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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In The Matter of)

COMMONWEALTH EDISON COMPANY)

Docket Nos. 50-454 OL
50-455 OL

(Byron Nuclear Power Station,)
Units 1 & 2))

APPLICANT'S REPLY TO
INTERVENORS' PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW
ON QUALITY ASSURANCE/QUALITY CONTROL

Commonwealth Edison Company ("Applicant") files this
Reply to Intervenor's Proposed Findings of Fact and Conclusions
of Law on Quality Assurance/Quality Control.

INTRODUCTION

In the body of these Reply Findings Applicant has
organized its response on a paragraph-by-paragraph basis, in
order to facilitate review of the Applicant's Reply in con-
junction with the findings to which it responds. Applicant's
paragraph-by-paragraph reply to Intervenor's Proposed Findings
must be prefaced, however, by the following introductory com-
ments.

Applicant's understanding of proposed findings of
fact is that their purpose is to assist the Board in evaluating

the voluminous evidence placed before it during weeks of hearings. The importance of proposed findings of fact is manifest. It is clear that any order ultimately issued by the Nuclear Regulatory Commission must be based on substantial evidence. New England Coalition v. U.S. Nuclear Regulatory Commission, 582 F2d 87 (1st Cir. 1978). County of Rockland v. U.S. Nuclear Regulatory Commission, No. 83-4083, 4037 (Slip Opinion, 2nd Cir., May 27, 1983). Within the adjudicatory structure of the NRC itself, there is recognition that the decisions of Licensing Boards must be more than merely conclusory: the decisions must "confront the facts of record." P.S. Co. of N.H. (Seabrook Station, Units 1&2), ALAB-422, 6 NRC 33, 41 (1977), affirmed, CLI-78-1, 7 NRC 1 (1978). And the accompanying opinion must explain why evidence reasonable on its face, but contrary to the result reached was rejected. P.S.E. & G. Co. (Hope Creek Generating Station, Units 1&2), ALAB-429, 6 NRC 229, 237 (1977). The importance of proposed findings to the decision making process has been repeatedly stressed by the Appeal Board. See, e.g., Consumers Power Company (Midland Plant, Units 1&2), ALAB-691, 16 NRC 897 (1982); Northern States Power Company (Prairie Island Nuclear Generating Plant, Units 1&2) ALAB-244, 8 AEC 857 (1974). We recognize that each party, in its proposed findings, will emphasize those portions of the record which it believes support its position. But effective advocacy does not encompass the submission of proposed findings which ignore substantial evidence which should undoubtedly be taken

into account by the Licensing Board in the decision making process.

Thus proposed findings should encompass the testimony proffered by each of the parties, rather than being a wholly one-sided version of the evidence which fails to acknowledge the record as a whole. Moreover, it is the responsibility of each of the parties to submit proposed findings which fairly and accurately state the evidence upon which the parties rely. Likewise, proposed findings must be based on evidence in the record, and should not be conclusory, unsubstantiated allegations.

Contrary to Applicant's understanding of the parameters of proposed findings of fact, Intervenor's Proposed Findings of Fact constitute an incomplete review of the evidence placed before the Board, a review laced with distortion, inaccuracy, and misrepresentation. Applicant's Reply to the findings of Intervenor demonstrates on a paragraph-by-paragraph basis the myriad respects in which Intervenor fails to present the Board with a fair and complete review of the record; the purpose of this introduction is to illustrate the overall tenor of Intervenor's Proposed Findings.

Intervenor divides their findings into several categories, the first of the categories being Applicant's compliance with NRC regulations in general. In this category Intervenor contends that Applicant "has compiled a consistent record of non-compliance with NRC regulations at its nuclear power plants" (Intervenor's Proposed Finding 4.) The

subsidiary findings submitted in support of this conclusion, however, fail to present the Board with a complete picture of the evidence placed before it by the parties. For example, Intervenor note the fines assessed against Applicant in the past decade by the NRC, yet fail even to mention the substantial testimony in the record pertaining to the extensive corrective action taken by Applicant in response to the noncompliances upon which the fines were based, or the testimony that for the period 1979-1982 Applicant's facilities were below the national and regional averages for civil penalties. Intervenor point out that Applicant and certain of its employees were indicted for noncompliances at the Quad Cities Station, yet inexcusably neglect to note that Applicant and the employees subsequently were found not guilty of the charges against them. In sum, Intervenor's Proposed Findings do not fairly reflect the state of the record, a record which in reality depicts an applicant that has recurrently had noncompliances and has been fined by the NRC but has also taken corrective action in response to problems identified by the NRC and has had a satisfactory overall record in complying with NRC regulations.

Intervenor's second category is entitled "Contractors at Byron," and within this category Intervenor discuss the allegations made by their three witnesses, Messrs. Smith, Gallagher, and Stomfay-Stitz. In their findings with regard to these witnesses Intervenor simply ignore large portions of the record which contradict the testimony of the alleged. Intervenor essentially have presented the Board with nothing but a

rehash of the prepared testimony of the witnesses, citing the testimony of Applicant's witnesses and the NRC Staff only to the extent that such testimony substantiates the allegations of Intervenor's witnesses. Examples include:

Intervenors assert that Mr. Smith was instructed not to perform a thorough audit of the Authorized Nuclear Inspector (Intervenors' Proposed Finding 45); Intervenor's fail to note the uncontradicted evidence that this audit was intended to be limited in scope.

Intervenors claim that Mr. Smith's audit reports were modified by Mr. Somsag in a manner which lessened the impact of the reports (Intervenors' Proposed Finding 47); Intervenor's fail to acknowledge the substantial testimony developed during the cross examination of Mr. Smith and the examination of the NRC Staff which indicated that the changes to Mr. Smith's audits were not substantial.

Intervenors claim that there was no maintenance program for the Ross concrete plant, and that Blount Brothers' Mr. Andre lied on this issue to the NRC (Intervenors' Proposed Finding 55); Intervenor's neglect to point out that the record includes testimony by Mr. Gallagher that maintenance of the batch plants was performed conscientiously by he and Mr. Pope and uncontradicted testimony from the NRC Staff that Mr. Andre's comments to the NRC involved only calibration of the batch plants, and not maintenance generally.

Intervenors assert that a substantial amount of concrete was made with nonconforming aggregate (Intervenors' Proposed Finding 56); although Intervenor's summarily state that "Edison failed to offer any credible evidence to the contrary," they neglect to even refer to the evidence in the record which indicates that Mr. Pope examined the results of a cylinder test to assure himself that the aggregate was satisfactory, and the extensive testimony of Messrs. Tallent and Johnson of Pittsburgh Testing Laboratory describing the testing of aggregate at the Byron site.

Intervenors claim that because water was added to concrete after test samples were taken the results of concrete tests were not accurate (Intervenors' Proposed Finding 58); Intervenors ignore the uncontradicted testimony of Mr. Johnson that additional test samples were taken after water was added.

Intervenors assert that daily, rather than weekly, surveillances were required to be performed by Blount Brothers at the tendon storage barns (Intervenors' Proposed Finding 71); Intervenors ignore the uncontradicted testimony of Mr. Mihovilovich that Sargent & Lundy approved weekly, rather than daily, surveillances because the barns were ventilated.

Intervenors assert that an inspection of tendon buttonheads by Blount Brothers was conducted in an inadequate manner (Intervenors' Proposed Finding 75); Intervenors do not even mention the evidence in the record that the Blount Brothers "inspection" was simply an informal review to ascertain the extent of the buttonhead problem, and that the tendon supplier, INRYCO, subsequently performed a 100% reinspection of the buttonheads. Intervenors also fail to include in their proposed finding the fact that the NRC Staff verified the satisfactory resolution of the buttonhead problem. Intervenors do, however, make the assertion that "it appears that the documents generated from [the Blount Brothers inspection] have been destroyed or otherwise rendered unavailable. . . ." This assertion is utterly baseless, lacking any support whatsoever in the record, and is nothing short of offensive to Applicant.

The examples go on and on. In short, Intervenors have ignored their responsibility to present the Board with a fair recounting of the testimony pertaining to their three witnesses, choosing instead to proffer an entirely one-sided version of the testimony which bears little if any relation to the actual record developed before the Board.

Intervenors continue their pattern of distorting the record in their next category of proposed findings, entitled "Edison's QA/QC Organization." For example, in their Proposed Finding 97 Intervenors claim that NRC Region III disagreed with Applicant's resolution of noncompliances at Byron. The record location cited by Intervenors, however, says nothing of the sort; the record (testimony of Mr. Stanish) actually says that noncompliances that were considered closed by Applicant had not all been closed by the NRC Staff. Mr. Stanish did not testify that the NRC disagreed with Applicant's resolution of the problems. Likewise, in their Proposed Finding 111 Intervenors assert that Applicant has been "stripping" Byron Unit II of equipment for installation in Unit I, citing the testimony of Mr. Stanish. Actually, Mr. Stanish rejected the suggestion of Intervenors that Unit II was being stripped of equipment, testifying only that on occasion equipment has been moved from Unit II to Unit I. Intervenors also assert in this proposed finding that Applicant is engaged in a "headlong rush" to complete Unit I, and that such a rush is compromising quality assurance at both units. Intervenors cite no record references in making this claim, nor could they; there is absolutely no basis in the record for Intervenors' claim, and Mr. Stanish expressly stated that Unit I was not being completed at the expense of Unit II.

