

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

August 4, 1983

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Glenn O. Bright
Dr. James H. Carpenter
James L. Kelley, Chairman



In the Matter of
CAROLINA POWER AND LIGHT CO. et al.
(Shearon Harris Nuclear Power Plant,
Units 1 and 2)

Dockets 50-400 OL
50-401 OL
ASLBP No. 82-L68-01
OL

Motion to Compel Discovery
re Eddleman 41 & 65

Following the breakdown of negotiations on these responses (7-25-83), Wells Eddleman now respectfully moves the Board to compel Applicants to respond to discovery on Eddleman 41 and 65 and general interrogatories as follows. Since there is a massive amount of information involved on Eddleman 41 (pipe hangers) and I have limited access to experts on Eddleman 65, I need to get as much information that could lead to admissible evidence in the first round of discovery as possible, to be able to frame an adequate second round of questions (this is one of the disadvantages of being limited to 2 rounds of discovery). Applicants have already produced some 15000 pages of info on Eddleman 41, 2 questions but have not produced much needed information. They advise me that they will not provide any more documents referred to in these pages, even the field change requests etc which they had provided some of during document production.

Disputed matters are addressed here in the order they appear in Applicants' response (re 41 and 65, dated May 12 '83, served 5-13 and received by me 5-16).

Interrogatory G-8 (pp 6-7). Applicants' answer, insofar as it addresses matters presently known, is acceptable. I have dug into some cases on interrogatories and understand that what is NOW known is the proper subject of interrogatories of this sort.

To the extent that the answer will be updated (as this is a continuing interrogatory), I do not choose now to try to compel discovery on G-8.

In so doing, I do not agree that this or any other failure to move to compel on G-8 constitutes agreement with any objection to it. Nor do I waive the right to move to compel if information responsive to G-8 is not made available in a reasonable time.

If, arguendo, the position of Applicants is that they will provide nothing beyond their May 12 answer (that they have nothing responsive to Interrogatory G-8) and will not provide it, then I do seek that they be compelled to provide such information. In so seeking, I do not ask for work product; as to other privileged material, Applicants should identify any such in objecting to the interrogatory (they have not so far), and state the privilege they claim is applicable. I have no means other than discovery to obtain the information available to Applicants about welds and concrete inside their plant (and specific answers, if they know them, about concrete in base mats at other Daniel-International-constructed plants). Information Applicants rely on is clearly information that could lead to admissible evidence. If this interrogatory be considered premature, I note that it is continuing and should be answered when information it asks for is available to Applicants.

Response to Interrogatory 41-1(b) (p.7 of response)
CP&L did not state "what tests in welding inspection she or he passed" for each inspector, the "results of such test", the "requirements of such test or questions on it", other information as to the "content or nature of such test or tests", or any "other information". (All quotes above are from interrogatory 41-1(b)).

Applicants did not object to answering these parts. I have only the supposition that "other information" may be considered too broad. I can narrow it, i.e. to "any information indicating such person is unqualified to inspect welds, or information that such person has approved defective welds after inspecting them." I think that lesser request is specific enough.

All parts of this interrogatory Applicants didn't object to, they should answer. They're highly specific except as discussed above. This is the kind of question that on other interrogatories, Applicants have been willing to supplement answers to (see 6/30/83 re Eddleman 75 and 83/84, supplement by Applicants, and the interrogatories for which such supplement was made -- as identified in said supplement).

Re 41-1(d) (pp8-9 of response) Applicants give no qualifications of the checkers of blueprints other than to say that they are "degreed engineers". Are they degreed solar engineers, nuclear engineers, or maybe welding engineers? The answer is not responsive. "A degreed engineer" by itself is not a statement of what the qualifications of a person are, except perhaps in the most minimal and incomplete sense. ^{see} (resp. at 8) Applicants go on to give qualifications (resp. at 9) as "most ... are degreed engineers". This is not responsive.

Although Applicants object to the research to identify the information by symbol and drawing, they refuse to allow me to have access to the information to do such myself. Although I probably don't have time to review 50,000 drawings, I have reviewed 5000^{pages of} weld data reports in less than 3 working days in July when they made those documents available to me. I think Applicants are unreasonable in denying me access to the drawings because

(1) you can't tell if welds match a drawing without seeing the drawing. I have a diploma in welding and got an A in my blue-print-reading course, so I can do this, if I can see drawings.

