendix A, Notice
of Violation
2. IE Inspection Reports
No. 50-454/80-24
and No. 50-455/80-22

cc w/encls:

J. S. Abel, Director
of Nuclear Licensing
Gunner Sorensen, Site
Project Superintendent
V. I. Schlosser,
Project Manager
R. E. Querio, Station
Superintendent
Central Files
Reproduction Unit NRC 20b
PDR
Local PDR
NSIC
TIC
Dean Hansell, Office of
Assistant Attorney General
Myron M. Cherry

Appendix A

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454

Docket No. 50-455

As a result of the inspections conducted on June 17-19, July 28-29, and December 9-12, 1980, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violation was identified:

10 CFR 50, Appendix B, Criterion II states in part, "Activities affecting quality shall be accomplished under suitably controlled conditions. Controlled conditions include the use of . . . ; and assurance that all pre-requisites for the given activity have been satisfied."

Commonwealth Edison Company Topical Report CE-1-A, "Quality Assurance Program for Nuclear Generating Stations," Revision 9, dated July 16, 1979, states in Paragraph 1.A that "Commonwealth Edison Company is ultimately responsible for the assurance of quality in all phases of the design, procurement, construction, modification, testing and operation of the Station . . . Edison has prime responsibility for controlling the quality of on-site work by field contractors."

Contrary to the above, a number of the anchor bolts for the Unit 2 Essential Service Water (ESW) pump and diesel engine foundation anchor plates were observed to have sharp radius bends which were improperly made to correct gross misalignment with holes in the pump-diesel mounting plates. The Unit 1 pump and diesel had been set previously. Additional investigation indicated the Unit 1 equipment had been mounted and the base grouted covering similarly bent anchor bolts.

This is a Severity Level IV violation (Supplement II.D.1).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within twenty-five days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation.

1/22/81
Dated

G. Fiorelli
G. Fiorelli, Chief
Reactor Construction and
Engineering Support Branch



STANISH: EXHIBIT 5
 UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION III
 799 ROOSEVELT ROAD
 GLEN ELLYN, ILLINOIS 60137

Bill George
TAT

AUG 26 1981

AUG 24 1981

454/81-09
 455/81-08

Docket No. 50-454
 Docket No. 50-455

Commonwealth Edison Company
 ATTN: Mr. Cordell Reed
 Vice President
 Post Office Box 767
 Chicago, IL 60690

Yin
Keating
Johnson

July 29-31

Gentlemen:

This refers to the routine safety inspection conducted by Messrs. I. T. Yin and D. E. Keating of this office and Mr. C. E. Johnson of IE:Region IV on July 29-31, 1981, of activities at Byron Station, Units 1 and 2, authorized by NRC Construction Permits No. CPPR-130 and No. CPPR-131 and to the discussion of our findings with Mr. V. I. Schlosser and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as specified in enclosed Appendix A. A written response, submitted under oath or affirmation, is required.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room. If the enclosures contain any information that you or your contractors believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within seven (7) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. Section 2.790(b)(1) requires that any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which are the bases for the claim that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible

AUG 24 1981

into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Inspection

Enclosures:

1. Appendix A, Notice of Violation
2. IE Inspection Reports
No. 50-454/81-09 and
No. 50-455/81-08

cc w/encls:

Louis O. DelGeorge
Director of Nuclear
Licensing
Gunner Sorensen, Site
Project Superintendent
V. I. Schlosser,
Project Manager
R. E. Querio, Station
Superintendent
DMB/Document Control Desk (KIDS)
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry

Appendix A

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454

Docket No. 50-455

As a result of the inspection conducted on July 29-31, 1981, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violations were identified. The violations apply to Unit 1 only.

1. 10 CFR 50, Appendix B, Criterion V, states, in part, that "Activities affecting quality shall be prescribed in documented instructions, procedures, or drawings . . . and shall be accomplished in accordance with these instructions, procedures, or drawings."

