



AIR and WATER Pollution Patrol

BROAD AXE, PA.
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

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

Docket Nos. 50-352
50-353

AIR AND WATER POLLUTION PATROL (ROMANO) FINDINGS AND CONCLUSIONS RE CONTENTION VI-I

In answer to Judge Brenner's question at page 10,322, lines 11 and 12, it should be obvious that my answer, as a result of no counsel, indicated I did not understand that everything in the documents that the Applicant labeled references would be used as truth. It was my intention to show the material in the documents lacked credibility.

My difficulty in hearing, together with Judge Brenner's statement of bad acoustics in the hearing room could be responsible for missing the significance of my saying I had no objection at page 10,322 line 14 which I now know prejudiced my case even before it started. Then again misunderstanding was further experienced as per page 10,324 line 24 and beyond where the Board also was confused. I feel AWPP's (Romano) rights were abrogated as early as when intervenors were requested to co-ordinate their contentions, including Counsel, so that when with the sudden withdrawal of Counsel, AWPP should have been advised to obtain counsel, or AWPP (Romano) should have been provided counsel by the Court as would be done in other cases involving a citizen suddenly without counsel.

So my first finding is that, pitted against a battery of lawyers and witnesses of Applicant and Staff, obviously favoring the Applicant, a condition existed which did not give equal chance to AWPP from the beginning. Further, the continuous pressure to speed up the hearing, together with the fact that I had a plan to conduct cross-examination which I repeatedly was told was incorrect,

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further added to the pressure and confusion. Further, as per page 10,344, I was made to feel that I was not to question qualifications as per lines 15 and 16. In this regard, I felt further pressure as per page 10,364, lines 19 to 25, and page 10,365 lines 1 to 13.

I want to add at this point that being told repeatedly that I was getting nowhere, what with the absence of Counsel to insure my rights and to provide guidance, the hearings ended with my being told that for all intents and purposes there really was no need for the Findings and Conclusion submission. As the record shows I objected to being told such submission was useless since it appeared the ASLB had already decided the case. I now am submitting my Findings and Conclusions in order to preserve my right to appeal.

As it relates to Quality Assurance, Mr. Corcoran admitted, page 10,353 line 4 that sampling is a big part of auditing...but not "random, statistical sampling as many people are used to when they hear the word 'sampling'". This is an admission, as Mr. Corcoran later admits, (as does Mr. Boyer) that sampling was not done by the non-biased random method, but by "judgement". The proof that Mr. Corcoran did not appreciate the importance of proper sampling is uncontestedly obvious in his arbitrary "judgement" to use the "rule of thumb" thus, for no other reason than judgement he would select 10% of the welds. And even in such unscientific procedure, Mr. Corcoran's "10% rule of thumb" sampling of 423 welds was calculated to be 52 samples. That indicated Mr. Corcoran's total carelessness...a poor example of supervisory capability. His "judgement", his "rule of thumb" procedure shows he permits an error of 25% (52 instead of 42). AWPP states that such misunderstanding of the importance of precision of a supervisory person who audits a crucial welding program, merits non-confidence in what ever auditing activity in which he was responsible, in particular weld auditing, as per example above.

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Mr. Corcoran's answers to my questions were permitted to go far beyond my question, wherein he evasively repeated the description of his entire auditing program when I repeatedly asked him to stick to auditing of welds (see page 10,353, lines 12 to 18) (also see page 10,270, lines 13 to 18).