(2) It has been admitted that incomplete, unclear and wrong welding symbols were used on drawings at Harris (See Applicants' report, Revision 1, accompanying their first set of interrogatories to me dated 1-31-83). Thus the information is relevant and could well lead to admissible evidence.

(3) Even NRC Staff itself deals with large amounts of data like this by sampling. See at pages 67 (bottom), 68 of NRC Staff response to my first set of interrogatories.

(4) I am willing to do such sampling myself if I can get access to the packages containing the information requested. This is a position of which Applicants are aware.

41-1(e) (resp pp 9-10) This answer is very general and provides no specific information. Applicants know that welds were made with unclear symbols (see Exhibit 2 to their report to NRC, 5/27/81, re pipe hangers, attached to their 1st set interrogs to me).

The answer is incomplete and perhaps evasive. Applicants also refused to provide any drawings, saying they're "not referenced in our answers" (but see at 9) As to the specific information by symbol, etc, I am willing

to dig it out myself and the above reasoning for why I should be allowed to do so (see re 41-1(d) objection, above on this page) applies. This applies to drawing revisions also, which Applicants have not provided.

Re 41-1 (h),(i) and (j) (resp pp 10-11). The objection says Applicants won't do the research. I think I should be allowed to do it myself, then, at least on a sampling basis with free access to the Weld Data Reports (WDRs). Applicants identify "roughly 55" file drawers of WDRS. Even assuming small file drawers, the WDRS so far made available would fill only 9, as they fit into four 3' x 1' x 1' (approx) boxes.

The reasons for allowing direct inspection, and my qualifications to do so, are the same as discussed on page 4 above for 41-1(d).

Re 41-1(k) (resp. p. 12) Approximately 12,000 pages were produced of the "roughly 20,000 pages of WDRs and work packages" identified by Applicants. Applicants selected all the papers produced and refuse to allow any access to the other WDRS and work packages. I was able to look over the 12,000 in 3 days, and the copying I requested was done within 2 more working days of the end of my inspection, so CP&L informs me. The objections as to interruption of work are not specific; the 12,000 pages were also evidently active files: the WDRs contained many pink sheets of recent inspections, and the HVAC file had "everything" in it regarding those hangers and was assembled (so it says) for Steve Mountcastle, who's in charge of HVAC pipe hangers at Harris. I am willing to work out arrangements with Applicants to see the rest of this information, part at a time, or however reasonable. Their refusal to provide the information AT ALL is not reasonable.

Applicants allege an "unrecognizable benefit" to me from seeing the rest of this info. First, I'm not sure they haven't been selective in what they've revealed; second, the benefit in inspecting these reports is to see how good the inspections a_re.

I have already found a number of pipe hangers where the earliest record supplied to me is a "reinspection" finding the whole thing OK, followed by another inspection finding defects. Two such are A-1-190-1-PD-H-37, rejected 3/18/82 "for weld type not same as on drawing", re-rejected 1/11/83 for defects, two of which apparently had been OKd twice previously; ditto-number ending in PD-H-41 was reported 12-28-82 undersize 1/16 on bottom weld after previously being OKd. There are dozens of such, not just on PD-H's. I think it reasonable to look at the rest of the reports to see if problems like these, or other problems, are found for those hangers. (Ditto PD-H-42 OKd 10-25-80 on reinspection, 5 defects found, 1-6-83)

41-1 (l,m,n,o,p,q,r,s) (response pp 12-14). Applicants object to all of these, basically the same; the objection is only set out for 41-1(v) at page 12. These interrogatories all seek information as to the identity, qualifications, training, hiring, discharge (records of such also), blueprint-reading knowledge, and record (if any) of making defective welds for persons welding pipe hangers at Shearon Harris, and whether any person(s) have been discharged for making defective welds on pipe hangers.

The objection is that the interrogatory is outside the scope of "inspection of pipe hanger welds". But this set of interrogatories can lead to admissible evidence. The defective welds were obviously made by welders. Some of these defective welds were then approved by CP&L's inspectors. Knowing what welders were involved gives me the chance to find out if there were more (or, possibly, less) defective welds than reported. Knowing if

the welders could read welding blueprints is clearly relevant when unclear welding symbols (Exhb 2, pg. 1, to CP&L rev. 1 report dated June 11, 1981 on pipe hangerx welds at Harris) were a major cause of rejecting pipe hangers previously OK'd by CP&L inspectors. One of CP&L's mitigation strategies was to retrain the welders (same report), after which 12.7% of welds in a test following retraining contained defects (or 12.7% of the hangers did. Exhibit 1, ibid, title off top of page).