Finally, Intervenors again mischaracterize the record in their final category, "Effectiveness of NRC Inspections." Examples include Intervenors' Proposed Findings 126, 129, and

132. These findings build on mischaracterizations of the record which permeate their earlier proposed findings. In Proposed Finding 126, Intervenors suggest that Mr. Hayes' conclusions with regard to Mr. Stomfay-Stitz' allegations concerning "missing" structural steel beams were based solely on Mr. Hayes' 35 years of experience, rather than on a meaningful investigation. The record actually demonstrates that Mr. Hayes' conclusion in this regard was premised on an extensive investigation of pertinent files, an investigation which revealed no evidence supportive of Mr. Stomfay-Stitz' claim. In Proposed Finding 129, Intervenors note that Hunter Corporation disagreed with the recommendation of the NRC Staff with regard to component support inspections. Intervenors neglect to add that Hunter Corporation modified its procedures in response to the NRC's concerns, and that the Staff was satisfied with these modifications. Finally, in their Proposed Finding 132 Intervenors suggest that the NRC Staff's investigation of Mr. Smith's allegation that changes were made to his audit drafts to lessen the impact of the audits was inadequate because "Smith's original drafts were missing from company files." The uncontradicted testimony in the record, however, was that only one such draft was missing from Hunter Corporation files, and the NRC Staff in fact examined a number of audit drafts in reaching its conclusion. Thus, as in the categories discussed above, Intervenors here utterly fail to present the Board with anything approximating a fair and complete picture of the efforts undertaken by

the NRC Staff in reviewing the work performed at Byron by Applicant and its contractors.

A capsule summary of Intervenor's proposed findings is that they are shot through with mischaracterizations of testimony and testimony taken out of context and they consistently ignore uncontradicted contrary evidence. Intervenor has tendered to the Board and the parties a document which refuses to recognize the record as a whole and which fails to provide a meaningful basis for ultimate findings by the Board.

Paragraphs 1-3

No response.

Paragraphs 4-18

Intervenor's description of items of non-compliance since 1974 which have led to fines by the Commission is incomplete and misleading. Intervenor avoids any mention of the extensive corrective actions taken by Applicant in response to these noncompliances. As described in great detail in the prepared testimony of Mr. Del George, and as related in the Proposed Findings previously submitted by the Applicant, extensive corrective actions were taken by the Applicant in response to each of the items of noncompliance. (Applicant's Proposed Findings 690-705.) In addition, Intervenor ignores the fact that for the period 1979-1982, all Applicant's facilities were below the national and regional averages for civil penalties. (Applicant's Proposed Finding 690.) The Intervenor also ignore testimony establishing that the NRC Staff has within the

past two years issued increased amounts of civil penalties as a matter of policy. (Forney, Tr. 3927.)

Paragraph 19

This paragraph misstates the evidence relating to the Salem reactor trip breaker incident and Applicant's response. Contrary to Intervenor's allegations the record shows no evidence from Mr. Connaughton of the NRC or any other witness (1) that trip breakers "were not included within Edison's maintenance program;" (2) that trip breakers at Zion failed because of this reason; (3) that the failure to transmit the manufacturer's maintenance recommendation accounted for the Zion malfunctions; or (4) that breaker incidents at Zion were "identical" to those at Salem. Mr. Connaughton testified that the incident at Salem occurred because the trip breakers were not included in a preventive maintenance program and the manufacturer's recommendations were not followed. (Connaughton, Tr. 4085) He did not refer to similar incidents at any of Applicant's plants. And although Mr. Sues testified that trip breakers at Applicant's Zion Station failed because of "improper maintenance," he also testified that he was unaware of why the maintenance was improper. (Sues, Tr. 4044-45.) However, in contradiction to Intervenor's assertion in paragraph 19, Mr. Sues did state that Applicant requires that all manufacturer recommendations be referenced in all maintenance procedures. (Sues, Tr. 4017.) Finally, the record shows that at Byron, even prior to the Salem incident, trip breakers were included in a maintenance program and the manufacturer's recommendations were referenced in maintenance procedures. (Sues, Tr. 4016-17.)

Paragraph 20

Intervenors state that as a result of noncompliance with Commission regulations in 1977 and 1978 at the Dresden Station, in December 1977 the NRC Staff increased its inspection frequency to weekly at Applicant's three operating nuclear facilities. For support, Intervenors rely on the testimony of Louis O. Del George. However, Intervenors fail to accurately relate Mr. Del George's testimony concerning this issue. First, Mr. Del George's testimony states only that inspection frequency was increased. It does not specify a particular frequency. Second, such increased inspection frequency was confirmed by Mr. Del George only with respect to the Dresden plant, and not as to Applicant's other operating plants. Third, Mr. Del George emphasized that the purpose of the increased inspection frequency was to confirm that other areas of Applicant's operation were in compliance with Commission regulations. After several weeks of increased inspection effort the NRC Staff did so conclude, and the inspection frequency was reduced to its previous level. (Del George, Applicant's Prepared Testimony at 16-17, ff. Tr. 2344.)

Paragraph 21

Intervenors' statement that allegations made by former guards at the Quad-Cities Station resulted in the criminal indictment of Edison and two employees is true. However, Intervenors fail even to mention that a trial was subsequently held and Applicant and its employees were found not guilty. (Applicant's Proposed Finding 708.) In addition, Intervenors

fail to mention that the Commission specifically found that Applicant took "prompt corrective action on the specific items of noncompliance which were identified." (Applicant Proposed Finding 709.)

Paragraph 22

No response.

Paragraph 23

Intervenors' discussion of the steam generator bolting problem at Braidwood is misleading. First, it is irresponsible for Intervenors to cite the original characterization of the bolting problem as a "breakdown" in the quality assurance programs at Byron and Braidwood, without providing any explanation of the subsequent retraction of this terminology. In fact, while a February 2, 1983 NRC Staff transmittal letter makes reference to a breakdown in Applicant's quality assurance program at Byron, the Staff panel testified that this reference was a mischaracterization, that the wrong version of the transmittal letter was originally sent to the Applicant, and that the proper version subsequently sent contained no such reference. (Hayes, Tr. 2451, 3637-3638.) Moreover, the Staff specifically testified that the bolting problems at Braidwood and Byron did not represent a breakdown in the Applicant's quality assurance program. (Forney, Tr. 3637.)

Paragraph 24

No response.

Paragraph 25

No response.

Paragraph 26

Intervenors' assertion that the discovered noncompliances are only the "tip of the iceberg" is offered without record support. In fact, such a suggestion by Intervenors was rejected by witnesses for Applicant and the NRC Staff. (Stanish, Tr. 2620, 2627; Hayes, Tr. 3690; Forney, Tr. 3691-92, 3708.)

Paragraphs 27-30

Intervenors' proposed findings concerning Systems Control Corporation ("SCC") inaccurately characterize Applicant as having failed to take corrective action to remedy problems with this contractor. In fact, audits and surveillances by Applicant's quality assurance department resulted in the issuance of two stop-work orders to SCC. (Applicant's Proposed Findings 523, 524.) Moreover, Applicant assigned personnel of the Pittsburgh Testing Laboratory, the independent testing agency at Byron, to the SCC plant to perform a 100% reinspection of all items. In addition, panels already shipped and received at Byron were reinspected and repaired. (Applicant's Proposed Finding 525.)

Following extensive NRC inspections, all QA/QC program deficiencies at SCC were corrected and verified by NRC Region IV inspectors in a follow-up inspection. Since early 1980, both Applicant and the NRC Staff have made certain that problems associated with equipment supplied to Byron by SCC have been corrected. (Applicant's Proposed Findings 526-528.) The NRC Staff testified that it considers Applicant's conduct in response to problems with SCC to have been very responsible. (Applicant's Proposed Finding 529.)

Paragraphs 31-36

Intervenors' Proposed Finding 35 implies that Applicant was irresponsible in not issuing a stop-work to Hatfield Electric Company until January 1981. However, while problems had earlier been identified, they were discrete and gave no indication that Hatfield had a broader problem with the implementation of its quality assurance program. All earlier problems had been resolved to the satisfaction of NRC Region III. Both Applicant and NRC Staff witnesses agreed that a stop-work in response to these earlier problems would not have been appropriate. (Applicant Proposed Finding 521.)

Following issuance of the stop-work order in January 1981, Hatfield undertook, at Applicant's direction, a broad range of corrective actions. These corrective actions satisfied both Applicant and the NRC Staff. The stop-work was lifted in April 1981. (Applicant's Proposed Finding 522.)

Paragraph 37

No response.

Paragraph 38

Intervenors mischaracterize Inspection Report 78-07. Contrary to Intervenors' assertion, the fact is that Inspection Report 78-07 never found a failure by Reliable Sheet Metal to prescribe required experience for quality assurance inspection personnel. What the report found was that the experience requirement was not prescribed in an Applicant-approved document. (Shewski, Tr. 2511.)

