

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

ATOMIC SAFETY AND LICENSING BOARD  
Before Administrative Judges

'81 NOV 16 10:00

James P. Gleason  
Glenn C. Bright  
Jerry R. Kline

SECRETARY  
GENERAL SERVICE

SERVED NOV 16 1981

In the Matter of: )  
Union Electric Company )  
Callaway Plant, Unit 1 )



Docket No. STN 50-483 OL  
November 13, 1981

MEMORANDUM AND ORDER

(Motions for Summary Disposition)

This memorandum and order relates to motions for summary disposition pending which require a formal ruling from the Board. We have previously communicated our decision on these in order to provide the parties ample time for trial preparation for the hearings.<sup>1</sup>

The Applicant has moved for summary disposition of three parts (IB, ID, IIA1) of Contention 1 filed by the Joint Intervenors (Coalition for the Environment, Missourians for Safe Energy and the Crawdad Alliance) and the Staff has moved on the same three parts as well as a fourth part (IA). Each of the movants has filed an answer supporting the motions of the other party.

The Joint Intervenors have submitted an answer in opposition to all seven motions but included specific responses because of an expressed lack of resources to only three-Applicant's IIA1 and the Staff's IIA1 and IA. In its answer, the Joint Intervenor also provided a general and legal argument which expresses a concern essentially that the Applicant and Staff have obscured the focus of Contention 1, i.e. failure of the quality assurance program, by improperly dividing the Contention into separate parts. The basic point here, we understand, and one with which we concur, is the Joint Intervenor's intention to have all of the activities alleged as deficiencies and nonconformances be viewed together as evidence of an inadequate quality assurance

<sup>1</sup>Conference call, November 6, 1981.

DS02  
SO/1

G

program on the part of the Applicant. We see, however, no threat to that objective in the motions before us. No alternative exists to handling the examples submitted by the Joint Intervenors than to handling them separately and whether the prior Nuclear Regulatory Commission cases cited by Joint Intervenors, and reviewed by the Board, are relevant here, cannot be decided at this proceedings present posture.<sup>2</sup>

I. General Statement of Law

Summary disposition motions are authorized to be filed by the Commission's Regulations under 10 CFR 2.749. We are directed, under that authority, to render the decision sought where the filings in the proceeding, depositions, answers to interrogatories, and admissions on file, together with the statements of the parties and the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law.

All material facts set out in the statement of material facts which accompanies a summary disposition motion are deemed to be admitted unless controverted by the opposing party, 10 CFR 2.749(a). Where motions for summary disposition are supported by affidavits, a party opposing the motion may not rest upon the mere allegations or denials of his answer but his answer by affidavits or as otherwise provided must set forth specific facts showing that there is a genuine issue of fact. 10 CFR 2.749(b). When a response to a motion has been provided, we must view the record and affidavits both supporting and opposing the motion in the light most favorable to the opposing party. See Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), LBP-74-36, 7 AEC 877, 878 (1974). The Supreme Court has held, also, that the party seeking summary judgment has the burden of showing the absence of a genuine issue as to any material fact. Adickes

---

<sup>2</sup>See Virginia Electric and Power Co. (North Anna Nuclear Power Station, Units 1 and 2) LBP-77-68, 6 NRC 1127, 1153 (1977); and Houston Lighting and Power Company (South Texas Project, Units 1 and 2) CLI-80-32, 12 NRC 281 (1980).

v. Kress & Co., 389 U.S. 144, 157 (1970).

The law, regulations and cases make clear therefore that prior to approving a motion for summary disposition, we must be persuaded that no genuine issues relating to the matter under consideration are left unresolved. We now move to a resolution of the motions before us and consider them in the order they were presented in the proceeding.

## II. Motions for Summary Disposition

1. The Staff filed a motion for summary disposition of Joint Intervenor's Contention IA relating to alleged deficiencies in the manufacture and installation of embedded plates as a failure of the Quality Assurance Program. The motion was responded to and opposed by the Joint Intervenors.