The welding tests passed, etc, are relevant because if the welders aren't really qualified, they'd tend to make more defective welds. Defect rates as high as 95% (see p.4, same report referenced above, for sample of 400 hangers) have been reported, in welds approved. I need to check into the welding to see what problems the inspectors would confront. Obviously you can't have 95% defective pipe hangers without a lot of defective welding going on -- and being approved by inspectors.

The questions as to whether Applicants know who made the defective welds are obviously relevant. What action did QA/QC take with respect to these welders? The defect rate of welders is relevant also -- were welders retained who had lots of defects, in their work, and if so, why. If CP&L doesn't know the defect rates, what kind of QA/QC is that? If CP&L doesn't know the welders of the defective pipe hangers, is that good QA/QC or not? If persons were discharged for making defective welds on pipe hangers, that's obviously relevant -- it shows QA/QC found who was causing some of the problems and took strong action,, at least in some cases. If they didn't, it shows further weakness. As to discharges prior to 9/3/80 (when the defects were first noted in approved welds by the NRC inspector), and after, that

would show if any change occurred between practice before that time and afterwards. When CP&L includes changes in welder training and review of blueprint reading for welders in its mitigation program for defective pipe hangers, they can hardly argue that such information is irrelevant. After all, one way to reduce the number of defective welds approved is to reduce the number of defective welds. In exploring information available to welders on these pipe hangers, relevant information on the extent of defective welding of such hangers, the inspectors' practices as perceived by the welders, and the welders' capabilities and instructions, can be developed. What CP&L knows about who made the defective welds is certainly relevant to the ability of their QA/QC program to handle defective welds on pipe hangers (and, one might hope, to prevent such from occurring or being OK'd).
See also p. 10 below - they don't object to info re drawing approvers)
I assume the answer to 41-1(x) (p.14) is also "no." Applicants

stand on their answer, and if they won't tell me, I think they should be compelled to answer, since this is a different question than the referenced 41-1(w).

(p.145)
41-1(y) is the same objection as to 41-1(k) above. I refer to my discussion of that (pp5-6 above) and request access to all the information for the same reasons. Applicants should identify also all errors they know are documented in these records.

41-1(z) (p.15) I believe there is later information concerning pipe hanger welds, inspection, and possibly errors in specifications at Harris since the 6-11-81 report. See answer of NRC Staff to my interrogatories (1st set) at 69. Applicants refuse to provide the information in a "july 1983 report" (originally scheduled for May, 1983), referenced in a document they did produce this July. I don't know why they refuse; their document production people indicated they could supply it

but I have heard no reason for not supplying the document. The report is promised in a 3-31-83 letter of Parsons, CP&L, to O'Reilly, NRC, ^{CP&L is} checking 900 suspect welds, hope to finish 5/83. (ref. p. 13 of my working notes, July 1983 at document production). If there is a delay, Applicants could simply produce this document. I request they be also compelled to produce documents related to the pipe hanger weld problems identified by NRC Staff (response to my interrogatories at 69, June 1983), since these are also responsive to 41-1(z).

41-3(e), response at 17(also objection at 16)
The objection is about the same at to 41-1(k); I request I be given access to the information requested. These waivers and field change requests have the effect of turning defects into approved items. After providing some during document production, including some referenced in WDRs but not provided originally as documents produced, Applicants now refuse to produce any more. The FCRS and PWs and other changes (RCIs, etc) are just as common among the non-HVAC pipe hanger WDRs, but Applicants refuse to produce those (non-HVAC FCRS, PWs, RCIs, etc) The info is relevant in that it is part of the inspector's job to make sure the hanger conforms to any changes approved. (It's also relevant since there appears to be no seismic analysis in the approvals of FCRS and PWs I have seen, just vague references to strength of welds -- but not to vibrational modes, flexibility, etc, which are as critical to seismic integrity as strength, if not more so. Overwelding that rigidifies a joint beyond what it should be increases strength but may increase the chance of seismic-induced failure. Many oversize and over-think welds are OKd at Harris in what I've seen)

The requested information is as relevant for non-HVAC hangers as for HVAC (more so, in fact, since other systems are more important to safety than is HVAC). Applicants should produce it.