Paragraph 39

The stop-work order against Reliable Sheet Metal will not be lifted until Reliable's QA/QC program is entirely acceptable to Applicant's quality assurance organization. This will only occur following complete reinspections by Reliable and overinspections by Pittsburgh Testing Laboratory, the independent testing agency on site at Byron. (Applicant's Proposed Findings 532, 486.)

Paragraph 40

Here Intervenors have plainly distorted the record. In fact, on cross-examination by Intervenors, Mr. Shewski stated that he knew nothing of any plans by Applicant to request such a variance. (Shewski, Tr. 2591-92.) This is not a failure to rebut a "charge" in the sense that other evidence established that such plans existed. Rather, it was a direct statement that such a plan had, to Mr. Shewski's knowledge, never been formulated. Assuming Applicant has no plans to request such a variance, how else was Mr. Shewski to respond?

Paragraph 41

Intervenors claim that Hunter production people, under pressure to work quickly, were doing shoddy work. However, the allegations in this regard of Intervenors' witness, Michael Smith, were based solely on hearsay reports from two pipefitters. (Smith, Intervenors' Prepared Testimony at 21, ff. Tr. 3243.) On cross-examination, Mr. Smith testified that he knows of no pipe supports which were improperly installed. (Smith, Tr. 3274-3275.)

Paragraph 42

No response.

Paragraph 43

Intervenors claim that on at least ten occasions pipe support inspections were documented but never performed, relying solely on Mr. Smith's testimony that on these occasions he witnessed Frank McGhee, Hunter's QA Inspector Supervisor, initial reports without first verifying that the inspection had taken place. Intervenors' proposed finding ignores the stipulated testimony of Hunter Corporation Lead Auditor Michael Zeise that Mr. McGhee initialled documents in this manner only on three occasions and that he, Zeise, was not informed that any of these instances, which involved welds, had failed subsequent testing. (Applicant's Proposed Findings 577-578.)

Paragraph 44

Intervenors cite Mr. Smith's testimony that once or twice a week he was instructed not to include problems in his audit reports. However, Mr. Smith's testimony on this issue was confused. Intervenors' witness only identified four specific instances when he did not include a problem in an audit report. These instances occurred during performance of Audit 059-3 and entailed two supports which apparently lacked documentation and two sets of documentation for supports he was unable to locate. On cross-examination Mr. Smith explained that these problems were not included in Audit 059-3 because they did not fall within the scope of the audit checklist. (Applicant's Proposed Finding 561.)

Intervenors characterize the reason given by Mr. Smith's supervisor for not including such problems in an audit report as "the purported excuse that the problem would be caught later on." There is no evidence, however, that any problem observed by Mr. Smith but not included in his audit reports was not subsequently remedied. In fact, Mr. Smith testified that an item was not mentioned in an audit report only when the auditors were assured that the Hunter Corporation QA department was already aware of the problem and would resolve it. (Applicant's Proposed Finding 562.)

Paragraph 45

Intervenors claim that Mr. Smith was instructed not to conduct a thorough audit of the Authorized Nuclear Inspector. The testimony of both Mr. Somsag and Mr. Smith, however, indicated that this audit was limited in scope and was performed thoroughly with regard to its limited purpose. (Applicant's Proposed Findings 573-574.)

Paragraph 46

Intervenors assert that Mr. Smith was instructed by Mr. Somsag and Art Simon to avoid the NRC personnel on site. On cross-examination, however, Mr. Smith indicated he was unfamiliar with the NRC's on-site activities. There is no evidence that he attempted to contact the NRC during the time he was employed by Hunter Corporation. Mr. Somsag denied issuing such instructions and the NRC inspector who investigated this allegation, D. W. Hayes, found no evidence of a Hunter Corporation policy precluding employees from talking

freely to an NRC inspector. Mr. Hayes found, based on his own inspection experiences at Byron, that he could always talk to anyone he wished. (Applicant's Proposed Findings 585-587.)

Paragraph 47

Intervenors claim that Mr. Smith's audit reports were substantively changed by the deletion of critical passages. Review of these changes, however, indicated that no findings or underlying facts were deleted from Mr. Smith's reports and that any changes made were editorial and did not detract from the prophylactic or remedial purpose of the reports. (Applicant's Proposed Findings 566-570.)

Paragraph 48

No response.

Paragraph 49

Intervenors' proposed finding cites only a portion of NRC Inspector Yin's testimony that Hunter's program for timely inspections of piping suspension system components was not being implemented in the Unit 1 Containment Area. In his full testimony, Mr. Yin explained that the program was being followed with this single exception. Moreover, according to Mr. Yin the foreman in the Unit I containment area had simply misinterpreted the program's requirements. (NRC, Tr. 3797.)

Intervenors also misstate the testimony of Applicant's witness, Michael Stanish. They claim he testified that "shortcuts", contrary to regulations, permitted field changes in pipe support installation prior to approval. Mr. Stanish testified that field changes were made before formal written

approval but after oral approval by the designer. (Stanish, Tr. 2659.) Mr. Stanish never called this a "shortcut."

Paragraph 50

While the facts Intervenor choose to present here are true, in context they do not support the conclusions Intervenor would have the Board draw. Intervenor ignore Mr. Stanish's testimony explaining that the reason Applicant did not discover the bent diesel generator anchor bolts at Unit I before they were discovered by the NRC Staff was that inspection of this particular equipment had not yet been performed by the contractor. (Stanish, Tr. 2657.) In addition, while Intervenor imply that grouting anchor bolts renders them inaccessible for purposes of inspection, the record is clearly to the contrary. Mr. Stanish testified that even after grouting, the tops of the bolts remain visible, and if bent they have a noticeable out-of-plumbness appearance. (Stanish, Tr. 2655.) Indeed, the bent anchor bolts at Unit I were discovered after they had been grouted. (Stanish, Tr. 2655.) It simply is unwarranted to conclude, as Intervenor urge, that this condition would not have been discovered by Applicant or the relevant contractor during the course of scheduled future inspections.

Paragraph 51

In describing their witness, Daniel Gallagher, Intervenor claim Mr. Gallagher is a batch plant operator with seven years of experience. This description is misleading since at the time he was hired by Blount Brothers Corporation, in 1975,

Mr. Gallagher had no prior experience in mixing concrete. (Gallagher, Applicant's Prepared Testimony at 4, ff. Tr. 3459.) Intervenor claim that Applicant pressured Blount Brothers to increase concrete production. However, Mr. Gallagher testified that this alleged pressure did not affect concrete quality. (Applicant's Proposed Findings 616-617.)

Intervenor also claim that the Ross plant was incapable of producing competent Category I concrete. The NRC Staff, however, reported that safety-related concrete had been mixed at the Ross plant on two occasions in 1976. (NRC Prepared Testimony at 23, Ex. F at 4, ff. Tr. 3586.) In addition Donald Pope stated he has used the Ross plant to produce Category I concrete. (Applicant's Proposed Finding 627.)

Paragraph 52

Intervenor falsely assert that Applicant offered no evidence that the Ross plant is capable of producing competent safety-related concrete. As noted above Mr. Pope testified that the Ross plant can and has been used to produce conforming safety-related concrete. (Applicant's Proposed Finding 627.)

Paragraph 53

Intervenor claim that the trucks used to mix and transport the Ross plant batches were incapable of uniformly mixing the ingredients of a dry mix or batch. The NRC Staff found that the safety-related concrete batched at the Ross plant had been transported in trucks which had been tested for uniform mixing capacity. (NRC Proposed Findings H-180-H-181.)

Mr. Gallagher's claim that on the first work day following his discharge Mr. Pope tried to mix a safety-related batch at the Ross plant was disputed by Mr. Pope. Mr. Pope stated that he did not operate the Ross plant on or near that day and that there were no batch tickets indicating the Ross plant had been used on that day. (Pope, Applicant's Prepared Testimony at 16, ff. Tr. 2833.)

Paragraph 54

No response.

Paragraph 55

Intervenors claim that there was no maintenance program for the Ross plant and that Lou Andre lied by informing the NRC otherwise. Mr. Gallagher, however, testified that he and Mr. Pope conscientiously performed maintenance of both plants. Mr. Gallagher's testimony that Mr. Andre lied to an NRC inspector was based on the witness' misconception of the scope of Mr. Andre's statements. As evident from the testimony of the NRC Staff, Mr. Andre was answering questions limited to calibration of the weighing and measuring apparatus at the batch plants. These are the only components of the batch plants whose maintenance was regularly scheduled and which were considered by the NRC as having any safety significance. (Applicant's Proposed Findings 611-613.)

Paragraph 56

Intervenors' assertion that Applicant offered "no credible evidence" to counter Mr. Gallagher's allegation that 100,000 yards of concrete was mixed with non-conforming aggre-

gate simply ignores substantial portions of the record. Messrs. Tallent and Johnson testified to the extensive testing done on both the aggregate and the resulting concrete used in construction at the Byron site. The NRC Staff testified that on the two occasions that aggregate was found not conforming the Applicant took appropriate steps to ensure that the aggregate was not used and that concrete placed with non-conforming aggregate was tested for strength. Contrary to Intervenor's claim that Mr. Pope complained about the aggregate "to no avail," Mr. Pope testified that when he voiced doubts regarding the aggregate quality he had been reassured by review of cylinder test results which proved the aggregate used was conforming. (Applicant's Proposed Findings 597-599.)