This portion of Contention 1 reads as follows:

### I. SUBSTANDARD REINFORCED CONCRETE CONSTRUCTION

#### A. Embedded Plates

Embedded plates, or embeds, so called because they are embedded in concrete, are fixtures installed in concrete walls to support the ends of load-bearing steel beams, piping and other structures. The plates are made of steel with short steel studs welded to one face, like the bristles of a brush. They are mounted flush with the wall surface, with the studs extending into the concrete. The exposed surfaces of the plates serve as point of attachment for girders and other structural members. If an embedded plate tears loose from a wall, the result could be the collapse of an entire floor, breakage of critical pipes in the primary and emergency core cooling systems, and even core melt-down (Class 9 accident).

When the Callaway Plant was approximately five and one-half to seven percent complete, a stop-work order was issued on June 9, 1977, when it was discovered that some of the studs were not properly welded to the embedded plates. (See NRC Report No. 50-483/77-10, p. 8). Prior to June 9, 1977, 480 plates had been installed in the plant. (See NRC Report No. 50-483/80-14, p. 4). The NRC and the Applicant do not know how many of those 480 plates contain faulty welds, they do not know where those plates are located in the plant, they do not know what loads each plate must bear, and they do not know what the consequences of plate failure would be to the safe operation of the plant and to the health and safety of the public. (See, e.g., NRC Report No. 50-483/80-14,

Attachment A - item 17, pp. 4-5 and Attachment B - item 17, pp. 5-6).

(a). The Staff's motion, which was supported by an affidavit from Eugene J. Gallagher, an NRC civil engineer inspector at the Callaway plant, includes the following summary of material facts:

Embedded plates contain manually and machine welded studs which anchor the plates in concrete where they serve as supports for piping, electrical conduits, cable trays, HVAC components and structural steel framing.<sup>3</sup>

After 480 plates had been embedded at the plant, an NRC inspector noticed some embedded plates with machine welded studs which had not been bend tested-as was required by AWS Code-where the studs lacked a full 360 degree weld.<sup>4</sup>

The Applicant suspended further placement of the plates and initiated a 100% reinspection program of the uninstalled plates which resulted in a low failure rate in bend testing of .08% of machine welded studs.<sup>5</sup>

All visible defects in manually welded studs were corrected even though tensile and bend tests on 12 defective welds showed no failures.<sup>6</sup>

Six randomly selected plates of those already installed passed tension tests under design load conditions and Staff concluded there was adequate assurance that the installed plates would not threaten the safe operation of the plant. The Staff also concluded that none of the uninstalled plates contain any studs with defective welds.<sup>7</sup>

And finally, the Staff stated that four exceptions to the AWS Code which were granted were minor in nature and did not affect either the basic weld design or the capacity of the connection.<sup>8</sup>

(b). The Joint Intervenor's response was not supported by affidavit but was buttressed by exhibits of letters, documents and reports from the Applicant's contractors and NRC personnel. The answer reflects the following:

---

<sup>3</sup>Gallagher affidavit, p. 2.

<sup>4</sup>Ibid., p. 3.

<sup>6</sup>Ibid., p. 4.

<sup>8</sup>Ibid., p. 5.

<sup>5</sup>Ibid., pp. 3-4.

<sup>7</sup>Ibid., p. 4.

The number of plates embedded in the structures, prior to the Applicant's reinspection program, exceeded the number reported by the Staff.

Details of the Applicant's reinspection program were not clear and the bend testing required by the AWS Code was not performed.

Information regarding the number of defective, failed and corrected welds is conflicting and the information necessary to evaluate this issue has not been made available when requested.

The tests performed of twelve manually welded studs is different from the procedures and requirements of the AWS Code.

The records pertaining to the tests performed on six plates installed before the reinspection program were deficient and the plates were not randomly selected.

And finally, there was no evidence or information to substantiate an approval by the Staff of the Applicant's deviation from the AWS Code for the manual welds involved.

(c). Findings of Fact: Based on the foregoing and other matters of record, we find no basis for concluding there is no genuine issue of material fact in this part of Contention 1. The number of plates installed and number of defective welds is in conflict, test data information is contradictory and information required to verify some of the Staff's allegations has apparently not been made available by the Applicants. There are additional areas of controversy over material matters which could be cited but those reflected herein are adequate to form a basis for our decision.

(d). Conclusion: The Staff's motion for summary disposition of Contention IA is denied.