Note also Applicants' answer to 41-3(f)^{p.17} which deals with FCRs and PWs and says "Any modifications or request denials can be identified by reviewing the subject documents." But not where those documents are not supplied! 41-3(f) is not limited to HVAC hangers. Objection to 41-3(f) is same as to (e) so above discussion covers it also.

41-4(e). Applicants may have a point in calling the question re other welds irrelevant (e.g. embeds), resp at 18). But the point is to see if the policy is different for other safety related welded complex structures, of which embeds are an obvious example. It wouldn't hurt Applicants to answer this. The possible admissible evidence would be that their standards are weaker, stronger, or the same for other welded complex. That would assess whether CP&L quality standards had to be upgraded on pipe hangers, when; or if standards for pipe hangers have always been as strict (or lax) as for other such structures as described above, e.g. embeds.

Re 41-4(h), pp 19-20, the answer says that the supervisor requires a "demonstration of the individual's understanding of applicable requirements" for persons who are to inspect pipe hanger drawings. (Note that, in contrast to 41-1 thru 4 above, Applicants do not object to supplying info here about people who check the weld drawings. See pp 6-8 above.) It is evident this is the only qualification, but the answer is vague and should be supplemented (I've requested this -- refused). Just what

is the required demonstration (qualification): whatever convinces the supervisor? identifying 5 out of 5 cases where requirements are met and 5 out of 5 where they are not on a test? This answer seems to say the required qualification is "none" except for this "demonstration", so it is reasonable the "demonstration" be specified.

41-4(1) (p.20) I want to know who's not there for 2 reasons: to get access to people who've done this work but whose jobs do not now depend on CP&L or its contractors, and to see if anyone has been discharged for failures in checking the pipe hanger drawings at Harris. Applicants should have the info and give no reason to withhold it. It isn't "irrelevant" for the reasons above.

41-4(1) p.21, doesn't say how many have been reinspected. Due to the form of the question, I will ask a followup (Applicants object that answer to (j) is not affirmative, so they could just not answer at all).

41-5(a) thru (g) and second (g) ("(g) sic" as Applicants term it) are the same as objection to 41-1(1) (pp 22-23). The relevant item is that instructions as to what to do about unclear symbols on blueprints are part of Applicants' "cure" for the Harris pipe hanger problem. See 6-11-81 report. The above discussion re 41-1(1) pp 6-8 above, applies here since it's the same objection. Applicants have provided info on the training of inspectors, the procedures used for welding, the identity of folks who review pipe hanger drawings, and other interrogatories at least as "far" from the contention about OK'ing of defective pipe hanger welds as is this. If the welds are defective and welders' instructions are changed therefore, isn't the past instruction to welders relevant?

41-5 (i) p.24: The objection as to burdensomeness could be handled by giving me access to the info (see discuss'on at 4 above). As to relevance, the policy of returning drawings to the Site Mechanical Unit is part of CP&L's handling of the pipe hanger problem, for unclear weld symbols. Exhibit 2 to their 6/11/81 report on that problem shows that many previously OK'd welds had symbols so unclear they could not be checked as conforming or not. Weld inspectors have to compare welding to the blueprints. Changes are made on the blueprints (compare Applicants response to 41-1(e) on page 9 of their response). The number of returned blueprints shows how many blueprints got by the review by CP&L's people, which CP&L didn't object to answering questions about (see response to 41-4(f), 100% of drawings are reviewed; 41-4(h) they do review them since 9/3/80, 41-4(j) one or more persons of CP&L review every drawing prior to release to the field; 41-4(o) drawings are reviewed prior to release to the field). This question is, how many of those drawings are then returned by the field because of drawing errors or physical limitations that got by this review. It's relevant and Applicants should answer it or make the info available to me.

41-5(j) the requested info should be made available in documents made available to me. Reasons are discussed above re 41-5(i) for which the objection is the same.

41-5(k) Applicants refuse to produce the waivers. Resp. at 25. Discussion at pp 9-10 above, re FCRs and waivers, applies. Discussion on this page above applies to producing the info for inspection if they can't search the information out. It should be produced or they should answer.

41-6: Answers and objections same as above. Applicants should answer this for anything re 41-3,4,5(& subparts thereof) above that they are ordered to answer.