By comparison, Intervenor's claim that 100,000 yards of safety-related concrete was made with non-conforming aggregate was supported only by the speculative testimony of Mr. Gallagher. On cross-examination this witness acknowledged he was not privy to the various test results and knew of no specific instance when non-conforming aggregate was used in the batching of safety-related concrete. (Applicant's Proposed Findings 599, 602.)

Paragraph 57

Intervenor's claim that water was added in excess of specifications has no support in the record; Mr. Gallagher admitted that his testimony involved water added surreptitiously without documentation, not water added in excess of specifications. (Applicant's Proposed Finding 606.)

Contrary to Intervenor's claim that Applicant and/or Blount Brothers had too few QA employees to supervise concrete placement, thus permitting the surreptitious addition of water to the concrete mix by workers, Messrs. Pope, Tallent and Johnson testified that there was a QA/QC inspector present at every placement or pour. (Pope, Tr. 2879, Tallent and Johnson, Tr. 3978.) According to Mr. Johnson, water could not be added to the concrete without these inspectors being aware of it because the addition of water would require changes in the operation of the trucks which would be both seen and heard. (Applicant's Proposed Finding 607.)

Paragraph 58

Contrary to Intervenor's hearsay claim that test samples were taken only before water was added at the pour site, Mr. Johnson of PTL testified that new samples are taken and additional slump tests are run after water is added at the pour site. (Tallent and Johnson, Tr. 3965-3966.)

Paragraph 59

Intervenor's claim that even if QA/QC personnel did observe the unauthorized addition of excess water, Blount Brothers' production supervisors would overrule them and order the addition of water anyway. First, as discussed in Paragraph 57 above there is no evidence that excessive water was added. Second, Mr. Gallagher admitted that he knew of no specific instance when Blount Brothers production personnel overruled QA personnel in this regard; his testimony is based solely on unsubstantiated hearsay. (Gallagher, Tr. 3492-3495.)

Paragraph 60

Intervenors assert "there is absolutely no evidence in the record that [the cement storage silo blower which had an oil leak] was actually fixed." Again Intervenors have ignored the record; both Mr. Pope and the NRC staff testified that the oil leakage problem was remedied in a timely manner and did not significantly contaminate the cement used. (Applicant's Proposed Findings 620-622.)

Paragraph 61

Intervenors claim that Mr. Gallagher was somehow prevented from correcting misrepresentations made by Blount Brothers QC personnel to NRC investigators. There is no evidence that Mr. Gallagher ever attempted to contact the NRC during his employment by Blount Brothers. NRC inspector D.W. Hayes concluded, based on his inspection activities at Byron, that no worker was prevented from talking freely with him. (NRC, Tr. 3799.)

Paragraph 62

Intervenors incorrectly assert that Applicant introduced no direct evidence of test results relating to the strength of safety-related concrete. Applicant proffered Marvin Tallent, Jr. and Joseph Johnson, employees of Pittsburgh Testing Laboratory, who testified to the procedures and results of the strength tests for safety-related concrete. Contrary to Intervenors' claim, these test results demonstrated the strength of concrete actually used in construction. Although Intervenors claim that water was added to concrete after test samples were taken, in

fact the evidence is that additional test samples were taken of the concrete after water was added. (Tallent and Johnson, Tr. 3965-3967.)

Paragraph 63

No response.

Paragraph 64

Intervenors claim that the batch plant operators never saw any test results. Mr. Pope, however, stated that he was aware of the test results and that he would be informed of any failing test results. (Pope, Applicant's Prepared Testimony at 10-13, ff. Tr. 2833.)

Paragraph 65

Intervenors assert there are serious doubts about the accuracy of Blount Brothers records and documents but offer no direct evidence of inaccuracies. Mr. Gallagher's claim that the batch tickets failed to reflect added water is based on second-hand reports from unidentified sources. (Applicant's Proposed Finding 604.) By comparison the NRC Staff testified that NRC inspectors found no reason to doubt the accuracy of Blount Brothers records and documents. (NRC, Tr. 3769-3770.)

Intervenors specifically claim that Mr. Pope admitted that batch tickets were not always accurate. The basis of this assertion is the following exchange.

"Q. Mr. Pope, the pour slips aren't always correct and accurate, were they?"

A. No.

Q. Okay.

A. I tried to make them that way, but I'm not perfect."

Clearly Mr. Pope was not commenting on the general reliability or accuracy of these records but on the possibility of his own human error in filling out these forms. (Pope, Tr. 2846-2847.)

Paragraph 66

While conceding that Mr. Stomfay-Stitz' demeanor as a witness "raises some questions concerning his specific recollection of events while he was employed at Byron," Intervenor contend that his demeanor on the witness stand 5 years after he left the Byron site merely reflects the competency of QA/QC personnel at Byron. In fact, Mr. Stomfay-Stitz was repeatedly admonished by the Board for his evasive answers. He demonstrated an ability to selectively recall events that purportedly transpired during his employment by Blount Brothers. (Applicant's Proposed Finding 682.)

Paragraph 67

Intervenor's claim that the manner in which Mr. Stomfay-Stitz performed his receiving inspections resulted in a "completely unreliable and misleading set of QA/QC documentation records" distorts the record. Mr. Stomfay-Stitz testified that he did follow Blount Brothers receiving and inspection Work Procedures with regard to all the many materials he received with the sole exceptions of embeds and masonry blocks which arrived without accompanying documentation. Documentation always arrived shortly thereafter; documentation for the

masonry blocks usually arrived within hours of the shipment, and embed documents customarily arrived no more than two days later. The embeds themselves and partially prepared R&I reports were segregated until this documentation arrived and the reports could be completed. No non-conforming material was improperly accepted and no material was used in construction prior to receipt of complete documentation. (Applicant's Proposed Findings 645-647.)

Paragraph 68

Intervenors' assertion that Category I masonry blocks were accepted without recording of the fact that these blocks were wet and dirty is misleading. The blocks were not accepted for Category I construction; instead, they were properly tagged and quarantined for Category II use only. (Applicant's Proposed Finding 660.)

Paragraph 69

Intervenors claim that Mr. Stomfay-Stitz' tendon inspections "slacked off" with the knowledge and acquiescence of Mr. Barnhart and Mr. Donica. On cross-examination, however, Mr. Stomfay-Stitz changed his testimony, stating that neither Messrs. Barnhart nor Donica had so acquiesced or had instructed him to "slack off". He further stated that he only inferred that they had knowledge of the nature of his inspections, since he never discussed his "slacking off" with them. Most importantly, Mr. Stomfay-Stitz testified that his inspections during this period did not result in the acceptance of non-conforming materials. (Stomfay-Stitz, Tr. 3010-3011.)

Paragraph 70

Intervenors assert that Mr. Stomfay-Stitz was ordered to fill out R&I reports for items he had not inspected. However, the record indicates that these items were properly inspected by qualified personnel who then instructed Mr. Stomfay-Stitz on how the reports should be filled out. (Applicant's Proposed Findings 648-649.)

Paragraph 71

Intervenors assert that daily, rather than weekly, inspections of the tendon storage barns were required. Again Intervenors fail to fully acknowledge the evidence placed before the Board. John Mihovilovich testified that although an early version of the Blount Brothers Work Procedures required daily inspections, Sargent & Lundy approved weekly rather than daily storage inspections because the storage barns were ventilated. A letter from Sargent & Lundy confirming this method of inspection in November of 1977 predated Mr. Stomfay-Stitz inspections, and weekly inspections were incorporated into subsequent revisions of Blount Brothers procedures. (Mihovilovich, Tr. 2786-2787.)

Paragraph 72

Intervenors claim that Mr. Stomfay-Stitz found tendon storage conditions unacceptable because of the presence of mud and water. In fact, however, the tendons were stored on pallets which were ten inches high and wrapped in protective plastic, and Mr. Stomfay-Stitz actually testified that he never found any dirt, mud or condensation on the stored tendons. His

disagreement with Mr. Donica regarding other aspects of the storage conditions was characterized by Mr. Stomfay-Stitz as a professional disagreement in interpreting the storage report forms. (Applicant's Proposed Findings 652-653.)

Intervenors' allegation that the NRC attributed subsequent discovery of some rusted tendons to storage conditions is misleading. The rust occurred where vertical posts holding the tendons in place had rubbed off the protective grease on some tendons. NRC inspector Hayes explained that the rust problem was not a result of storage conditions but would have resulted, in these circumstances, no matter how clean or dry the storage barns were. In fact, NRC inspectors regularly examined storage conditions and found them acceptable. (Applicant's Proposed Findings 654-655.)

Paragraph 73

Intervenors claim that Category II masonry blocks were not properly stored or marked. Mr. Stomfay-Stitz, however, testified that these blocks were tagged with yellow tape and designated for Category II use only. Contrary to Mr. Stomfay-Stitz' unsubstantiated speculation, there is no evidence in the record that the construction workers ignored these tags and used the quarantined blocks in Category I construction. (Applicant's Proposed Findings 660-661.)