2. The Staff and Applicant both filed motions for summary disposition of Joint Intervenor's Contentions IB1 and IB2 which were accompanied by affidavits from technical experts which set forth facts about which it was alleged there was no genuine issue. Joint Interveners did not reply with facts of their own in this contention. They stated that they did not answer with specific facts because of their limited resources which they preferred to utilize to contest other issues in this case.

This portion of Contention 1 reads as follows:



I. SUBSTANDARD REINFORCED CONCRETE CONSTRUCTION

B. Cracks in Concrete

There exist several cracks in concrete structures at the Callaway Plant that affect its safe operation. Examples include, but are not necessarily limited to, the following:

1. A crack up to 1/4 inch wide was discovered in the Reactor Building in the reactor cavity moat area in May 1977, a month after the concrete mat was poured. The crack extended approximately 270 degrees around the circumference. Upon visiting the site in June 1977, an NRC inspector was unable to view repairs performed on this crack because work had progressed to an extent that made physical inspection of the repair impossible. (See, NRC Report No. 58-483/77-06, pp. 20-21).

2. The NRC was notified by a Callaway plant ironworker in January 1978 that a lift of the north wall of the Control Building had been poured above a part of the wall which contained a crack approximately 12 feet long and 8 inches deep, and which extended from the inside to the outside of the wall and which apparently had been overlooked by the Applicant's quality assurance person. (See, NRC Report No. 50-483/78-01, p. 20). In spite of its size and the existence of additional cracks, the NRC Staff decided the crack was "an acceptable crack caused by normal concrete shrinkage." (See, NRC Report No. 50-483/78-03, p. 3).

Contention IBI

(a). The Applicant submitted the affidavit of Eugene W. Thomas, Civil Group Supervisor, SNUPPS, who is employed by the Bechtel Corporation on the matter of concrete cracking in the reactor cavity moat area. The following summary of facts was submitted:

The reactor cavity moat area is located in the lower portion of the reactor building where it encircles the reactor cavity. It begins approximately nine feet from the center of the reactor building and extends from there three feet radially outward. Concrete for this area was poured between April 6 and 9, 1977. A steel structural member which encircles the reactor cavity was embedded in the concrete at that time. The embedded member was covered with concrete except for its upper surface. Later a liner plate was welded to the exposed surface of the embedded member.

On or about May 9, 1977, a concrete crack 1/4 inch wide and extending 270 degrees around the moat was discovered by

employees of Daniel Corporation, the Applicants constructor. The crack followed the embedded structural member. On May 10 the Applicant reported the crack to NRC as a potential significant defect.

The Applicant investigated the crack by chipping a portion of it to firm concrete, removing a portion of the liner plate and by taking soundings with a hammer and pin. The investigation showed that there were no hollow areas in the concrete and that the crack was localized at the embedded member and did not extend under the liner plate into the reactor cavity.

The Applicant then notified NRC that the crack was localized and<sup>9</sup> that it did not constitute a reportable significant defect.

NRC Staff agreed that the crack had no safety significance.<sup>10</sup>

The Applicant and Staff concluded that the crack was caused by thermal expansion and contraction of the embedded member when the liner plate was installed by welding.<sup>11</sup> and <sup>12</sup>

The crack was repaired by chipping to sound concrete over its entire length and by filling the exposed area with a flowable non-shrink grout.<sup>13</sup> Materials used in the repair equal<sup>14</sup> or exceed the strength requirements of the original design.

The crack was localized in concrete whose primary function is fill material. If it had gone undetected and unrepaired, it would have had no deleterious effect on the structure.<sup>15</sup>

The NRC Staff submitted the affidavit of Mr. Anthony Varella, a civil engineer with the Region I Office of Inspection and Enforcement of NRC who was assigned to inspect the Callaway facility. Mr. Varella's statements regarding the crack are consistent with those of the Applicant. In addition, Mr. Varella stated that he was present for part of the time when concrete for the reactor moat area was poured. Other inspectors were present when he was not. No substantive

---

<sup>9</sup>Thomas affidavit, p. 4

<sup>10</sup>Varella affidavit, p. 3.