Commonwealth Edison Company Topical Report CE-1-A, "Quality Assurance Program for Nuclear Generating Stations", Revision 9, dated July 16, 1979, states in Section 5 that "The quality assurance actions carried out for design, construction, testing, and operation activities will be described in documented instructions, procedures, drawings, specifications, or checklists. These documents will assist personnel in assuring that important activities have been performed. These documents will also reference applicable acceptance criteria which must be satisfied to assure that the quality related activity has been properly carried out."

ASF
Contrary to the above, the snubber structural attachment assemblies erected within the Unit 1 Containment were not inspected and accepted by the Quality Control staff as required by the established site work procedures.

This is a Severity Level V violation (Supplement II).

2. 10 CFR 50, Appendix B, Criterion III, states in part, "The design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews . . . Design control measures shall be applied to items such as . . . stress . . . Design changes, including field changes, shall be subjected to design control measures commensurate with those applied to the original design . . ."

Commonwealth Edison Company Topical Report CE-1-A, "Quality Assurance Program for Nuclear Generating Stations", Revision 9, dated July 16, 1979, states in Section 3 that "The fundamental vehicle for design control involves multi-level review and/or evaluation of design documents by individuals or groups other than the original designer or designer's immediate supervisor whose authority and responsibility are identified and controlled by written procedures. The design documents include, but are not limited to, system flow diagrams, design and construction specifications, load capacity data sheets, design reports, equipment specifications, process drawings."

RJF
Contrary to the above, three instances were observed where design changes for snubber assembly installation did not receive design review and approval measures commensurate with the original design calculations. Furthermore, the modifications were completed prior to issuance of a Field Change Request.

This is a Severity Level V violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation. Consideration may be given to extending your response time for good cause shown.

AUG 24 1984

Dated _____

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Inspection



STANISH
EXHIBIT 6

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

OCT 27 REC'D

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OCT 23 1981 Rec'd 11 30-81

Docket No. 50-454
Docket No. 50-455

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the routine safety inspection conducted by Mr. R. S. Love of this office on September 22-25, 1981, of activities at Bvron Generating Station, Units 1 and 2, authorized by NRC Construction Permits No. CPPR-130 and No. CPPR-131 and to the discussion of our findings with Mr. R. Tuetken, Assistant Project Superintendent at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as specified in enclosed Appendix A. A written response, submitted under oath or affirmation, is required.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room. If the enclosures contain any information that you or your contractors believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within seven (7) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. Section 2.790(b)(1) requires that any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which are the bases for the claim that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The

OCT 23 1981

information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Inspection

Enclosures:

1. Appendix A, Notice
of Violation
2. IE Inspection Reports
No. 50-454/81-16 and
No. 50-455/81-12

cc w/encls:

Louis O. DelGeorge
Director of Nuclear
Licensing
Gunner Sorensen, Site
Project Superintendent
V. I. Schlosser,
Project Manager
R. E. Querio, Station
Superintendent
DML/Document Control Desk (RIDS)
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry

Appendix A

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454

Docket No. 50-455

As a result of the inspection conducted on September 22-25, 1981, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violation was identified:

10 CFR 50, Appendix B, Criterion XVI, states in part, "Measures shall be established to assure that conditions adverse to quality...are promptly identified and corrected."

Commonwealth Edison Company Topical Report No. CE 1-A, Revision 9, Section 16, states in part, "A corrective action system will be used to assure that such items...which are adverse to quality and might affect the safe operation of a nuclear generating station are promptly identified and corrected."

Contrary to the above, the licensee had not taken the necessary actions to assure that an identified item of noncompliance, concerning the separation criteria between safety-related and non-safety-related cables, was promptly corrected. This is exemplified by the fact that the appropriate Hatfield procedure addressed in the licensee's correspondence, was not being implemented as of September 24, 1981. The licensee committed to have the procedure implemented by June 1, 1981. (Reference CECO letter dated May 7, 1981, from Cordell Reed to James G. Keppler.)