Paragraph 74

Intervenors assert that the "bolting-in" surveillances were not properly performed. "Bolting-in" as defined by both Mr. Barnhart and Mr. Stomfay-Stitz was a simple review of

on-going construction to ensure that bolts were being properly placed. Notwithstanding Mr. Stomfay-Stitz' contention that bolting-in was performed improperly, the record demonstrates that the tasks required of Mr. Stomfay-Stitz in this regard were relatively simple and were well within his capabilities. At any rate, subsequent to Mr. Stomfay-Stitz' bolting-in surveillances the slotted connections he reviewed were all replaced and reinspected. In addition, the fixed connections claimed to have been reviewed by Mr. Stomfay-Stitz (Mr. Barnhart testified that Mr. Stomfay-Stitz' bolting-in duties encompassed only slotted connections) were all subsequently checked for torque by Pittsburgh Testing Laboratory. (Applicant's Proposed Finding 670-676.)

Paragraph 75

Intervenors claim that an inspection by Blount Brothers for cracks in tendon buttonheads was inadequately performed. The record, however, demonstrates that this "inspection" was actually an informal review conducted simply to ascertain the extent of the problem. In fact, INRYCO, the tendon supplier, subsequently conducted a 100% reinspection of the tendon buttonheads. The NRC Staff verified the satisfactory resolution of the cracked buttonhead problem, as noted in NRC reports. (Applicant's Proposed Findings 656-658.)

Intervenors assert that "it appears the documents generated from this [the Blount Brothers review] inspection have been destroyed or otherwise rendered unavailable." This assertion is wholly baseless, and is an affront to the Appli-

cant; there is absolutely no evidence that documents generated from the preliminary review performed by Blount Brothers personnel were destroyed or "otherwise rendered unavailable."

Paragraph 76

Intervenors assert that Sargent & Lundy, on learning a structural beam was not installed, would delete that beam from its plans and then generate paperwork to cover its decision. Intervenors thus imply that these design decisions were made without appropriate engineering analysis. There is no evidence, however, that any structural beam was mistakenly or improperly deleted during construction. Nor is there any evidence that Sargent & Lundy did not perform appropriate analyses prior to revising design plans. (Applicant's Proposed Finding 679.)

Intervenors state that applicant "appeared unable or unwilling to proffer any evidence on this matter." Applicant points out, however, that responding to Mr. Stomfay-Stitz' confused allegations was difficult. As the NRC Staff noted in its review of Mr. Stomfay-Stitz' allegation pertaining to the steel beams, its attempts to investigate the allegation were frustrated by Mr. Stomfay-Stitz' inability to identify the location of the beam in question or the person he contacted at Sargent & Lundy. A number of Mr. Stomfay-Stitz' allegations were based on pure speculation, unsubstantiated by specific evidence. Such allegations left the Applicant in the dark with regard to formulating a meaningful response. (Applicant's Proposed Findings 678-680.)

Paragraph 77

Intervenors assert that the testing procedures were inadequate to identify non-conforming aggregate and imply that either the procedures or the results were manipulated in order to obtain passing results. Messrs. Tallent and Johnson, employees of Pittsburgh Testing Laboratory, which tested the aggregate used at Byron, explained the procedures followed, which included daily testing and multiple sampling of the aggregate pile. Contrary to the gist of Intervenors' proposed finding, Mr. Stomfay-Stitz acknowledged that he had no knowledge that PTL either falsified or failed to report negative test results. Moreover, although Intervenors assert that Mr. Stomfay-Stitz was never informed of more than one failing sample of aggregate, he admitted on cross-examination that he did not receive test results from PTL and thus was not informed when aggregate samples passed a test. Messrs. Tallent and Johnson testified that the only time during Mr. Stomfay-Stitz' tenure at Byron that the aggregate was non-conforming occurred in March, 1979, at which time appropriate steps were taken to segregate the condemned aggregate. (Applicant's Proposed Findings 664-665).

Intervenors misrepresent the testimony of the NRC Staff by claiming that in response to failing sieve test results, "Sargent & Lundy merely changed the specifications ...". The NRC Staff actually testified that testing verified that concrete quality was not compromised, and that the excessive fines were composed of limestone, which under the circumstances

was deemed to be a permissible component of the aggregate. (NRC, Tr. 3775, NRC Prepared Testimony Ex. F, 4-5, ff. Tr. 3586.)

Paragraph 78

Intervenors assert that no precautions were taken to ensure that workers did not take aggregate from the condemned portion of the aggregate pile. The record, however, indicates that proper procedures were followed when aggregate was condemned. During his cross-examination, Mr. Stomfay-Stitz conceded the accuracy of a series of memoranda he authored which traced the procedures followed after the aggregate was condemned in March, 1979. These memoranda show that the condemned aggregate was appropriately cordoned off, that the cordons were checked daily, and that workers were not taking any of the condemned aggregate for construction use. (Applicant's Proposed Finding 666-667.)

Paragraph 79

Intervenors assert that non-conforming aggregate was used in safety-related concrete throughout Mr. Stomfay-Stitz' tenure at Byron. This assertion is based on the fact that the NRC did not investigate the acceptability of the aggregate pile between the 1975 and 1979 condemnations. As the testimony of the NRC Staff and Applicant's witnesses indicated, during the 1975 and 1979 occasions the condemned aggregate was properly quarantined and whatever amounts of non-conforming aggregate were placed did not result in any failed strength tests. (Applicant's Proposed Findings 599-602, 667-668). Although

Intervenors imply that Mr. Hayes testified that non-conforming aggregate was used at a time other than during the 1975 and 1979 condemnations, in reality Mr. Hayes' testimony in this regard pertained to the problems with aggregate encountered in December, 1975. The inference that the aggregate was at other times non-conforming is unsupported by any credible evidence. Messrs. Tallent and Johnson testified that daily tests were performed on the aggregate, and from September, 1979 through the date of Mr. Gallagher's leaving Byron (June 1, 1979), the aggregate failed conformance tests only in March, 1979. (Applicant's Proposed Finding 599.)

Paragraph 80

Intervenors claim that the Blount Brothers production organization controlled the QA/QC organization so that QA/QC inspectors lacked the independence and support necessary to perform their jobs. This assertion is premised on the purported control Blount Brothers production supervisors had over decisions regarding hiring, overtime and pay increases for QA/QC personnel. Absent evidence that such decisions had an effect on performance of the Quality Assurance function, the facts relied on by Intervenors are immaterial. The evidence indicates that the Blount Brothers QA organization had the necessary independence to identify and correct quality problems. In fact, Mr. Stomfay-Stitz acknowledged that regardless of the control purportedly exercised by the production organization the QA/QC staff was able to identify quality problems. The NRC Staff testified likewise. There is absolutely no evidence to

support Intervenor's claim that QA/QC personnel were not supported in disagreements with production. (Applicant's Proposed Findings 640-641.)

Paragraph 81

Intervenor's assert that Mr. Stomfay-Stitz was inadequately trained to perform his job responsibilities. By his own admission, however, Mr. Stomfay-Stitz received adequate training to be a materials controller. (Applicant's Proposed Findings 636-637.) In addition, the testimony illustrated that bolting-in was a relatively simple and limited review of ongoing construction, and Mr. Stomfay-Stitz was adequately prepared for the performance of this simple task. (Applicant's Proposed Findings 670-674.) Although the NRC Staff stated that Messrs. Stomfay-Stitz and Barnhart were not certified to perform structural steel inspections, it did not assert that either man was incapable of performing a limited review of the nature described by the witnesses. (NRC, Tr. 3725-3728). At any rate, the slotted bolts which Mr. Stomfay-Stitz reviewed were subsequently subjected to a 100% reinspection and the fixed bolts were subsequently checked by PTL for torque compliance. (Applicant's Proposed Findings 675-676.)

Paragraph 82

Intervenor's assert that QA/AC personnel were severely overworked and quote Applicant's counsel as saying it is "strange that someone who graduated from high school less than a year before had more work to do than anyone else on the staff" with the exception of Mr. Barnhard. This statement is cited out of

context since it was a comment on Mr. Stomfay-Stitz' perception of his responsibilities rather than on the actual extent of those responsibilities. (Stomfay-Stitz, Tr. 3128-3219.)

Paragraph 83

There is no credible basis for Intervenors' claim that Blount Brothers employees were discouraged from coming forward with evidence of wrongdoing. The NRC Staff specifically found that Blount Brothers QA/QC personnel were free to report problems. (NRC Tr. 3756-3757.) NRC inspector D.W. Hayes added, based on his own inspection activities at Byron, that he found no instance when a worker was prevented from talking freely with him. (NRC, Tr. 3799.)

By comparison to Intervenors' vague accusations, the activities of Messrs. Gallagher and Stomfay-Stitz after leaving Blount Brothers' employ suggests that their failure to report problems to the NRC was their own choice. Neither man, despite the testimony of both that they believed the problems to be serious, contacted the NRC after leaving the Byron site. (Applicant's Proposed Finding 683.)