<sup>11</sup>Thomas affidavit, p. 5.

<sup>12</sup>Varella affidavit, p. 3.

<sup>13</sup>Thomas affidavit, p. 5.

<sup>14</sup>Ibid., p. 6.

<sup>15</sup>Ibid., p. 6.

inadequacies were found.<sup>16</sup> The crack was not caused by concrete related deficiencies but by welding which was performed by a contractor.<sup>17</sup>

Mr. Varella was not present when the crack was repaired, however he inspected the replacement concrete and found it to be sound.<sup>18</sup>

(b). Findings of Fact: Based on the foregoing and records of the proceeding, the Board finds that:

1. The concrete crack which occurred in the reactor cavity moat area of the Callaway Unit 1 plant did not create a significant safety concern since it was of only localized extent in a noncritical structure.

2. The crack was caused by thermal stress due to welding and not by faulty concrete placement in the moat area.

3. The crack was promptly discovered by the Applicant and promptly reported to NRC Staff.

4. The crack was properly repaired with materials of at least equal strength to the original design.

5. The Applicant's quality assurance procedures functioned adequately to detect, analyze and repair the crack.

6. Joint intervenors have not controverted any statements by either Staff or Applicant.

(c). Conclusion. There are no genuine issues of material fact remaining and accordingly the Staff's and Applicant's motions for summary disposition of contention IB1 are granted.

Contention IB2

(a). The Applicant submitted the affidavits and professional qualifications of Mr. R. David Neal, a Civil Engineer employed at the Callaway Plant by Daniel International Corp. (Daniel), in support of its motion for Summary Disposition. Additional information was also contained in the affidavit of Mr. Eugene W. Thomas which was previously cited. The Staff submitted in support of its motion the affidavit of Eugene J. Gallagher, a Civil Engineer employed by NRC who is an inspector assigned to the Callaway Plant. Joint Intervenors

---

<sup>16</sup>Varella affidavit, p. 2.

<sup>17</sup>Ibid., p. 3.

<sup>18</sup>Ibid., p. 4.



generally opposed the motions based on arguments previously cited, but did not submit any additional information in opposition to motions for summary disposition. The following summary of facts was submitted:

Cracks in concrete of the north wall of the control building occurred in portions poured between December 23, 1977 and January 25, 1978. Daniel work procedure WP-109 requires quality control inspection approximately 30 days after concrete placement to identify cracks which meet reporting requirements. According to the Daniel work procedure, reporting of cracks is not necessary unless a crack exceeds 1/16 inch in width. If a larger crack is found, the area civil engineer is required to inspect it and determine its significance with respect to the effect it might have on the function of the structure in which it occurs.<sup>19</sup>

On February 8, 1978, 15 cracks in the concrete of the north wall were documented by Daniel in a nonconformance report numbered NCR 2-2081-C-A. None of the 15 cracks exceeded 1/16 inch in width and none would therefore have been reportable under the criteria of WP-109.<sup>20</sup> The nonconformance report was written at the request of NRC inspectors who had visually examined the wall after becoming aware of the cracks through an anonymous source. The Applicant was requested by Staff to look into the matter and determine if any corrective action was indicated.

The Applicant's architect engineer evaluated the cracks and concluded that they were caused by normal concrete shrinkage, that they would not impair the structural integrity of the wall and that no remedial actions were necessary. The Staff agreed with this conclusion after their own inspection and evaluation. (Staff motion, p. 6).

A subsequent revised nonconformance report (NCR 2-2173-C-A) was issued after the inspection and evaluation which listed three cracks that were determined to be cosmetically undesirable but which had no effect on structural integrity. These were repaired by filling with epoxy grout.<sup>21</sup> The pouring of additional lifts did not hinder the repair.<sup>22</sup>

The February 1978 NRC inspection of the north wall was done prior to the expiration of the 30-day interval between pouring concrete and the inspection for cracks which is called for in the Daniel work procedures. It is uncertain from the findings when the cracks observed by the NRC inspectors first appeared or when the Applicant first became aware of them. They could appear at any time almost overnight but could remain

---

<sup>19</sup> Neal affidavit, pp. 4-5.

<sup>20</sup> Ibid., p. 5.