This is a Severity Level V violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation. Consideration may be given to extending your response time for good cause shown.

OCT 23 1981

Dated _____

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Inspection



STANISH: EXHIBIT 7
UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

MAR 30 1982

Docket No. 50-454(DETP)

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

This refers to the routine safety inspection conducted by Mr. M. A. Ring of this office on January 25, 26, 27, 29 and February 2, 3, 16-19, 1982, of activities at Byron Nuclear Power Station, Unit 1, authorized by NRC Construction Permit No. CPPR-130 and to the discussion of our findings with Mr. R. Querio and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in noncompliance with NRC requirements, as specified in the enclosed Appendix. A written response, submitted under oath or affirmation, is required. With regard to Item 2 of Appendix A, we found that the station's controls for the care and preservation of safety related equipment have not been effective. Further, this item is repetitive, since similar items of noncompliance were identified during previous NRC inspections in 1981 and earlier in 1982. In your response to this item, please indicate why your proposed corrective action is expected to be more successful in preventing future similar violation than the corrective action specified previously.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractors) believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within ten (10) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. If your receipt of this letter has been delayed such that less than seven (7) days are available for your review, please notify this office

MAR 3 1982

promptly so that a new due date may be established. Consistent with Section 2.790(b)(1), any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which are the bases for the claim that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Programs

Enclosures:

1. Appendix, Notice
of Violation
2. Inspection Report
No: 50-454/82-02(DETP)

cc w/encls

Louis O. DelGeorge, Director
of Nuclear Licensing
V. I. Schlosser, Project Manager
Gunner Sorensen, Site Project
Superintendent
R. E. Querio, Station
Superintendent
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
Resident Inspector, RIII
Braidwood
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry

Appendix

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454

As a result of the inspection conducted on January 25-27, 29 and February 2, 3, 16-19, 1982, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violations were identified:

1. 10 CFR 50, Appendix B, Criterion XIV requires that measures be established to indicate by the use of markings such as stamps, tags, labels, routing cards or other suitable means, the status of inspections and tests performed upon the individual items of the nuclear power plant. Measures shall also be established for indicating the operating status of structures, systems and components of the nuclear power plant.

The Byron Station Startup Manual states in Paragraph 4.1 that the System Status Notice is a system of tracking the system status during the completion of construction, flushing and testing, until turnover for normal unit operation. The System Status Notice consists of: . . . the type of marking (or taping) required. In paragraph 4.1.2, Re-entry Control, the Startup Manual states that re-entry control consists of: . . . blue or yellow tape on all system components, except piping, indicating the portion of the system under re-entry control.

Contrary to the above:

- a. Six components (instruments) in the RHR system and one component in the SI system were observed which had not been blue taped to indicate release for preoperational testing as shown on the System Status Notice.
- b. A second system of taping which involved blue tape (and other colors) of almost identical color was identified as being used at the site to aid in establishing separation for safety related

instrumentation. This taping system meant nothing as far as the system status notice was concerned, yet further confused the determination of the status of any particular instrument.

This is a Severity Level V violation (Supplement II).

2. 10 CFR 50, Appendix B, Criterion XIII states, in part, that "Measures shall be established to control the handling, storage, shipping, cleaning and preservation of material and equipment ... to prevent damage or deterioration.

The Commonwealth Edison Company Quality Assurance Program contains, in Quality Requirement QR 2.0 a commitment to the regulatory position of Regulatory Guide 1.38 Revision 2 which endorses the requirements of ANSI N45.2.2-1972. Section 6.5 of ANSI N45.2.2 states, in part, that, "Items released from storage and placed in their final locations within the power plant, shall be ... cared for in accordance with the requirements of Section 6 of this Standard." Section 6 of ANSI N45.2.2 states in part that, "(6.1.1) Levels and methods of storage necessary are defined to minimize the possibility of damage or lowering quality due to corrosion, contamination, deterioration, or physical damage. (6.2.2) Cleanliness and good housekeeping practices shall be enforced at all times in the storage areas. (6.2.4) The use or storage of food, drinks ... in controlled storage areas shall not be permitted. (6.4.2) Items . . . shall have all covers, caps, plugs or other closures intact . . . covers removed for internal access at any time for any reason shall be immediately replaced and resealed after completion of the purpose for removal."

