10/7/82

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 50-155-OLA
CONSUMERS POWER COMPANY	)	(Spent Fuel Pool
	)	Modification)
(Big Rock Point Nuclear Power Plant)	)	

CONSUMERS POWER COMPANY'S REPLY TO INTERVENORS' PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW ON O'NEILL CONTENTION II-C: THE CASK DROP ISSUE

Consumers Power Company ("Licensee"), the NRC Staff, and Intervenors Christa-Maria, et al. ("Intervenors") filed proposed findings of fact on or before September 27, 1982, regarding O'Neill Contention II-C insofar as that contention concerned the possibility of a cask drop into the spent fuel pool. In accordance with the procedural ruling on scheduling made by the Atomic Safety and Licensing Board in its "Initial Decision (Concerning Environmental Issues)", dated September 15, 1982, Licensee hereby submits its reply to Intervenors' "Proposed Findings of Fact and Conclusions of Law on O'Neill Contention II-C: The Cask Drop Issue" (hereinafter "Intervenors' Findings").

Intervenors state in their proposed findings that "[t]he NRC Staff has indicated that it needs more information before Big Rock uses the safety sling on loads exceeding 24

tons."[1/] This statement is erroneous and contradictory to the record in several respects. First, the safety slings are used exclusively in conjunction with the 24-ton fuel transfer cask.[2/] Second, the NRC Staff witnesses made it clear that the additional information requested was not crucial with respect to the reliable handling of smaller loads such as the 24-ton spent fuel transfer cask.[3/] The NRC Staff plainly stated that a cask drop terminated by the safety sling assembly will not impose unacceptable loads on the safety cables or crane structures.[4/] This testimony is nowhere controverted in the record.[5/]

Intervenors also mischaracterize the state of the record in regard to unequal loading of the two safety cables. The record is clear that the higher loaded sling would bear a load exceeding the design load of 75 tons per sling by at most 8 percent,[6/] not "at least" as Intervenors assert.[7/]

1/ Intervenors Findings, p. 2.

2/ Popa Testimony, p. 3, (as clarified at Tr. 2414-15).

3/ NRC Staff Testimony, p. 21.

4/ Id., p. 24.

5/ Intervenors cite to Tr. 2464. Intervenors Findings, p. 2. That citation does not offer any support for Intervenors' assertions.

6/ Johnson Testimony, p. 7.

7/ Intervenors' Findings, p. 3.

The only evidence on this point was presented by Licensee's witness, Mr. Johnson. His calculation of the 8 percent figure was based on conservative analyses which focused on the two effects which could result in different loading on the two slings. One effect is the different loading on the two safety slings due to differences in the friction between the wedges of the cask catch mechanism and the wire ropes. The sling with the greater friction between the wedges and the rope will bear a greater load since there will be less slippage over which to dissipate the load.[8/] The second effect is the different loading on the two safety slings due to differences in the clearance between the wedges of the cask catch mechanism and the wire ropes. The sling with the smaller clearance will bear a greater load since its wedges will engage first.[9/] Mr. Johnson's analyses applied these two effects separately and simultaneously. He considered a range of values for each effect. Friction was assumed to vary from the maximum to the minimum values determined in the analysis. Wedge clearance was assumed to vary from the maximum design value to a minimum practical value. The results of these analyses indicate that the maximum load in the highest loaded sling would be 8 percent higher than the design load of 75 tons.[10/]

8/ Johnson Testimony, p. 6.

9/ Id.

10/ Id., p. 7.

Intervenors also assert that the safety sling assembly is deficient because the design load may be exceeded by 8 percent.[11/] In making this assertion, Intervenors fail to give any credit to the four conservatisms emphasized by Mr. Johnson which would more than offset the effects of the differences in wedge friction and wedge clearance. If the failure of the primary lift system was ductile rather than instantaneous as assumed, the load on the sling would be reduced by about 37 percent.[12/] If the failure of the primary lift system were to occur at the lowest point of the lift rather than at the highest point as assumed, the loading on the sling would be reduced by about 23 percent.[13/] If the parameters defined by design or plant procedure, such as trip arm position, tagline slack and wedge clearance, were at their desired position rather than at their worst case position, the load would be reduced by about 8 percent.[14/] If the frictional force relationship between the wedges and the wire rope was considered midway between the minimum and maximum values, rather than at those minimum and maximum valves as was assumed in the analyses, the loading on the

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11/ Intervenors' Findings, pp. 3-4.

12/ Johnson Testimony, p. 7. Mr. Sargent of the NRC Staff considered the assumption of instantaneous failure to be particularly conservative. Tr. 2447-8.

13/ Johnson Testimony, pp. 7-8.

14/ Id., p. 8.

sling would be reduced by about 26 percent.[15/] In view of the extensive conservatisms assumed by Mr. Johnson's analyses, it is clear that the actual load from a drop of the 24-ton spent fuel transfer cask would be less than the design load of 75 tons per sling. The conservatisms would well compensate for additional 8 percent load in one sling and keep the actual load below the design load of 75 tons per sling.