<sup>21</sup> Ibid., pp. 3,6.

<sup>22</sup> Ibid., p. 6.

undiscovered until the next scheduled inspection.<sup>23</sup>

No basis exists for concluding that the quality assurance program failed because an NRC inspection officially disclosed the existence of the cracks at an earlier time than would have been done under existing work procedures.

(b). Findings of Fact: Based on the foregoing and the record of the proceeding, we find the following:

1. None of the concrete cracks in the north wall of the control building were severe enough to affect the safe operation of the plant or structural integrity of the wall.

2. The pouring of an additional lift of concrete over a portion of a wall containing cracks where such cracks could be repaired if necessary was not improper.

3. The occurrence of the cracks was due to normal shrinkage of concrete and not due to faulty construction practice.

4. None of the cracks exceeded the reporting criterion of 1/16 inch width and no nonconformance report was necessary under that criterion.

5. No deficiency of the Applicant's quality assurance program was demonstrated by the investigation of the cracks.

6. Joint intervenors have submitted no facts to the contrary.

(c). Conclusion: We conclude that there are no genuine issues of material fact to be litigated and accordingly the Applicant's and Staff's motions for summary disposition on Contention IB2 are granted.

3. The Board received motions for summary disposition of Contention ID from both the Applicant and the Staff. No response to these motions was received from any other party. Applicants' motion was supported by affidavits from Subic K. Sen and R. David Neal. Staff's motion was supported by the affidavit of Eugene J. Gallagher.

This portion of Contention 1 reads as follows:

I. SUBSTANDARD REINFORCED CONCRETE CONSTRUCTION

D. Concrete Cover

---

<sup>23</sup> Ibid., p. 5.

There exist many areas where concrete coverage of reinforcing bars in concrete walls and floors at the Callaway Plant does not adhere to requirements. Bechtel Power Corporation's interpretation of the cover requirements was that minimum cover requirements could be reduced by one-third, but the NRC stated in a meeting between NRC, UE, Bechtel, and Daniel International personnel on January 23, 1978, that no reduction of the two-inch cover minimum is acceptable. However, the NRC indicated that it would be acceptable "if the cover requirements were fully met in the area of the sixth lift, utilizing the fifth lift as a transition area." (See, NRC Report No. 50-483/77-11, pp. 10-11).

Some examples of nonadherence to concrete cover requirements are as follows:

1. At 340 degrees azimuth, vertical reinforcement bars and supporting bars for the horizontal tendon sheathing in the 3rd lift of the reactor containment wall had concrete cover "less than that specified by NRC requirements, but within the concrete cover requirements as interpreted by licenses and contractors." (See, NRC Report No. 50-483/77-11, pp. 4 and 9-11).

2. NRC inspectors observed the preplacement preparation of the fourth lift of the exterior wall of the Reactor Containment Building, finding 14 unacceptable items, in half of which concrete cover was less than the 2 inch minimum required or more than the 9.6 inch maximum required. These items include instances where the concrete cover is as small as 5/8 of an inch (at azimuth 210 degrees) and as great as 12 inches (at azimuth 200 degrees). Some items were corrected, and the rest were within the range judged to be acceptable below the sixth lift because of the one-third placement tolerance. (See, NRC Report No. 50-483/78-01, pp. 9-11).

(a). The following statement of facts was submitted:

The reason for the specification of a minimum amount of cover of the rebar by the concrete is to protect against corrosion of the rebar. Similarly, the specification of the maximum thickness of cover of the rebar is to mitigate cracking, to which phenomenon concrete is particularly susceptible. These minimum and maximum thicknesses are covered by appropriate American Concrete Institute codes.

The problem aired in the instant contention stems from interpretation of the ACI code. In 1974, Bechtel, the architect-engineer of the SNUPPS (Standardized Nuclear Unit Power Plant System) project, prepared a topical report which included the techniques and procedures used in design of the prestressed concrete reactor building. This was approved by the Staff. The report was later

referenced in the SNUPPS PSAR. In that document, it is stated that the tolerance on the cover shall be as much as plus or minus 1.5 inches, but that the cover shall not be reduced by more than one-third the design cover.<sup>24</sup> This was the criterion which was used by Applicant for the first four lifts in placing the concrete for the reactor building.