Contrary to the above:

The licensee does not have an adequate program to ensure proper care and preservation of safety related equipment as evidenced by approximately 15 instances of conditions potentially damaging to safety related equipment identified while observing the performance of RHR and DG tests on January 26, February 3 and 18, 1982.

This is a repetitive item of noncompliance in that similar problems were identified in NRC Inspection Report No. 50-454/81-12-01, dated September 2, 1981, and subsequent followup Inspection Reports No. 50-454/81-18 and 50-454/81-14, dated November 17, 1981. Also Inspection Reports No. 50-454/82-03 and 50-455/82-02 indicated that progress in this area was insufficient to close the item.

This is a Severity Level IV violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation. Consideration may be given to extending your response time for good cause shown.

Dated MAY 30 1992

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Programs



STANISH: EXHIBIT 8
UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

OCT 13 RECD

George

OCT 1 1981

Docket No. 50-454

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

This refers to the routine safety inspection conducted by Messrs. M. A. Ring and J. M. Hinds of this office on July 27 and August 26-28, 1981, of activities at Byron Nuclear Power Station, Unit 1 authorized by NRC Construction Permit No. CPPR-130 and to the discussion of our findings with Mr. R. Ward and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as specified in enclosed Appendix A. A written response, submitted under oath or affirmation, is required.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room. If the enclosures contain any information that you or your contractors believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within seven (7) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. Section 2.790(b)(1) requires that any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which

OCT 1 1981

are the bases for the claim that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Inspection

Enclosures:

1. Appendix A, Notice
of Violation
2. IE Inspection Report
No. 50-454/81-11

cc w/encls:

Louis O. DelGeorge
Director of Nuclear
Licensing
Gunner Sorensen, Site
Project Superintendent
V. I. Schlosser,
Project Manager
R. E. Querio, Station
Superintendent
DMB/Document Control Desk (RIDS)
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry

Appendix A

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454

As a result of the inspection conducted on July 27 and August 26-28, 1981, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violations were identified:

1. 10 CFR 50, Appendix B, Criterion VI, requires that measures be established to control the issuance of documents which prescribe all activities affecting quality. These measures shall assure that documents, including changes, are reviewed for adequacy.

The Byron Startup Manual, Revision 4, requires in Section 1.4.4 that changes to the Startup Manual be initiated by the originator, drafted, typed and proofread by the Startup Group, reviewed by the Startup Group, concurred in by Site Quality Assurance, and authorized by the Project Manager.

Contrary to the above:

The licensee did not adequately review and proofread all of the changes made by Revision 4 to the Startup Manual for categorizing major and minor procedure changes. Criteria written for making major test procedure changes was the same as that used for making minor test procedure changes.

This is a ~~Severity Level VI~~ violation (Supplement II).

2. 10 CFR 50, Appendix B, Criterion V, states in part that "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, ... and shall be accomplished in accordance with these instructions procedures or drawings."

10 CFR 50, Appendix B, Criterion XI, requires that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures.

Contrary to the above:

- a. The licensee did not adequately "verify that all instrumentation in Appendix A is within current calibration intervals" in accordance with paragraph 6.2 of construction test procedure 2.63.810, Reactor Coolant Cold Hydrostatic Test. Four of the instruments

listed in Appendix A of the completed test did not have any calibration date listed. One of the instruments which should have been calibrated was listed as calibrated on 1/1/90N (indicating not able to be calibrated). Additionally, the "current calibration intervals" were described as "not yet established" for most of the instruments.