41-7 (p.26) the objection is to information "outside the scope" but again, the treatment of other welded supports could be usefully compared to the treatment of pipe hangers. This could lead to admissible evidence. See discussion of 41-4(3e) above at 10, which is equally applicable to this objection which is similar.

As to the answer, Applicants say the sketch of the subjects covered is all the information available re retraining of welders. (For info on the failure rate of welders retrained, see Exhibit 1 following p.4 of their (CP&L's) 6-11-83 report of pipe hanger weld problems, attached to their first set of interrogatories to me 1-31-83)

(p.27)
41-8. The issue is the same as with 41-7, basically. The defective welds made by persons retrained are certainly relevant to the effectiveness of the retraining, which is part of CP&L's remedial program, and the number of defective welds and how well they are identified is relevant to inspection of welds.

41-9. If Applicants can't review the info they should let me at it. See discussion above at 4, equally applicable here.

41-11 (p.28) same as 41-9. If they don't have the info they should let me have access to it. (NOTE: Applicants' attorney does not necessarily agree that these objections are the same or the same thread of objection. I do not represent that he has ever said they are. I think they are). Discussion on p.4 re providing access is relevant here too, whether objection is the same or not.

(pp29-31)

65-1(a) and (b) objection to other than containment structures, I want to compare them with the ones in the contention. Also same objection to 65-1(c) p.40, 65-1(c), 65-1(h), same reply from me. Refusal to provide the concrete placement packages or copies thereof for inspection and copying, I think this data is most relevant to the contention and I should have access to it.

Applicants are unwilling to arrange this in any form as far as I can tell. If concrete placement reports aren't relevant to a contention about concrete defects I don't know what is.

65-2(a) (p.35) The objection, to the extent it depends on the Board's prohibition of a "broad-ranging review", is falsely premised. These questions are highly specific. I have provided Applicants long since with a document alleging these defects, and from which the questions were drawn: The Ironworker, Sept 1979, copy attached of relevant pages.

Applicants define "Applicants" to include their contractors one of whom is Daniel. Daniel should have the information. They should produce it. It is specific inquiry re the record of their prime contractor, relevant to the contention.

65-2(b), 65-3(b) (a) (c) pp35-36, same as 65-2(a) so compelling is same. The questions are quite specific. 65-3(c) might be considered "broad-ranging" and Applicants' objection to it may be reasonable.

65-4(a) pp 36-37. No masonry drawings were produced. Applicants say they've produced everything they think is responsive. If there are any relevant concrete or masonry drawings, they should also be produced. Applicants do not say (yet) there are none.

65-5(a) p.39, same as 65-1(a) above, p.13. Same reason to compel.

65-5(c) pp 39-40 Applicants object to producing the info by research. Then they should let me have access to their data that is relevant: Discrepancy Reports, Batch Tickets, and QC test logs. I can sample the info and review it, see p.4 above.

As to non-containment info, again I want to compare it with data for the containment, same as in 65-1(a), p.13 above.

65-5(d) and (e), pp 40-41, are the same objection and

same rationale to compel as 65-5(c), p.14 above.

CONCLUSION

For the reasons given above, I request that Applicants be compelled to provide answers and/or access to documents in their possession or in possession of their contractors (e.g. Daniel, Ebasco, Bergen-Patterson) as requested above.