At this point, the Staff determined that the ACI code would not allow a minus tolerance on the concrete cover, that is, the cover must be at least as thick as the design thickness. (The Board believes this requirement resulted from a ruling by the ACI in 1976. See Attachment 10 to Staff's motion). Applicant agreed to this ruling, and agreed to be in compliance by the sixth lift, with the fifth lift being a transition stage. This was acceptable to the Staff.<sup>25</sup>

Insofar as the thickness of the cover is concerned, the Staff granted, on a case-by-case basis, exceptions in two places. These were local areas around two electrical penetrations, and it was determined that the structural integrity of the containment shell would not be compromised in any way where the maximum cover design limits were exceeded.<sup>26</sup>

(b). Findings of Fact: Based upon the information presented to the Board, as briefly summarized above, we find the following:

1. The reduction of the cover requirements, where used, and the exceptions granted by the Staff in the two cases cited for excessive thickness of the cover, do not jeopardize the safe operation of the Callaway plant.

2. The Board also finds that the instances of reduction of the concrete cover resulted from Applicants' interpretation of the appropriate ACI code, and not from any construction defects.

3. This set of circumstances, therefore, does not present an issue with respect to the Quality Assurance Program.

4. No contrary information has been furnished by any party.

(c). Conclusion. The Board finds that Contention ID contains no genuine issues of a material fact, and accordingly the Applicants'

---

<sup>24</sup>Sen affidavit, paras. 16, 17.

<sup>25</sup>Ibid., para. 22.

<sup>26</sup>Ibid., para. 24. Also see Neal affidavit, pp. 2-3.

and Staffs' motions for summary disposition are granted.

4. The Applicant and the Staff both filed summary disposition motions to dismiss Contention IIA1 which relates to a piece of SA-358 piping. Both motions are supported by affidavits and are opposed by an answer filed in behalf of the Joint Intervenors. Since both motions are based on the same arguments and since the Joint Intervenors have consolidated their answers, we treat them together here.

This part of Contention IIA1 reads as follows:

II. SUBSTANDARD PIPING

A. Material Manufacturing Deficiencies

Safety-related pipe installed at Callaway was manufactured by a company or companies which did not have adequate control of welding parameters. This resulted in known cases of defects which did not comply with the requirements of the American Society of Mechanical Engineers (ASME) Code. The evaluation and acceptance of those defects and deficiencies were not done in accordance with the ASME Code. The safety of pipe installed at Callaway remains in question and demands further investigation before an operating license should be issued. For example:

1. In May 1979 a pipefitter discovered and reported a substandard piece of ASME Class II SA-358 piping which had been installed in the emergency core cooling system. The pipe was substantially out-of-round, was machined below the minimum wall, and had rejectable weld defects on the inside of a longitudinal seam weld. (See, NRC Report No. 50-483/80-10). The piping was approved for shipment at the vendors, was accepted on the site, and was installed despite these deficiencies.

The movants case for summary disposition is supported by affidavits furnished by the Applicant from Michael F. Stuchfield of the Bechtel Group Corporation and Joseph V. Laux, Supervisory Engineer for the Union Electric Company at Callaway. The Staff's motion is supported by affidavits from James Foster of the NRC's Office of Inspection and Enforcement, Gordon Beeman of the Pacific Northwest Laboratory and an engineering consultant to the NRC and William Key, also from the NRC's Office of Inspection and Enforcement. The answer of the Joint Intervenor is supported by exhibits of documents and



reports from the Applicants agents and NRC personnel.

(a). The material facts set forth as a basis for the motions include the following:

The piece of SA-358 pipe in issue (part of the accumulator discharge line) is made of welded stainless steel plate which after rolling is welded along<sup>27</sup> its longitudinal seam from both inside and outside surfaces.

Possible conditions of out-of-roundness, thin wall, and defective weld surfaces were inspected and reported by employees of the Daniel Corporation, the construction company for the facility.<sup>28</sup>

Subsequent measurements, inspections and calculations revealed that the pipe did not have excessive ovality as its difference in diameters was less than 1%, the ASME specification for the pipe.<sup>29</sup> It was also concluded that the pipe was not machined below minimum design wall thickness since the actual minimum wall thickness (0.814 inches)<sup>30</sup> was above an acceptable design thickness of 0.795 inches.

