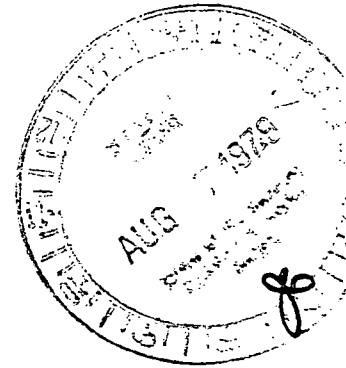


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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
Before the Atomic Safety and Licensing Board

In the Matter of	:	Docket No. 50-272
PUBLIC SERVICE ELECTRIC	:	Proposed Issuance of Amendment
& GAS CO.	:	to Facility Operating License
(Salem Nuclear Generating	:	No. DPR-70
Station, Unit #1)	:	

MOTION FOR RECONSIDERATION
OF DISMISSAL OF
- COLEMANS' CONTENTION NO. THIRTEEN

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On the Brief

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MOTION

Pursuant to 10 CFR § 2.730, Intervenor, Colemans, hereby move for an Order reopening consideration of their Contention Number Thirteen in order to compel the licensee, Public Service Electric and Gas Company, to implement a viable alternative to reracking the Salem Unit One spent fuel pool which may well result in radiation exposures being kept "as low as is reasonable achievable," 10 CFR § 20.1. This alternative to reracking the Salem One pool entails transshipment to spent fuel from Salem One to the expanded pool at Salem Unit Two until off-site, AFR storage becomes available in the 1983-1988 period.

In support of this motion, intervenors shall rely upon the attached brief, exhibits and testimony of the parties hereto at the hearing held on July 11, 197


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STATEMENT IN SUPPORT OF
MOTION

By Order dated April 30, 1979, this Atomic Safety and Licensing Board dismissed the Coleman's Contention Number Thirteen, which reads as follows:

"The licensee has failed to give adequate consideration to the cumulative impacts of expanding spent fuel storage at Salem Nuclear Generating Station Unit 1 in association with the recently filed proposed amendment to the application for an operating license at the sister unit, Salem Unit 2. (See Amendment No. 42, Docket No. 50-311, filed April 12, 1978 which proposes modifications of spent fuel storage which the intervenor believes are similar in scope to the Salem Unit 1 application.). For example, the license assumes an increase in releases of Kr-85 by a factor of 4.5--due to the factor of 4.5 increase in spent fuel (licensee's application, at 10). A similar increase, absent exceptional controls, can be expected at Salem No. 2, resulting in a cumulative increase in Kr-85 emissions by a factor of 9--almost a full order of magnitude increase. (If similar spent fuel increases are postulated for the companion units, Hope Creek 1 and 2, now under construction, the cumulative increase could rise by a factor of 18, or almost two full orders of magnitude.)"

In support of its motion for summary disposition of this contention, the licensee argued:

"Thus, even considering the cumulative radioactive released from Salem Units 1 and 2, the offsite doses attributable to fuel pool expansion are insignificant...Ultimately, compliance with each facility's technical specifications which implements the requirements of 10 CFR Part 50, Appendix 1 assures that the total releases from that facility, including those associated with the increased storage in the spent fuel pool, are in the "as low as reasonable achievable range (Douglas, Par. 13)." PSE&G Co. Br26-1 to 22.

The Colemans sought to dispute PSE&G's narrow view of its obligations under 10 CFR PART 50, Appendix 1, and 10 CFR § 20.1 by asserting that the actions

taken at each plant (Salem One and Two) had to be considered together for their cumulative impact. At page eight of their brief in opposition to Public Services motion for summary disposition, intervenors stated:

"This rule, (10 CFR § 20.1) then, clearly obligates the licensee to make every reasonable effort to maintain radiation exposures as low as is reasonably achievable in making all decisions on plant operational modes and not merely reliance upon the existing containment mechanisms once it has drastically increased the radiation load in the spent fuel pool. Having made a decision to increase the public's exposure to radiation, Public Service is under an affirmative duty to establish the reasonableness of this action in light of alternatives that would not entail such increased exposure. If not by implementing additional containment measures, the licensee must seek to achieve this standard by adopting alternatives to the proposed action which do not result in increased radiation exposure. (Emphasis added, footnote omitted). Colemans Br8-36 to Br9-1 to 6.