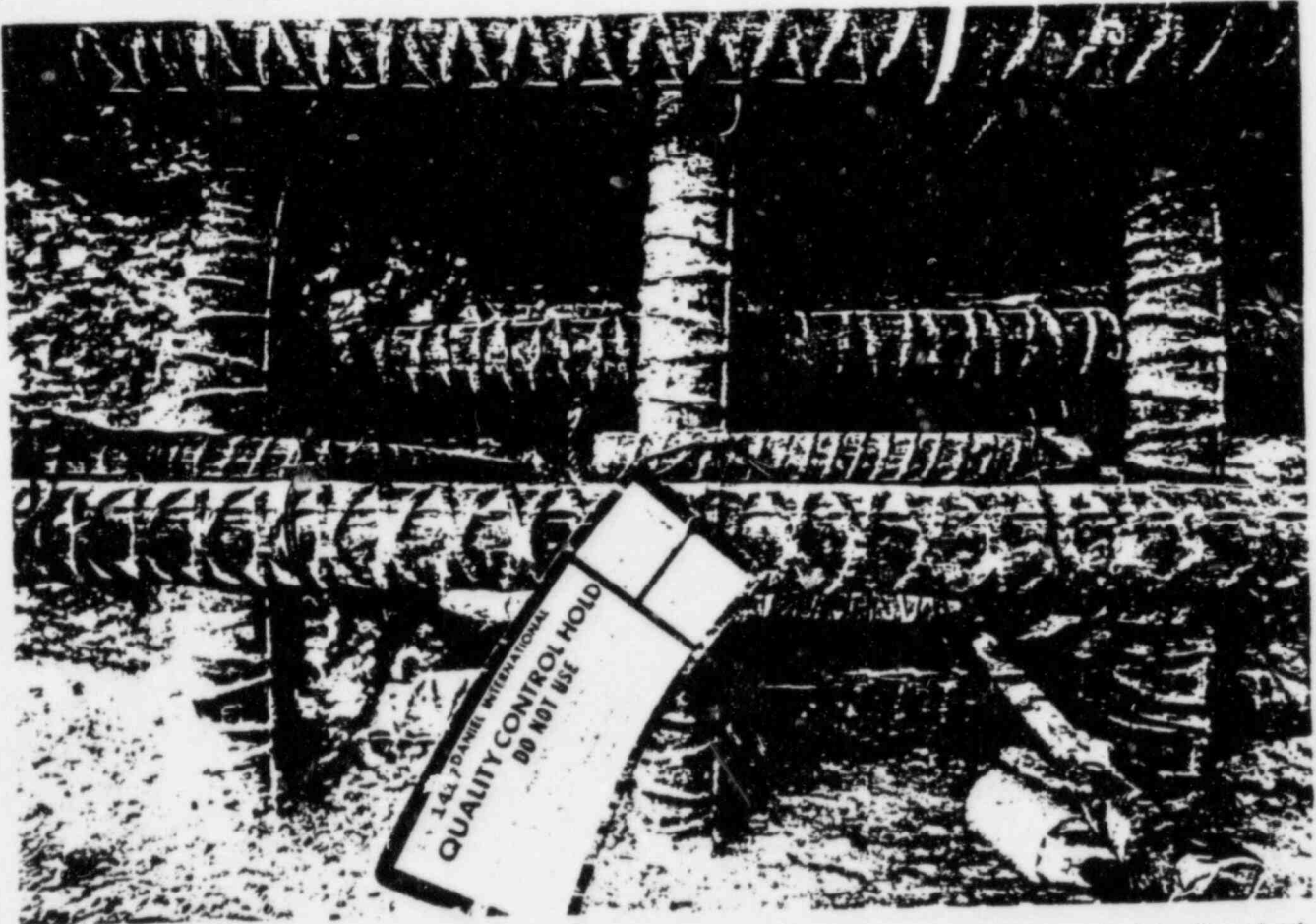
8/4/83

Wells Eddleman
Wells Eddleman

Below is of attachment referenced on p.14.
The rest follows this page; *then Certificate of Negotiations follows.*

Open Shop at Wolf Creek

Problems and Complaints Plague Construction Of Non-Union Nuclear Power Plant in Kansas



Work has resumed at the troubled Wolf Creek nuclear power plant in Kansas, a controversial operation conducted open shop by the Daniel International Corporation.

In a strange, unparalleled decision, the federal Nuclear Regulatory Commission (NRC) decided to lift a seven-month suspension of construction after huge voids were found in the exterior of the containment structure. The ten-foot-thick reactor base mat, poured in December of 1977 was found to test out far below specified strength, but NRC reduced the concrete strength requirements by more than 10 percent

to accommodate Daniel's substandard pour. Daniel reportedly bought a makeshift mix from a local company, originally formulated for highway, not nuclear, construction.

As work resumes amid reports of shoddy construction and problems on the job, the Kansas Building and Construction Trades Council (KBCTC) has set up an office in nearby New Strawn, Kansas. The unrepresented, non-union Wolf Creek workers are invited to stop by the office "for a cup of coffee and let their concerns be heard." In turn the KBCTC office will "monitor the quality of construction" at the

troubled plant, originally scheduled for operation next year but now projected for 1983.