The defective weld conditions on the inside of the pipe (excess weld reinforcement and overlap) were both removed by localized grinding. It is alleged that even if the grinding had not been performed, the conditions would<sup>31</sup> not have affected the structural integrity of the weld joint.

A burn-through during the process of welding could not have caused the overlap condition which instead resulted from excess welding<sup>32</sup> material rolling over on the surface of the pipe material.

Visual and liquid penetrant inspections as well as radiography tests were performed and<sup>33</sup> no apparent defects were discovered in the repaired weld.

Prior to any plant operation, the pipe will be hydrostatically tested to a pressure 1.25 times its design pressure to confirm the welds structural integrity.<sup>34</sup>

---

<sup>27</sup> Stuchfield affidavit, p. 2; Foster affidavit, p. 1.

<sup>28</sup> Laux affidavit, p. 2.

<sup>29</sup> Stuchfield affidavit, pp. 5-6; Beeman affidavit, p. 2.

<sup>30</sup> Stuchfield affidavit, p. 3; Laux affidavit, p. 3 and Foster affidavit, pp. 2-3.

<sup>31</sup> Stuchfield affidavit, p. 5; Laux affidavit, p. 4 and Foster affidavit, p. 3.

<sup>32</sup> Stuchfield affidavit, p. 5.

<sup>33</sup> Laux affidavit, p. 5; Foster affidavit, p. 2; and Key affidavit, p. 2.

<sup>34</sup> Stuchfield affidavit, p. 6.

(b). The answer of the Joint Intervenors makes the following points:

The pipe's actual ovality might be different if measurements were taken in other planes than the one taken.

The weld reinforcement defect would have been an unacceptable condition if it had not been corrected.

Evidence indicates that overlapping weld condition was the result of poor fusion and violates ASME radiography standards.

Contrary to 10 CFR 50, App. B, parts of the longitudinal seam weld were formed from outside the pipe alone, creating a melt-thru and excessive reinforcement and overlap which can affect the structural integrity of the weld joint.

The inspections and tests subsequently made of the weld area did not evaluate the mechanical properties of weld metal affected by exposure to air and the hydrostatic tests to be performed before operation cannot nullify NRC regulations and ASME Code requirements for quality and structural integrity assurances.

(c). Findings of Fact. Based on our evaluation of the foregoing as well as other information in the proceeding, we are unable to conclude that there are no genuine issues of material facts in this part of Contention 1. No clear and uncontested evidence exists of the nature of the defective weld conditions or their impact on the section of the pipe at issue here. Although the reporting of possible defects and violations of material specifications appears to have been pursuant to quality control requirements, there admittedly has been some mishandling of appropriate procedures. How serious or extensive these deficiencies have been is an issue that cannot be resolved in a summary proceeding. There are unanswered questions regarding the pipe's thickness and ovality and finally, whether a future test-even where performed above design pressure-can overcome any deficiencies that may have occurred in the interim is a matter of materiality and presumably one of potential conflict between the parties.

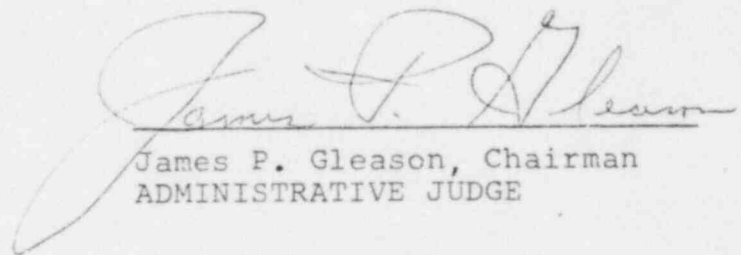
(d). Conclusion. As a result of the above, we conclude the

motion for summary judgment of Contention IIA1 filed by the Applicant and the Staff must be denied.

ORDERED

For the Atomic Safety and Licensing  
Board

In Bethesda, Maryland  
November 13, 1981



James P. Gleason, Chairman  
ADMINISTRATIVE JUDGE