The Board's April 1979 Order dismissing this Contention, while concurring in the licensee's view that "compliance with the existing technical specifications at each Salem unit will assure that the total release from the spent fuel pools will be 'as low as reasonably achievable'" did not address the issue of alternatives to these two pool expansions which would result in less overall radiation exposure. Board Order; April 30, 1979, p. 13.

Despite this unfavorable ruling, it became quite apparent during the July 11, 1979 hearing that the Board was in substantial agreement with the Colemans' interpretation of the licensee's obligations under 10 CFR Part 50, Appendix 1 and 10 CFR 20.1. See Transcript ps. 1136 to 1152. Unfortunately, the fact that this issue was aired in what amounted to an unannounced Board inquiry resulted in responses by the NRC staff typified by their imprecision and generally speculative nature:

WITNESS ZECH: The actual exposures, I believe, that you would expect near a shipping cask are on the order of a very few millirem. Now, the actual movement of the fuel in getting it into the cask and then getting it from the cask back into the fuel pool are little bit more, perhaps than what you would get in the actual movement. I think -- just my estimate -- it would more than likely be less than what the exposures are that we refer to here for actual doing a mod-

ification with fuel in the pool."* Tr. 1141-21 to Tr. 1142-5.

Not surprisingly, the most definitive testimony proffered on this point was provided by Mr. Wetterhahn, counsel for PSE&G Co., in describing the maximum number of fuel transfers that could be anticipated from Unit One to Unit Two, if an AFR does not become available during the entire decade of the 1980s.

TR.1151-21 to 22.** Therefore, a more accurate comparison of these alternatives, in order to determine which will maintain lower radiation exposures, requires an analysis of the manrem exposure from transshipments from Unit One to Unit Two terminating approximately 1985 or 1986, to allow several years of slippage in the present DOE schedule for AFR implementation.

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Significantly, Mr. Zech's unrehearsed testimony while not a definite exposition actually confirms Coleman's position that utilization of the reracked pool as Unit Two for both Salem plants will comply with the NRC requirements for maintaining radiation levels as low as reasonably achievable. Consideration of these factual matters may only be accomplished in a meaningful fashion which will have legal significance in the context of the Coleman's Contention Thirteen, in conjunction with the Lower Alloways Creek Contention pertaining to alternatives. Unless PSE&G Co. is mandated to evaluate whether use of reracked Unit Two exclusively maintains radiation exposures as low as is reasonably achievable, the consideration of alternatives to reracking Unit One is deemed by the NRC staff as completely unnecessary. Tr. 1136-12; Tr. 1139-15; Tr. 1147-9. This posture renders the alternatives section of the staff EIA a veritable sham.

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Of course, in this regard the uncontroverted testimony in the instant proceeding asserts that such a DOE sponsored facility will be available in the time frame of 1983-1984. Tr.1009-25 to Tr. 1010-5; Tr. 1040-15 to 24.

Additionally, the necessity for reopening Colemans' Contention Number Thirteen is reinforced by the new information of major significance first brought to the attention of the parties and Board by letter of Counsel for PSE&G Co. dated July 5, 1979.* (Copy attached hereto as Exhibit A) In this missive, Counsel represented that the revised projection for spent fuel generation at both Salem Units would be 56 assemblies per year. Earlier estimates were for 64 assemblies to be removed annually. Tr. 1108-11 to 16. After some small difficulty in ascertaining the reason for PSE&G's downward estimate for fuel consumption, it became apparent that the original figure was premised upon a capacity factor of 80% for plant useage, estimated before Salem 1 opened, and the new one is based upon a lower estimated factor of 71%, given the operating experience since June of 1977. Tr. 1114-9 to 16. Mr. Krishna's testimony indicated that while lower capacity factor results in extending the life of the fuel, PSE&G Co. had decided to reduce the fuel's enrichment, apparently to maintain an annual refueling outage schedule. Tr. 1108-21 to Tr. 1111-20.