The critical base mat, upon which a 340-ton nuclear reactor vessel and containment structure will sit, got a delayed start on December 12, 1977. A few months before the 6,660 cubic yards of concrete were poured, the largest single pour in Kansas history, the prime owner of Wolf Creek, the Kansas Gas and Electric Company (KG&E) delegated responsibility for the concrete to Daniel, according to NRC records. Daniel then switched suppliers and secured a concrete formula from a local ready-mix

company, a formula intended for "ditch linings and box culverts" used on a nearby highway project, I-35. A Kansas State Highway Department official later said that cement would not be used for a highway surface, much less a "safety-related" bridge or nuclear base mat. A Daniel document in August refers to that mix design as "approved for non-safety-related mud slabs and fill concrete only."

Daniel then, according to NRC reports, attempted to "upgrade" the 4,000 p.s.i. concrete mix by adding an "air-entraining admixture" and a "water-reducing admixture" to meet the 5,000 p.s.i. requirements.

Three months before the critical pour, Daniel stopped taking high-quality limestone sand and started getting cheaper river sand from another supplier. However, an earlier report noted that "a opaline sand mixture peculiar to the Kansas and Platte River area reacted to Portland cement by severely expanding in five to seven years" and another report noted that "the stone is classed as unsuitable for use in concrete flatwork."

Nevertheless, although the open shop construction company itself conceded that "Daniel was unable to plan for large, critical concrete pours," the big pour was made over a two-day period in December of 1977, a pour that later came back to haunt Wolf Creek.

A year later, on December 13, 1978, huge voids appeared in the concrete of the huge nuclear reactor containment structure above the base mat. Five days later, work on the structure was halted as the NRC, the owners and the public took "a second, closer look at the "merit shop" work of Daniel International Corporation, a wholly-owned subsidiary of the Fluor Corporation.

On February 16, 1979, the Nuclear Regulatory Commission is-

sued a "Notice of Violation" to Wolf Creek owner, K.G.&E., finding that less than half the concrete samples from the critical base mat reached the required 5,000 p.s.i. "All of the items of noncompliance detected during our inspection involved the failure of your contractor (Daniel) to follow procedures. These findings indicate to us an apparent weakness in your own management controls and in the effectiveness of your QA (quality assurance) surveillance program, as well as that of the contractor, Daniel International."

The NRC also pointed to "voids beneath the equipment hatch and the personnel airlock" and referred to an August 1, 1978 meeting in Wichita where "concern was expressed over the number of noncompliance items detected during construction which involved either failure to follow procedures, or a lack of procedures." The report noted: "We have preliminarily concluded that the compressive strength of the base mat does not appear to meet the specified acceptance criteria." The 45-page report faulted Daniel for the concrete mix design, testing procedures and violation of the NRC construction permit.

Within a month of the extensive violation notice, the Kansas State Building and Construction Trades Council launched a probe of the \$1.08 billion Wolf Creek project. Council President Allen Thompson, assistant business agent for Ironworker Local 10 in Kansas City, pointed to faulty concrete work and problems with ironwork and welding. Theories that Daniel would "spy" on their talkative employees floated in the local media.

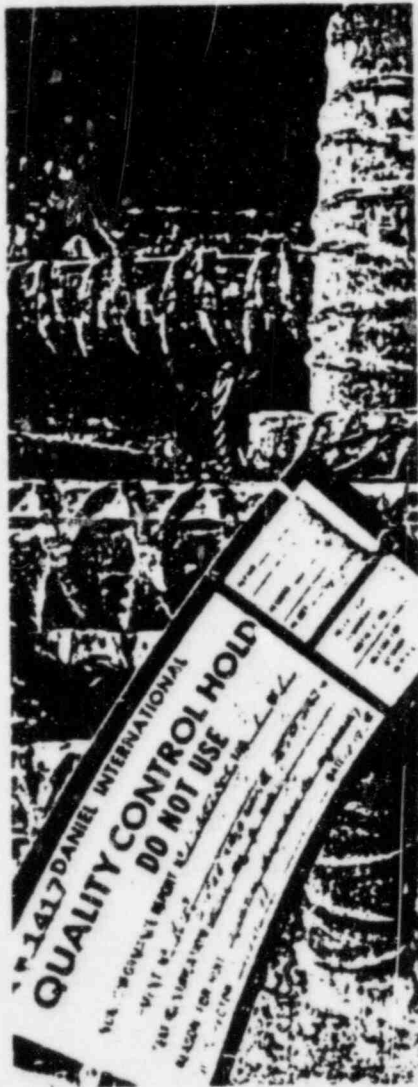
A week later, a young ironworker was struck on the head by a 15-pound hand tool below some scaffolding work at Wolf Creek. For about 10 days he laid in a coma while OSHA inspectors

probed the accident, issuing no citation. David W. Bailey, 35, died in a Topeka hospital, never regaining consciousness.