Paragraph 84

Intervenors challenge the testimony of Mr. Mihovilovich on the basis that he was aware that Mr. Stomfay-Stitz believed that some of the documents were false. Aside from the issue of whether Mr. Mihovilovich agreed with Mr. Stomfay-Stitz' testimony, Applicant points out that the record indicates that the majority of documents discussed by Mr. Mihovilovich were not challenged by Mr. Stomfay-Stitz. At any rate, Mr. Stomfay-Stitz'

claims regarding Blount Brothers documents must be weighed in view of his demeanor as a witness and his admittedly confused memory. (Intervenors' Proposed Finding 66, Applicant's Proposed Finding 682.) Although Intervenors assert that Mr. Barnhart had "no excuse" for not completing the R&I's himself, they fail to note that Mr. Barnhart instructed Mr. Stomfay-Stitz to examine the materials received in order to confirm the inspections performed by Mr. Barnhart. (Applicant's Proposed Finding 648.)

Paragraph 85

Intervenors' assertion that Applicant posted signs instructing workers how to contact the NRC with evidence of wrongdoing only at the insistence of the resident inspector is an obvious and irresponsible mischaracterization of the record. In fact, the resident inspector testified that he observed such signs (called "NRC Form 3's") at the time he arrived on site. (Forney, Tr. 3663.) In that same portion of the record, although ignored by Intervenors, the resident inspector testified that he knew of no practice either by Applicant or by any contractors which inhibits workers from coming forward with information regarding problems or defects. (Forney, Tr. 3660, 3662; Applicant's Proposed Finding 534.)

Paragraph 86

The information provided here by Intervenors is incomplete. At Tr. 2706, the page following that cited by Intervenors, Mr. Stanish testified that he has been approached by contractor quality assurance supervisors with information

initiated by contractor employees. He testified that Applicant's quality assurance organization investigated the allegations to determine their significance. (Stanish, Tr. 2706, 2707.)

Paragraph 87

Intervenors again misstate the record by adding gratuitous language to the characterization of the testimony of Robert Querio. Mr. Querio simply stated that he had no knowledge of a process by which Applicant instructs contractors of their responsibility to protect contractor employees who come forward with information concerning problems and deficiencies. Mr. Querio never said he had no reason to believe that such responsibility was communicated. Moreover, Mr. Querio further testified that to encourage workers to report perceived problems large signs describing reporting procedures are conspicuously posted throughout the Byron plant. (Querio, Tr. 2741; Applicant's Proposed Finding 535.)

Paragraph 88

Contrary to the unsupported assertions of Intervenors, there plainly has been no failure on the part of Applicant to facilitate the free flow of information from workers with knowledge of problems or deficiencies. (Applicant's Opinion Portion of Proposed QA/QC Findings at 21, 22; Applicant's Proposed Findings 533-535.)

Paragraph 89

No response.

Paragraph 90

While the emphasis of Commonwealth Edison as a company is necessarily on production, the emphasis of its quality assurance organization is wholly quality. (Shewski, Tr. 2402, 2580; Spraul, Tr. 3569-71, 3578.) Moreover, Intervenor's citation to Mr. Shewski is inaccurate, and therefore misleading, to the extent it implies that Mr. Shewski testified that QA/QC has low priority, or that QA/QC hiring practices indicate low priority. In fact, a suggestion to this effect by Intervenor was firmly rejected by Mr. Shewski. (Shewski, Tr. 2396.)

Paragraph 91

Contrary to the imprecise assertion by Intervenor, there has been only one quality assurance superintendent at the Byron site: Michael Stanish has held the position since it was established in January, 1981. (Applicant Proposed Finding 476.) The four quality assurance supervisors who preceded Mr. Stanish replaced each other according to the normal corporate management development and promotional sequence available to promising management personnel. (Except in the the case of one supervisor who was killed in an automobile accident.) To have deprived these people of promotion would have resulted in their leaving Commonwealth Edison Company. (Applicant's Opinion Portion of Proposed QA/QC Findings at 8-9.)

These changes in quality assurance personnel did not have an adverse effect on quality assurance implementation at Byron. (Id. at 9.) Any disruption is minor and short lived because continuity during a supervision change is sustained

through the overall continuity of membership of the site quality assurance group. (Id. at 9, 10.) No item of noncompliance was ever issued by the NRC Staff concerning Byron quality assurance staffing and management policy. (Id.)

Paragraph 92

Intervenors have mischaracterized Robert Querio's testimony regarding the staffing of production personnel at Byron. Both units at Byron are presently staffed for production. This entire complement will be taking Unit 1 examinations in May, June and July at 1984. Therefore, there will be twice as many people taking the exam as will actually be needed for Unit 1. (Querio, Tr. 2733.) Presumably, up to half the people taking the test could fail without affecting the adequacy and sufficiency of the licensed staff at Unit 1. Intervenors fail even to mention these important facts, though they are set out on the very transcript page cited by Intervenors. In addition, Intervenors fail to mention that the production staff at Byron has been in place since 1978, and has completed training qualification programs. (Querio, Tr. 2732, 2733.) It is thus clear that the current production staff at Byron is experienced and fully trained.

Paragraph 93

This conclusory finding is unsupported by the record in this proceeding. Applicant directs the Board's attention specifically to Applicant's Proposed Findings 477-479, 497, 498, and Applicant's Opinion Portion at Page 11, for a summary of the record evidence showing that contractors have been given

the incentive by Applicant to comply with all applicable Commission regulations. In addition, the Board's attention is directed to Applicant's Proposed Findings 475-499 for a detailed summary of evidence showing that Applicant has in fact effectively monitored and supervised the QA/QC programs of its contractors.

Applicant submits that the fact that Mr. Shewski could not give a precise numerical answer to the question "how many separate contractors have worked on the Byron plant" is indicative of nothing.

Paragraph 94

Intervenors fail to mention the critical fact that Applicant's quality assurance auditors are trained to examine documents and to look for alterations or discrepancies, in order to determine whether the documents have been falsified. Moreover, this finding demonstrates Intervenor's inability to grasp a fundamental quality assurance concept. Contrary to the statement in Intervenor's proposed finding, quality assurance personnel do not check their own documents. Rather, they check the documents generated by quality control and production personnel. Independence of the quality assurance department from production responsibilities ensures conscientious and thorough document reviews. (Applicant's Proposed Finding 482.)

Paragraph 95

Notwithstanding Intervenor's generalized claims that Blount Brothers documents were falsified, Mr. Stomfay-Stitz ultimately was able to specifically testify to the purported falsity of only a limited number of documents. However, al-

though Mr. Stomfay-Stitz apparently found fault with almost every form he was required to complete, he did not testify that the information contained in the documents falsely represented the actual conditions of materials. Therefore Mr. Miholvilovich's review of pertinent Blount Brothers documents was not an inappropriate method by which to examine Mr. Stomfay-Stitz' allegations.

In weighing Mr. Miholvilovich's testimony the Board should note that Mr. Stomfay-Stitz's testimony of falsification is riddled with generalizations, evasions and confusion. (Applicant's Proposed Finding 682.)

Paragraph 96

Intervenors' purported examples of "grudging" compliance with Commission regulations completely mischaracterize the record.

A detailed presentation of facts relating to Applicant's exception to the formal education requirement for quality control inspectors is found in Applicant's Proposed Findings 492 through 494. Such an exception was necessary in order to preserve the right to demonstrate that an individual without the requisite formal education possessed comparable or equivalent competence. Such a demonstration is specifically permitted by Commission regulations provided that an exception is taken. The NRC Staff subsequently approved the exception taken by Applicant.

Paragraph 97

Intervenors have mischaracterized the testimony of Michael Stanish regarding items of noncompliance at Byron.

Intervenors state that the NRC Staff disagrees with the resolution of some items of noncompliance. This is simply an incorrect portrayal of the cited passage. Mr. Stanish testified that all items of noncompliance had been resolved to the satisfaction of Commonwealth Edison. He further testified that all items of noncompliance had not necessarily been formally closed by the NRC Staff. Mr. Stanish said nothing about a disagreement by the Staff over the resolution of the noncompliances. (Stanish, Tr. 2683-84.)

Paragraphs 98-100

Intervenors charge that the 30 noncompliances found at Byron in 1982 is an indefensively high number. This necessarily ignores most of the relevant testimony presented by Applicant and Staff in this proceeding. While the number of noncompliances identified at Byron in 1982 did increase relative to earlier years, Applicant and Staff took pains to explain in detail the numerous reasons for this increase.

First, Chairman Palladino last year stated that he expected a better level of performance from licensees with respect to construction quality assurance. This has been translated at the regional level into an enhanced inspection effort by the regional inspectors. (Hayes, Tr. 3592.)

Second, the arrival on site of a resident inspector in October 1981 contributed to the increased number of noncompliances. (Forney, Tr. 3592.)

Third, as construction at Byron nears completion the inspection activities of everyone involved, Staff, Applicant

and contractors, have become greater and more complex. (Forney, Tr. 3605-06; Williams, Tr. 3607.) The important point, which Intervenor's have chosen to ignore, is that the inspection work during this period is more finely detailed and intricate. (Williams, Tr. 3606.) In other words, there is more going on than simply an increase in inspector hours. The inspectors are looking harder, and, as the Staff pointed out, "there is certainly more opportunity to . . . find problems." (Williams, Tr. 3607.)