I find that Mr. Corcoran's long evasive statements were necessary to hide the very minimal experience and capability he, and most of those he supervised, possessed (see pages 10,361 and 10.362). Mr. Corcoran feels his very limited experience nevertheless qualified him to be an extremely critical supervisor of Quality Assurance in the construction of a multi-billion dollar nuclear reactor nuclear facility where the safety of millions of people is involved. This makeshift, inbred system also indicts the Nuclear Regulatory Commission's inspection system in the Limerick instance, as it has in the many plants which hold inexcusable defective Bechtel construction defects. Corroborating the use of the questionable Bechtel inbred system Mr. Frank Coyle became a "Lead Auditor" one month after becoming an apprentice auditor. He had, as per page 10,365, line 9, a "one week course in lead auditing". And that was an inbred Bechtel course. In asking Mr. Coyle to limit our discussion of auditing to welding, again, following the lead of Mr. Corcoran, Mr. Coyle refuses to do so as per page 10,365, line 14, Relative to welding, his answer (line 19) shows the lack of appreciation of the importance of welding to safety of the public. After admitting, page 10,365, line 17, that he had no specific training in welding inspection. Mr. Coyle admits he inspected welds without proper training and experience as per his answer to my question at line 22, page 10,365.

Further evidence of the unscientific and quickie methods used in the Quality Assurance program at Limerick which involves welding related activity is seen in Mr. Coyle's statement page 10,374 lines 21, 22, 23. In answering how he calcu-

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lates pipe stress analysis, Mr. Coyle fails to explain how he knows "what the material can withstand" upon which he "just calculate(s) the wall thickness required". In spite of questions and answers at page 10,375, lines 15 to 25, Mr. Coyle could no longer evade giving away that he actually did not understand, nor was qualified to do testing of pipe stress. Mr. Wetterhahn objected to my question and was sustained on the basis of "asked and answered" even though Mr. Coyle avoided answering to that specific point. On page 10,378 Mr. Coyle, line 16 and 17, further corroborated Quality Assurance inspectors and supervisors at Limerick do not appreciate nor use scientific statistical welding inspection sampling. The denial of a professional statistician(Dr. Iverson) to cross-examine, in effect, prevented proof that the sampling done at Limerick was improper as it relates to achievement of the highest level of confidence which the public safety merits. I find that the statements in the defense of the qualifications of Mr. Corcoran and Mr. Coyle re welding Quality Assurance were trite, qualitatively and quantitatively insufficient to assure scientifically correct inspection and proper follow-up corrective action.

As it relates to Inspector Clohecy, in spite of an evident effort to further evade, page 10,384, lines 4 to 9, another indication is given of inspectors suddenly and minimally qualified by the Applicant's inbred training program, to assure welds do not, once the plant is in operation, fail and thereby possibly contribute to a nuclear accident.

It is unfortunate that scientific random sampling was not done, and when it came to the possibility that the proffered witness, Dr. Iverson, could, "for other reasons such as significance and so on" (page 10,416, lines 17 to 21), Mr. Wetterhahn objected on dates and listings without concern for the significance that was intended in the above page and line numbers. As it relates to the same page, line

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21 and 22 the meeting of Dec. 27, 1983 was not specifically a meeting relating to manner of sampling welds. That meeting also attended by Mr. Robert Romano, was for the purpose of Mr. Corcoran and Mr. Wetterhahn instructing us to search all records for what we might want relative to welding activities. I wrote the Board to state that when we asked Mr. Wetterhahn how to find certain specific items, instead of answering, he told me to write him on that. The re-evasion with waste of our time required the deposition we took on March 4, (during which there was more evasion).

Further indications of the lack of an understanding of statistics and the unfitness of Mr. Wetterhahn to be sure of the sampling methods used and the significance of Dr. Iverson's testimony is seen on page 10,418, lines 12-20. In total pages 10,418 to page 10,430, the significance which was mentioned on page 10,416 was never allowed to be tested. Ms. Hodgdon's statement on page 19 at lines 16 to 20 indicates she does not understand that statistics encompass all sampling irrespective of activity. Lines 15 and 16 prove it had significance because the record would not exclude the important question of "how the record was selected". The whole question of Quality Assurance re welding could not be independently--not inbred surveyed, had a professional statistician been permitted to focus in on the demonstrated weak weld sampling program (admitted by Romano) on page 10,436, lines 12-16).