- b. The licensee exceeded the pressure band specified in the Reactor Coolant Cold Hydrostatic Test, 2.63.810. The minimum pressure to demonstrate satisfactory strength and tightness was met and the calculated over pressure point was not exceeded, however, the pressure band of 3102-0+12.5 psig specified in the procedure for the 10 minute hold was exceeded.
- c. The licensee did not adequately "verify all installed instrumentation in the SDP (System Documentation Package) is within current calibration intervals" as required by paragraph 6.3 of Preoperational Test 2.21.10, 125 V DC Distribution. The Tech Staff representatives stated that OAD does not have calibration intervals available yet for the instruments listed.

This is a ~~Severity Level V~~ violation (Supplement II). 

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation. Consideration may be given to extending your response time for good cause shown.

Dated OCT 1 1961

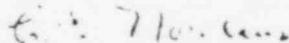

C. E. Norelius, Director
Division of Engineering and
Technical Inspection



EXHIBIT 9
SPANISH
UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

APR 23 1981

APR 27 1981

~~TKT~~
TKT

Docket No. 50-454
Docket No. 50-455

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

Thank you for your letter dated February 26, 1981, regarding cable tray weld quality at the Byron Plant. We have reviewed this letter and its attachment which documents your statistical approach towards resolving nonconforming cable tray stiffener welds identified, in part, by NCRF-529. As a result of this review, we have the following questions which require further clarification on your part.

1. Your "Weld Quality" assumption in Attachment "A", Byron Cable Tray Stiffener Weld Inspection, does not demonstrate an adequate basis to establish that weld size and quality are acceptable. NRC inspectors have observed poor quality welds in installed cable trays. These observations were not documented because our inspectors understood, based on discussions with your staff, that your inspections had identified these issues. Since according to statements in your letter weld size and quality had not been documented as nonconforming, we conclude that your analysis and evaluation are incomplete. Please provide additional evidence of adequate weld quality based on the inspection history of the aforementioned welds or other considerations. Also, please address the discrepant welds on installed cable tray stiffeners observed by NRC inspectors.
2. Your methodology for establishing a random sample as outlined in Attachment "A" is not clear. Please provide a comprehensive description of what was done to establish a random sample. Include in this description the basis for concluding that your sample is representative of the total population.
3. It appears that the statistical evaluation of the quality of these cable tray stiffener welds constitutes a change from the acceptance and quality criteria outlined in Section 3.8 (Design of Category I Structures) Table 3.8-2, Item No. 20 of the FSAR. Please discuss your intentions and considerations regarding compliance with this FSAR design requirement.
4. Your report concludes that based on sampling methods used, up to 1.3% defective stiffener welds may exist for safety-related cable trays at Byron

APR 23 1981

Units 1 and 2. Please provide us additional information regarding the basis for assuming that this is an acceptable level of risk. Also in your response, please address your plans for corrective action for any specific defective welds which are identified in the future, where such welds are a part of the population that was included in the study.

Your statement in the February 26, 1981 letter that "The inspectors agreed with our approach and conclusions" represents an overstatement of our position on this issue. While we agree it is your prerogative to solve the problem in any manner of your choosing, we did not indicate that the approach and methodology would be acceptable to NRC without further review. During the initial conversations and subsequent meetings, our staff expressed several reservations in this regard, and requested that the subject report be submitted in writing for our review.

In order for us to continue our review of this matter, we request that you provide a written response within 25 days to this office addressing the questions previously discussed.

Your cooperation with us is appreciated.

Sincerely,

C. E. Norelius

C. E. Norelius, Acting Director
Division of Engineering and
Technical Inspection

cc: J. S. Abel, Director
of Nuclear Licensing
Gunner Sorensen, Site
Project Superintendent
V. I. Schlosser,
Project Manager
R. E. Querio, Station
Superintendent

cc w/ltr dtd 2/26/81:
Central Files
Reproduction Unit NRC 20b
PDR
Local PDR
NSIC
TIC
Mary Jo Murray, Office of
Assistant Attorney General
Myron M. Cherry