Finally, and perhaps most important for purposes of rebuttal, it is misleading for Intervenor's to compare the number of non-compliances in 1982 at Byron Unit I with those in the same year at LaSalle Unit II. Mr. Forney testified for the Staff that in his judgment certain non-compliances during the final construction stages of a Unit I do not recur at Unit II. This may be because lessons are learned the first time which prevent recurrence. (Forney, Tr. 3938, 3939; William, Tr. 3937.) The better comparison is obviously with LaSalle Unit I, which had 33 instances of non-compliance in 1982, three more than at Byron Unit I. (NRC Staff Prepared Testimony at Attachment B-3, ff. Tr. 3586.)

Paragraph 101

No response.

Paragraphs 102-105

Contrary to the Intervenor's' assertions, the general attitude of the NRC Staff Region III toward Applicant's quality assurance program is one of approval, not skepticism. The

Staff testified that Applicant's quality assurance program has made certain that effective action was taken to correct identified deficiencies before they could develop into major problem areas. (Hayes, NRC Staff Prepared Testimony at 10, ff. Tr. 3586.) The Staff resident inspector testified that Applicant's quality assurance program is good. (Forney, Tr. 3881.) I&E Report 82-05 (Applicant's Ex. 8) concluded that Applicant's quality assurance program was good. (Applicant's Proposed Finding 509.) Based on inspections conducted to date, the NRC Staff concluded that there is reasonable assurance that Byron has been constructed in accordance with Commission requirements and Applicant's commitments, and can be operated safely. (Hayes, NRC Staff Prepared Testimony at 10, ff. Tr. 3586.)

Paragraph 106

Michael Stanish did testify that his site quality assurance organization has discovered instances of failure by Applicant to safeguard Byron safety related equipment. Intervenor, however, fail to mention that it is the responsibility of the quality assurance organization to discover such problems. Mr. Stanish's testimony shows that his organization was doing its job, and was promptly discovering and correcting these problems. (Stanish, Tr. 2650.)

Paragraph 107

There is no support for Intervenor's assertion that Applicant's quality assurance organization does not perform basic monitoring of production. Intervenor cite a single example concerning Hatfield Electric Company. The citation by

Intervenors is incomplete, however, since at Tr. 2641 Mr. Stanish explained that the Applicant did not check Hatfield's quality assurance manual because the addition of a lower level supervisor was thought not required to be included in the manual. (Stanish, Tr. 2641.

Paragraph 108

No response.

Paragraph 109

There is no support for Intervenors' assertion that voiding nonconformance reports ("NCR") seriously undermines the effectiveness of Applicant's trending analysis. It is not necessarily true that voiding an NCR makes a trend analysis look better. (Stanish, Tr. 2647.) Generally, an NCR is voided upon a determination that the item is in fact not nonconforming. Therefore, a properly voided NCR should have no effect on a trending analysis. (Stanish, Tr. 2689.) Moreover, Mr. Stanish's prepared testimony shows that even with respect to the few NCR's which were improperly voided, new NCR's were subsequently generated to maintain the accuracy and integrity of the trending analysis. (Stanish, Applicant's Prepared Testimony at 12-13, ff. Tr. 2619.)

Paragraph 110

Paragraph 110 suggests that corrective actions taken by Applicant in response to denials of access to waste disposal sites have been ineffective or inadequate. The language is an irresponsible mischaracterization of Robert Querio's testimony.

Since 1980, Applicant has been denied access to low-level waste burial sites on eight occasions. (Querio, Tr. 2719, 2720; Del George, Applicant's Prepared Testimony at 22, ff. Tr. 2344.) It is true that at the times of these denials of access Applicant had procedures in place for processing, packaging and hauling low-level waste. (Querio, Tr. 2720.) However, in response to denials of access to waste disposal sites, Applicant has initiated prompt and thorough corrective measures, including extensive modification to procedures, where a violation of Commission regulations was involved. This information was presented in great detail in the prepared testimony of Louis O. Del George, and is summarized in Applicant's Proposed Findings 699 through 704.

Paragraph 111

The information presented in paragraph 111 is false. First, Mr. Stanish rejected a suggestion by Intervenor's counsel on cross-examination that Applicant has been "stripping" Unit II of equipment for installation in Unit I. Mr. Stanish testified that on occasion equipment has been removed from Unit II for use in Unit I. (Stanish, Tr. 2678.) Second, there is absolutely no support in the record for Intervenor's assertion that Applicant is engaged in a "headlong rush" to complete construction of Unit I, or that quality assurance with respect to either Unit I or Unit II has been compromised in any way as construction of Unit I nears completion. To the contrary, Mr. Stanish testified that Unit I was not being completed at the expense of Unit II. (Stanish, Tr. 2679.) Moreover, testimony by the NRC

Staff has established that attention to quality assurance has increased dramatically at Byron as construction of Unit 1 nears completion. (Applicant's Proposed Finding 506.)

Paragraph 112

This paragraph incorrectly suggests that a decision by the Byron superintendent to restart a reactor which had shut down for safety reasons is controlled by "production" and not safety considerations. The evidence in the record is to the contrary. Mr. Querio testified concerning procedures for a restart after a reactor trip. (Querio, Tr. 4029-4037.) The written procedures provide that only the plant superintendent may authorize a startup and then only after a thorough analysis of the occurrence and a determination, controlled by engineering judgment, that the startup is "in a safe direction." (Querio, Tr. 4032-4033.) However, as NRC Inspector Mr. Forney confirmed, because of the complicated electrical circuits, some shut downs are "ghost trips" wherein even after all possible checks are made the exact reason for the occurrence is indeterminable. (Forney, Tr. 4083.) Under such circumstances, with careful monitoring a restart should be allowed even if the cause is still unknown. (Id.) Therefore, the evidence demonstrates that a procedure allowing the restart of the reactor after a trip under the conditions described above will not compromise quality assurance efforts to benefit production goals.

Paragraphs 113-119

These proposed findings mischaracterize the record in this proceeding. A summary of the evidence on this issue is

presented at pages 28 and 29 of the Opinion portion of Applicant's proposed QA/QC findings. The evidence establishes:

(1) The Standard Review Plan referred to by Intervenor is not applicable to Applicant's quality assurance program, (2) Notwithstanding this inapplicability, Applicant's quality assurance program in fact incorporates at least six of the seven items referred to by Intervenor, and (3) The seven items are considered relatively trivial by the NRC Staff, and not necessary for compliance with Commission regulations.

Paragraph 120

Intervenor here present conclusory facts which are unsupported by either the subsidiary findings which follow or by the full record in this proceeding. There simply is no evidence that the NRC Staff has an "overly deferential" attitude towards Applicant.

Paragraph 121

Intervenor's statement that 10-12 NRC Region III Inspectors are responsible for ten sites is false. As the record shows at Tr. 3684, fully 15-18 construction inspectors divide their time among the ten sites within the region. In addition, Intervenor ignore the fact that Byron has been assigned two full-time resident inspectors. (Hayes, Tr. 3683.)

Paragraph 122

Intervenor's language mischaracterizes the record. In fact, Mr. Forney testified as follows:

when the applicant or licensee is required to respond to an item of noncompliance, generally the response requires the applicant or licensee to do additional inspection.

tions whereby in many cases they find additional problems. But the scope of what we look at any time we reach an item of non-compliance is generally expanded upon by the licensee, contractor, or whoever he has do it.

(Forney, Tr. 3691.)

Paragraph 123

Intervenors wrongly assert that Mr. Yin testified that it is a matter of pure luck whether any given item of noncompliance is discovered by the NRC. The passage cited by Intervenors is unclear, yet it is clearly inaccurate to cite this portion of Mr. Yin's testimony for such a proposition.

(Yin, Tr. 3676.)

Paragraph 124

The testimony of Mr. Hayes cited by Intervenors has nothing to do with the independence of Edison's QA/QC program; it concerns Blount Brothers. (Hayes, Tr. 3756-57, 3760.) Moreover, the particular question regarding Blount Brothers concerned the independence of quality assurance financial assets. Mr. Hayes' response was that the necessary requirements existed to make a finding of independent financial assets.

(Hayes, Tr. 3760.)

Paragraph 125

Once again Intervenors cite testimony out of context. In context, the facts are these: The Region III Staff was asked by Intervenors how many NRC inspectors would be required to inspect all construction activity and equipment at the Byron site. Mr. Williams responded as follows: "I'm sure the number

would be commensurate with Commonwealth Edison's quality assurance/quality control staff." (Williams, Tr. 3685.) The quality assurance/quality control staff referred to by Mr. Williams was later defined to include the staffs of both Applicant and its Byron contractors. (Williams, Tr. 3687.) Mr. Forney then estimated the size of this QA/QC group to be approximately 200 people. (Forney, Tr. 3688.)

Paragraph 126

Contrary to Intervenors' assertion, Mr. Hayes did not speculate that Mr. Stomfay-Stitz' allegations pertaining to missing structural beams was unsubstantiated based solely on his 35 years experience. In fact, Mr. Hayes testified that he and other NRC inspectors spent many hours attempting to investigate these allegations. They reviewed all field change requests, telephone memos and correspondence in both Blount Brothers and Sargent & Lundy files for the period of Mr. Stomfay-Stitz's employment. Mr. Hayes reported that they found no record of any design change that related to any telephone call by Mr. Stomfay-Stitz in regard to a missing structural beam. (NRC, Tr. 3742-3743.)