Romano) feels the Board, knowing the very lop-sided adversarial position and the balancing effect of permitting Dr. Iverson to testify, admitted, and more so for the record, so that again, concern for the secondary to technicalities offered by high priced legal staffs. relates to AWPP's March 6 list of improprieties as it relates to samp-

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ling, ^{P. 10, 431} I stated the submittal was an example of the improper sampling. I felt that introduced the activity which would be contested. Again the need to list every piece involved in the questioned activity was felt unnecessary because of layman inexperience. Further on the same page, lines 16 to 22 mischaracterized my effort. I did not ask that X, Y, and Z be omitted. I believe it is the Applicant which did not want AWPP to include X, Y and Z.

In total Judge Brenner is correct as he states in lines 23 to 25 that for "a complex administrative proceeding such as this one" special preparation is necessary. This, without the guidance of counsel in the appreciation and preparation of testimony prevented proper preparation which, in effect, denied intervenor full protection on the one hand, and prevented completion of the record on the other hand.

The absence of counsel also prevented AWPP from properly using witness Dr. Iverson, who would have shown how erroneous the sampling of welds, a very crucial activity, was conducted by Applicant.

As I, or anyone else read the transcript, take for example page 10,451, lines 5 to 24, it is obvious that a citizen, without counsel and in a complex administrative procedure, cannot help but fail to properly present material according to formally required courtroom procedure, that could be crucial to the safety of the public.

This difficulty was further exacerbated by AWPP (Romano) having been required to change plans. For example, when Dr. Iverson was not permitted to testify, I had to change plans within a fifteen minute break and then was reprimanded for being no more than one or two minutes late on a courtroom clock which was five minutes fast.

It is important to state that my submitted Contention was that in the construct-

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ion of the Limerick reactor there was a pattern of carelessness in the various activities, such as concrete, electrical, welding, Quality Assurance involving inspection etc. The Contention would have been rejected ^{if called} had AWPP not insisted and forced out that there was falsification of records and evidence of improper welding records. AWPP's Contention as submitted was not simply as stated on page 10,466 at lines 12 to 16, but AWPP as per Judge Brenner's reply, page 10,467 at line 2, included checking erroneous welding inspection, sampling, etc. which then remained hidden because our witness, statistician, Dr. Iverson, was not permitted to point out the deficiencies.

AWPP (Romano) feels the Applicant's witnesses, as supported by their Counsel elongated their answers thereby evading the question. An example is had on page 10,467, line 25 where AWPP (Romano) asks whether Mr. Corcoran, Quality Assurance Supervisor for the Applicant, has written procedures for his subordinates to follow. The answer given by Mr. Corcoran on page 10,468, lines 3 to 11 gives an apparently memorized statement (stated the same way numerous times during the hearing), that does not state yes or no as to whether he had written procedures to insure proper selection (or any type of selection) of welds. He answers at 10 and 11 saying "so we have procedures which describe how to scope audits". I did not ask him if he had procedures for scoping audits.

At page 10,468 Judge Morris asks to inject himself for a moment (line 12-13). In that injection it was found that Mr. Corcoran's group did not do inspections of the completed weld (page 10,468 line 19) even though he had created the impression it was he who supervised welding. This impression was re-inforced when he came with Mr. Wetterhan on Dec. 27, 1983 to the document room to help in checking welding infractions.

But Mr. Corcoran stated every safety-related weld is inspected (same page

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line 21-22) even though he didn't do it. On the basis of the 76-06-01 case where repeated changes in having inspected all welds were later found not to have been inspected, I find that Mr. Corcoran again gave his opinion since we did not have the inspectors there to prove 100% inspections. The fact that Mr. Corcoran and the Applicant know they substituted surveillance for 100% inspection (even claiming 100% was too severe) further proves Mr. Corcoran's use of opinion. Throughout pages 10,471 and 10,472 it is evident Mr. Corcoran does not appreciate proper statistical procedure and terminology. AWPP 246A re 50-352/80-21 and 353/80-19 criticizes surveillances as conducted by PECO's Corcoran using improper sampling methods. The same report speaks of suspicion by the NRC of PECO's less than 100% inspection.