Two new construction problems emerged, one involving substandard rod struts and the other involving damage to a valve device. The Kansas Building and Construction Trades Council petitioned that NRC to close down the Wolf Creek project for "substandard and inadequate" construction. The petition called for revocation of the construction permit, warning that "operation of the power plant would gravely endanger the public health and safety" and "said danger cannot be alleviated until the construction work, especially the concrete, is redone." That was the third such petition filed with NRC against Wolf Creek.

Mounting pressures of construction delays, federal investigations, consumer complaints and "ballooning interest rates" prompted utility owners to push the NRC for a decision on resuming work. This pressure triggered a town hall type meeting in mid-May conducted by the NRC in Burlington where a decision was expected but not issued. Instead, more than 200 people fired a debate that centered around a secret contract provision.

Wolf Creek officials at the Burlington meeting were asked who would be liable in case of a future shutdown of Wolf Creek, due to the substandard base mat or faulty construction. Both the architectural design company, Bechtel Corporation, and the owner, K.G.&E., refused to answer the question, stating that such information might be "proprietary." An official for the Kansas Corporation Commission was quoted at the meeting: "If you pass the costs on to consumers, electricity rates go up, and nobody wants that. But if you pass the costs on to shareholders,



there is a good chance the company could go bankrupt, and that would leave people without power."

A few days later, a spokesman for K.G.&E. disclosed that Bechtel would redesign anything that has a design fault in it during the first year of operation. "That is the extent of their liability." No reference was made to potential problems relating to shoddy construction or to Daniel International Corporation.

By the end of May, Daniel reportedly had made several organizational changes at Wolf Creek, creating numerous positions at the direction of the Nuclear Regulatory Commission. But public pressure mounted, and on June 9 more than 1,500 people showed up in the rain to peacefully pro-

test the questionable quality of construction, the substandard concrete base pad and the voids in the containment walls.

By mid-summer the Kansas Building and Construction Trades Council's sub-office near Wolf Creek was staffed by Steve Ingram who served coffee and conversation to the workers and answered the office phone at 364-2012. Ingram's main interest is described "to monitor the quality of construction at the plant." The Council hopes that "through communication with employees, if there are problems in the construction they will be found while there is still time to remedy the situation."

There is also speculation about how hard the non-union workers are pushed by Daniel International at the Wolf Creek job, suggesting why the base mat is substandard and how those voids appeared in the containment structure. The workers work 10 hours straight for six days, take off one day, and work four more 10-hour days until they get off for three days. The Nuclear Regulatory Commission noted: "During a discussion with personnel associated with the placement, the inspector was told that a 'race' existed between the batch plant and placement crew to prevent or to cause a call for more concrete from the batch plant. While the inspector cannot attach any direct significance to this competitive spirit, it is indicative of the general 'push' to get this monolithic placement of 6600 cubic yards done in a record time." Such push, as well as the erratic and exhausting work schedule, apparently has not worked to catch up with all the construction delays at Wolf Creek.

Meanwhile, the chairman of the Kansas Corporation Commission is urging a full audit of Wolf Creek's construction budget and the state director of utilities is

wondering how much the Wolf Creek construction budget has been exceeded. The K.G.&E., prime owner and manager of Wolf Creek, has refused to disclose this information but in April went before Kansas State commissioners asking for a \$21.4 million interim utility rate increase. K.G.&E. president stated: "The losses we are suffering are beyond our control," asking consumers to pay more through higher electric bills. Two months later, in July, the K.G.&E., went before the state utility rates commission for \$33.6 million in higher rates, still refusing to reveal how much construction costs at Wolf Creek have exceeded the \$1.07 billion budget.

In July, seven months after the concrete voids were discovered and construction halted on the containment structure, the Nuclear Regulatory Commission gave Daniel the go-ahead, even though "about 50 percent" of the concrete test containers for the base mat failed to meet specified strength of 5,000 p.s.i. and in spite of the fact that NRC has never made an on-site strength test of the base mat. In closing the case, the NRC warned: "We will continue to monitor closely your work activity," and so will the Kansas State Building and Construction Trades Council from their sub-office on Highway 75, right down from the Arrowhead Cafe in New Strawn, just three miles west of Wolf Creek.