Intervenors Coleman believe, however, even with this uranium enrichment reduction, a substantial probability exists that ^{a still lower} the rate of fuel burnup will significantly extend the fuel cycle at Salem One, due to achievements of capacity factor much lower than 71%. To date this nuclear generating facility has achieved a capacity factor of only 51.4% as reported in NUREG 0020, Vol. 3, No. 4 April 1979, /Salem Operating Units (One's most recent status report attached hereto as Exhibit B.). Also, noteworthy is the projected shutdown schedule reported in this April 1979 Gray

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This correspondence was received by Intervenors on July 9, 1979, one day prior to the resumption of the hearings, thereby severely limiting the opportunity for preparation of relevant evidence raised by this major adjustment in the licensee's fuel useage plans. However, now having had sufficient time to adequately review and consider this development, intervenors believe that a further revision of PSE&G Co. fuel useage plans may well extend the life of the Salem One spf. for several more years thereby completely obviating the need for transshipments to Unit Two. This alternative unquestionably would maintain exposures as low as reasonable achievable by eliminating both the need for reracking the contaminated Salem One spf. and shipments of fuel to Unit Two.

Book for Salem One: 4/3/79-6/27/79. While the outage began as planned, startup has been delayed indefinitely due to a series of equipment problems.

Any suggestion that this 51.4% capacity factor resulted entirely from the plant's initial shakedown period is also refuted by the Gray Book data pertaining to very similar pressurized water reactors having much longer operating experiences:

DATA AS OF 3-31-79*

<u>PLANT</u>	<u>PWR</u>	<u>DATE OF CRITICALITY</u>	<u>DATE OF COMM. OP.</u>	<u>CUMULATIVE PLANT CAPACITY DER</u>	<u>REACTOR YEARS OF EXPERIENCE</u>
Surry #1	822 Mgt	7-1-72	12-22-72	58.1	6.74
Surry #2	822 Mgt	3-7-73	5-1-73	57.6	6.06
Trojan	1130 Mgt	12-15-75	5-20-76	47.0	3.27
Beaver Valley Unit #1	852 Mgt	5-10-76	9-1-76	39.1	2.79
Salem #1	1090 Mgt	12-11-76	6-30-77	51.4	2.26
Farley	829 Mgt	9-9-79	12-1-77	76.4	1.62
Cook #2	1100 Mgt	3-10-78	7-1-78	<u>73.3</u>	<u>1.02</u>
				402.9	23.76
				57.6% Av.	3.39 Av.

*

All data excepted directly from NUREG-0020, Vol. 3, No. 4, April 1979.

As can be readily seen from this Gray Book data, PWR's having an average of 3.39 years of operating experience have averaged only 57.6% capacity factor. Thus, it may be anticipated that even if Salem One improved its capacity factor up to industry average, it will still fall about 12% short of the 71% needed to burnup sufficient fuel to allow for annual refueling. This leads to the conclusion that the Salem One spent fuel pool may not be filled until 1984 or 1985, allowing the next off-load to be shipped to an AFR in 1986 or 1987. This no rerack alternative should be explored more fully, however, in the context of Coleman's Contention Thirteen, especially in view of the new information raised for the first time by PSE&G Co. by its letter to the Board members on July 5, 1979.

Consequently, we believe that a complete record on this issue can only be made, consonant with due process, on notice to all parties and opportunity for fuller preparation of all relevant data which bears upon this crucial health question. It should be noted that as the record now stands the NRC staff will be providing the following data to the parties and Board, not as direct testimony but rather as written communications with no opportunity provided either for rebuttal or cross-examination:

- (1) "How much exposure is involved for a single unit of a fuel cask being transferred," Tr. 1141-13 to 15.
- (2) Total occupational exposure for transferring fuel from Unit 1 to Unit 2 until it is full from serving needs of both plants. Tr. 1149-11 to Tr. 1150-12.
- (3) Total manrem exposure recorded at the recent reracking of the contaminated SFP at the Peach Bottom Nuclear Generating Station. Tr. 1157-19 to Tr. 1158-5.

If, however, the Board determines that no additional hearings will be scheduled on this issue, than the record should not be expanded in an ex parte manner by further NRC staff submittals. Rather it should be closed with Mr. Zech's testimony standing alone that the transshipment to Salem Two will result in less radiation exposure than reracking Salem One. If no opportunity will be provided for Intervenors to test the credibility of new evidence brought to bear on this issue, the record should remain as produced during the hearing July 11, 1979, wherein all evidential procedures were applied to the parties on an equal basis.

CONCLUSION

For all the foregoing reasons, it is respectfully urged that the Board should Order the reopening of Colemans' Contention Number Thirteen.

Respectfully submitted,

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