The weakness of Mr. Corcoran's supervision and understanding of Quality Assurance is evident every time he cannot answer a question, going into long evasive answers, such as my question at page 10,476, line 14 and his answer at line 19 to page 10,477 at line 15 and his answer at line 20.

As it relates to 76-06-01 I am submitting the indisputable facts that must be a prime example of the weak and careless Quality Assurance program involving welding and record keeping. Further it indicates the poor quality of those involved in the Quality Assurance program and the inspections of welds.

As it relates to 76-06-01 Mr. Manley at page 10,566, line 19 to 21 says aids (like the broomstick) are not commercially available, whereas Dr. Fisher said they were. And at page 10,570 line 15 to 22 Mr. Corcoran's supervisory capability is questionable as it relates to rationalizing low-quality work. On page 10,571 line 6, Mr. Corcoran states there are over several million welds at Limerick. The descriptions by Mr. Corcoran of weld quality and inspection requires serious study by the ASLB with "several million welds" involved at Limerick. The 76-06-01 affair required that Mr. Toth was present. To not have him present prevented the

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prevented the very most important points in controversy to remain unresolved, which non-resolution resulted in the favor of the Applicant rather than the public. Page 10,599 to page 10,600 demonstrates why without Mr. Toth present my reading that P. E. tried to prevent Mr. Toth from re-inspecting the welds was not resolved. When AWPP (Romano) asked at page 10,609, line 13 if Mr. Corcoran didn't think a better picture of the entire 76-06-01 question would be had with all inspectors involved present, Mr. Wetterhahn, at page 10,609 lines 17 and 18 objected on the basis such common sense was beyond the competence of the witness.

The Bechtel inspector involved with the 76-06-01 broomstick affair was separated (as used by the Applicant) on the same day the subject weld was re-inspected and found non-conforming *but* found to be recorded as O.K. and meeting final verification. It is obvious to any outsider that the welds, being so deficient were too likely never inspected at all. Isn't that why the inspector was "fired" ? Applicant claims, however, the separation was a decision of the inspector unrelated to his inspection duty which Mr. Boyer defended (see question page 10,606 at line 25 to page 10,607 lines 1 to 3, and Boyer's answer same page lines 4 and 5. Also see question and answer same page lines 6 to 15 inclusive.

In answer to the very important question page 10,611 at line 8 as to means by which Quality Assurance Supervisor Mr. Corcoran can assure that an inspector has actually inspected a weld, Mr. Corcoran gives a totally unconvincing answer, lines 11 to 22, page 10,611.

As it relates to Mr. Ferretti and Quality Assurance Mr. Corcoran tried to cover up the absence of Mr. Ferretti's initials on the weld (page 10,615 at line 12) but continuing to page 10,616, through Judge Brenner's questions at line 12 and Mr. Corcoran's evasive answers at line 15 to 21.

AWPP (Romano's) conclusion is the welding and inspection and Mr. Corcoran's

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efforts to whitewash every infraction and suspicious development creates no confidence in any group of citizens listening as jurors.

Mr. Corcoran denied at page 10,845, line 19 to 21 that the NRC cautioned Applicant on delays in weld inspections because it could affect access to subsequent, proper inspection of welds. Mr. Corcoran asked that AWPP (Romano) identify when that occurred. Judge Brenner identified it at page 10,846, line 25, but then spared Mr. Corcoran who had denied he received such caution by, on page 10,847, lines 6 to 8, not allowing its use to disprove Mr. Corcoran's denial.