Intervenors speculate as to the likelihood of a cask drop with a free fall greater than 2.98 inches which was the distance determined by Mr. Johnson to be the maximum free fall of the cask before arrest by the safety sling assembly. There is nothing in the record to indicate that the fall of the cask would be greater than 2.98 inches. To the contrary, Mr. Johnson's analysis employed the conservative assumptions that friction was present in the trip mechanism, that wedge clearance was at maximum design value, and that tagline slack was at allowed maximum.[16/] Mr. Popa's testimony established that the inspections and adjustments necessary to keep a cask drop within 2.98 inches are maintained by Licensee through its procedures.[17/] Mr. Sargent of the NRC Staff expressed his confidence that the procedures are

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15/ Johnson Testimony, p. 8.

16/ Id., pp. 4-5.

17/ Popa Testimony, p. 3 and Attachments 1 and 2.

adequately maintained so as to assure that a cask drop will not exceed 2.98 inches.18/

Intervenors have asserted no basis for a finding that the safety sling assembly is not sufficiently designed to perform its intended safety function. Nor have they established any basis justifying their alternative request that a cask drop be ensured to be substantially less than 2.98 inches. The loading due to a cask drop of 2.98 inches can be tolerated by the safety sling assembly and the crane.19/ Intervenors' request that proper administrative controls be instituted to check all applicable clearances is moot since such procedures have already been established.20/

Intervenors also attempt to invoke the Licensing Board's powers with respect to the safe load path requirement of NUREG-0612.21/ This request is beyond the scope of the

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18/ Tr. 2464-65. See also NRC Staff Testimony pp. 24-25. NRC Staff found the procedures to be acceptable with the exception of cross referencing of the procedures so that the safety sling would be trip tested each time the cask is rigged. On the record, the only evidence of Licensee's agreement to include such cross referencing appears in the NRC Staff Testimony. Licensee's commitment to upgrade the visual acuity standards of its crane operators is also only evidenced by the NRC Staff testimony. Id. p. 9. Licensee acknowledges the two foregoing commitments as evidenced by the attached "Affidavit of Thomas C. Bordine."

19/ Norman Testimony, p. 13. See also Mullholand Testimony, pp. 3-4.

20/ Popa Testimony, p. 3 and Attachments 1 and 2.

21/ Intervenors' Findings, p. 4.

contention. The establishment of a safe load path between the storage area to the refueling area is being reviewed and evaluated by the NRC Staff.[22/] This matter is clearly outside the scope of the contention which is limited to the issue of the consequences, if any, of a drop of 24-ton spent fuel transfer cask while the cask is over the spent fuel pool.

Intervenors seek to reserve the right to amend or expand their findings upon completion of evidentiary presentation on the crane issue.[23/] This request is improper and should be denied for several reasons. Intervenors apparently fail to distinguish the issues presented by the contention. In its "Memorandum and Order (Concerning Motions for Summary Disposition)" dated February 19, 1982, the Licensing Board set out three distinct genuine issues of fact under O'Neill Contention II-C. The issue now under consideration is "whether it is necessary for the safety of the enlarged spent fuel pool that 200 gallons per minute of make up water be available to protect the pool from the consequences of a drop of spent fuel transfer cask."[24/] This issue considers a cask drop regardless of its cause. Licensee's reliance on safety sling assembly necessarily involves consideration of the crane structure to withstand the dynamic load imposed by

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22/ NRC Staff Testimony, p. 7.

23/ Intervenors' Findings, p. 2.

24/ Memorandum and Order, dated February 19, 1982, p. 47.

a cask drop and catch by the safety sling assembly. Evidence of the crane's reliability in this regard was presented at the June hearings.[25/] The issue that was deferred at the June hearings is a different issue, namely "whether the overhead crane used for handling fuel assemblies and casks is seismically safe . . . . "[26/] This is a discrete issue confined to consideration of the ability of the crane to withstand earthquakes. Since there is no relationship between the cask drop issue and the "seismic crane" issue, there is no reason to hold the record open on the cask drop issue. Intervenors are essentially making an improper request for an extension of time. Such an extension of time would not allow this issue to be closed and would be prejudicial to Licensee.

CONCLUSION

For the reasons stated herein and in "Consumers Power Company's Proposed Partial Initial Decision (Concerning O'Neill Contention II-C, Cask Drop)", dated Setember 27, 1982, O'Neill Contention II-C is without merit and should be dismissed insofar as it concerns cask drop. Further,

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25/ Norman Testimony, pp. 9-14.

26/ "Memorandum and Order", dated February 19, 1982, p. 47. The third issue concerns whether the threaded pipe of the fire water system is seismically safe.

Intervenors' proposed conditions are without basis or beyond the scope of the contention and should be rejected.

Respectfully submitted,

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