Paragraph 127

Intervenors suggest that NRC inspector Hayes simply concluded without appropriate investigation that Mr. Stomfay-Stitz had the authority and responsibility to bring forward QA/QC problems. A complete reading of Mr. Hayes' testimony demonstrates, however, that Mr. Hayes' conclusion was based on his interviews with various Blount Brothers and Applicant

personnel and his subsequent finding that there was no evidence that QA/QC activities were stifled by Blount Brothers production. (Hayes, Tr. 3745.)

Paragraph 128

No response.

Paragraph 129

Again Intervenors fail to fairly reflect the record in their Proposed Finding. Although Hunter Corporation disagreed with the conclusions of the NRC Inspector, believing that its program for inspecting component supports was adequate, it modified its procedures in response to the NRC inspection. The NRC Staff was satisfied with the modifications made by Hunter Corporation. (Applicant's Proposed Findings 557 and 558.)

Paragraph 130

Intevenors imply that in response to non-conforming aggregate, Sargent and Lundy merely changed the specifications. On the contrary, Mr. Hayes testified that Sargent & Lundy determined after analysis that the quality of concrete was not compromised due to the nature of the fines involved. (NRC, Tr. 3774, NRC Prepared Testimony, Ex.F, 4-5, ff. Tr. 3586.)

Paragraph 131

In asserting that the NRC Staff inappropriately relied on Blount Brothers documents, Intervenors again demonstrate a careless disregard for the evidentiary record. Intervenors refer to a number of areas in which Blount Brothers documents purportedly were "falsified or did not reflect the

true situation." The record presents a different picture, however: with regard to tendon storage, the evidence as a whole demonstrates that Mr. Stomfay-Stitz's problems with Blount Brothers forms do not amount to a situation in which the documents are unreliable. With regard to cracked buttonheads, the NRC did not even review (and thus did not rely on) Blount Brothers documents since the Blount Brothers review was informal only. Likewise, with regard to missing structural beams, the NRC investigation did not involve any purportedly falsified Blount Brothers documents; the NRC Staff was unable to locate any documentation pertaining to this allegation. On the issue of "aggregate competency", Mr. Stomfay-Stitz himself was unable on cross-examination to identify any respects in which his memoranda were false or inaccurate. Finally, with regard to mixer truck uniformity, Mr. Gallagher claimed that rented trucks were capable of mixing safety-related concrete from the Ross plant, while the NRC Staff testified that the rented trucks had not been tested for uniformity, but that the regular Blount Brothers trucks had passed uniformity tests. This issue thus did not involve the purported inaccuracy of Blount Brothers documentation. (Applicant's Proposed Findings 653, 656, 658, 680, 667, 625.)

Paragraph 132

Although Intervenors attempt to convey the impression that a number of Mr. Smith's original audit drafts were missing from Hunter Corporation's files, and that therefore the NRC Staff investigation of changes made to audits was inadequate,

in fact the evidence was that only one audit draft could not be found. The NRC Staff examined a number of audit drafts in reaching its conclusions. (Applicant's Proposed Finding 567, 570.)

Paragraph 133

Intervenors' citation is erroneous: John Spraul did not testify at Tr. 3594.

Intervenors claim that although Mr. Spraul examined Applicant's stated safety commitments he did not investigate whether Applicant's practices were actually in accordance with their commitments. This entire proposed finding is such a mischaracterization of the record as to render it valueless as anything other than a tool of confusion. Mr. Spraul's testimony was solely concerned with whether Applicant's quality assurance and production organizations will be sufficiently independent of each other during operation of Byron. (Spraul, Tr. 3563.) To assert, as do Intervenors, that Mr. Spraul looked only at safety commitments and ignored actual practices, is to support an irrelevant half-truth with an entirely false premise. It is simply wrong to say that Mr. Spraul's testimony concerned "safety commitments."

What Mr. Spraul did, in order to determine whether quality assurance and production would function independently of each other, was review Applicant's program for the Byron operational phase. (Spraul, Tr. 3565.) Based upon this program, and commitments contained therein, Mr. Spraul concluded that quality assurance and production would function indepen-

dently during Byron operation. (Spraul, Tr. 3565-66, 3569-71.) Mr. Spraul's conclusion was necessarily future-looking; since Byron is not yet operating, Mr. Spraul could not have confirmed that commitments were actually being met.

Paragraph 134

Intervenors assert that Region III inspections at Byron were not thorough, pointing as an of example to the fact that even though Region III examined the certification of Blount Brothers QA/QC personnel in I&E Report 82-05 it did not become aware of certification problems involving Messrs. Barnhart and Stomfay-Stitz until much later. Intervenors are being disingenuous, at best, in their proposed finding. Region III did not purport to examine the certification of all Blount Brothers QA/QC personnel in Report 82-05; rather, the Region III Staff conducted an overall evaluation of the certification programs of various Byron contractors. The Region III findings prompted the extensive certification review and reinspection program conducted over the past year by the Applicant of its contractors, including Blount Brothers. (NRC, Tr. 3725-3726.)

Paragraph 135

Despite Intervenors' continued claim that Blount Brothers production personnel controlled QA/QC personnel's pay there is no documentary or other evidence to substantiate Mr. Stomfay-Stitz' hearsay testimony on this matter. (NRC, Tr. 3756.) Moreover, NRC Inspector William Forney testified that in preparing I&E Report 82-05 he conducted a 45-minute personal interview with several Blount Brothers QA/QC inspectors, prob-

ing for any concerns on their part about their ability to make adverse findings, and found no evidence of intimidation. Mr. Stomfay-Stitz himself testified that he knew of no instance when Blount Brothers' Production Department kept its QA/QC Staff from identifying quality problems. (Applicant's Proposed Finding 640, NRC, Tr. 3758-3760.)

Paragraph 136

No response.

Paragraph 137

No response.

Paragraph 138

No response.

Paragraph 139

The fact that Hunter Corporation did not inform the NRC inspector of the existence of its Audit 059-3 does not warrant the conclusion proposed by Intervenors that Region III does not obtain all relevant records for its inspections. In fact, even without the audit the NRC Staff was able to perform a complete review of Hunter Corporation's component support inspection program. (Applicant's Proposed Finding 557.)


Paragraph 140

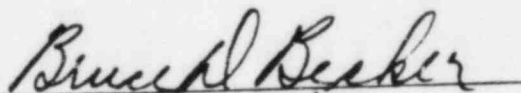
While Mr. Forney did admit that events at Zimmer could lead one to question the Region III's ability to adequately monitor licensee construction compliance, he personally did not agree with this assessment. (Forney, Tr. 3868.) More important is the fact that Region III did discover the breakdown in quality assurance at the Zimmer plant and did order a

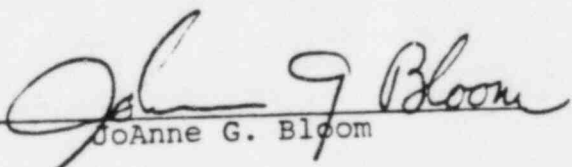
halt to construction activities. (Forney, Tr. 3867.) It was in response to construction problems at Zimmer that Region III conducted the special team inspection at Byron in the spring of 1982. (Forney, Tr. 3867; Applicant's Proposed Findings 509-513.) This is evidence of effective monitoring by the Region III Staff.

WHEREFORE, in view of the foregoing paragraph-by-paragraph analysis, Commonwealth Edison Company respectfully requests that Intervenor's proposed findings and conclusions on this contention not be adopted by the Board.

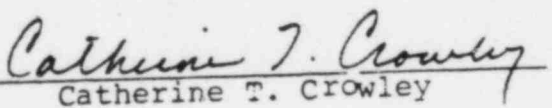
The foregoing document, "Applicant's Reply to
Intervenors' Proposed Findings of Facts and Conclusions of
Law on Quality Assurance/Quality Control" is respectfully
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Dated: September 16, 1983

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
COMMONWEALTH EDISON COMPANY)	Docket Nos. 50-454 OL
)	50-455 OL
(Byron Nuclear Power Station,)	
Units 1 & 2))	

CERTIFICATE OF SERVICE

The undersigned, one of the attorneys for Commonwealth Edison Company, certifies that he filed the original and two copies of each of the attached "APPLICANT'S REPLY TO INTERVENORS' PROPOSED FINDINGS OF FACTS AND CONCLUSIONS OF LAW ON QUALITY ASSURANCE/QUALITY CONTROL", and "APPLICANT'S REPLY TO THE NRC STAFF'S PROPOSED FINDINGS OF FACTS AND CONCLUSIONS OF LAW ON QUALITY ASSURANCE/QUALITY CONTROL ISSUES" with the Secretary of the Nuclear Regulatory Commission and served copies of each on the persons and at the addresses shown on the attached service list. Service on the Secretary and all parties was made by deposit in the U.S. Mail, first-class postage prepaid, this 16th day of September, 1983.

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