Another indication of sloppy Quality Assurance is evident on page 10,886 line 15 where I ask Mr. Corcoran about thermometers received by a non-qualified Schneider Co. inspector. These thermometers were found to be totally deficient as it relates to correct readings of the temperature of an oven in which welding rods are heat treated. Mr. Corcoran's answer at lines 22 to 25 indicates that the Quality Control engineer or inspector were deficient in their work because the welding rods were in fact, found by the NRC inspector ~~to be~~ improperly heat-treated on the one hand, and found cracked or mercury-separated thermometers, as would have to be the case to have different readings on repeated tries. Further the report showed the inspectors did not know the proper method of thermometer calibration since they finally used the temperature of the oven to calibrate the thermometers which is backward. Nowhere ^{in the corrective action} did they state that proper calibration such as by American Society of Testing Materials standardized thermometers. While the Judges may not permit the previous statement on the basis of listings, an inspection would show this abysmal deficiency. *The Schneider episode + "broomstick" is frightening.*

On page 10,932, via questions by Ms. Hodgdon relating to welds that had been inspected by "a certain inspector" (implying Mr. Ferretti and 76-06-01) it is disclosed against Mr. Boyer's affidavit of September 29, 1983 declaring the accessible and inaccessible welds involved in the 76-06-01 broomstick affair were

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all. (finally) taken care of, Dr. Fisher states on page 10,932 that he inspected welds in question as late as March or April of 1984.

Whereas the number of welds involved in the "broomstick affair" started in 1976 and involved 350 welds culminated per Mr. Vincent Boyer's September 29, 1983 Affidavit at 1235, how could Dr. Fisher consult on all these in 4 hours (page 10,933, lines 10 and 11) including inspection of engineering calculations?

AWPP finds that the entire controversy of 76-06-01 has not been resolved even with expert Fisher's effort.

On page 11,046, the hearing is concluded starting at line 23..AWPP (Romano) contrary to line 15 of above page, feels the Applicant's witnesses, in particular Mr. Corcoran, were shown to be weak and evasive.

Further AWPP (Romano) feels that inasmuch as the Findings and Conclusions report is routine and fair to permit, the statement on page 11,049 line 6 prejudices AWPP's case in that it implies a decision against AWPP has been made, and it is useless for AWPP to submit Findings and Conclusions, as I stated page 11,050 at line 10.

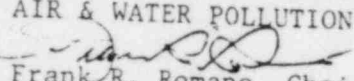
AWPP finds that the Courts in a case of this type should have provided Counsel so that an intervenor would know how to structure its cross-examination based on the testimony of the Applicant rather than isolated cases of welding infractions obtained through Discovery. Recent decisions by the Supreme Court relative to recourse a citizen has before judges and lawyers would make counsel mandatory in this specific case.

It seems that some IE reports have indicated welding infractions since the March 6 listing deadline. If this is so, this Contention must continue until those items are investigated. *Appf asks that such infractions be submitted.*

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The 76-06-01 "Broomstick Affair" is the tip of an iceberg at Limerick of Titanic proportions. Starting with the discovery of one(?) welder's denied non-qualifying action and disgraceful performance that speaks of Limerick's Quality Assurance supervision, plus the Bechtel and Licensee inspectors' obvious contempt for the need to inspect welds that are not easily accessible, then recording such welds as O.K., but with no initials of the inspector on the weld as was required, (another indication he never inspected that weld and who knows how many others) altogether paints a picture of an accident waiting to happen.

But the more contemptible effort by the Quality Assurance and Welding Inspection groups, and the Applicant's highest officers in having their Counsel make repeated statements to create a coverup of evidence of wholesale carelessness^{at} found at other construction activities of the Bechtel people who are building Limerick, proves that the effort now is to protect billions rather than consideration of the safety of the people.

Respectfully submitted,
AIR & WATER POLLUTION PATROL

Frank R. Romano, Chairman

Printed Corrections by Frank R. Romano