

# EXHIBIT 29

Case No. 2-1998-023

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# UNITED STATES OF AMERICA

## NUCLEAR REGULATORY COMMISSION OFFICE OF INVESTIGATIONS

### INTERVIEW REPORT WITH CHARLES M. SCRABIS

SCRABIS was interviewed on September 27, 1999, at Westinghouse Electric Company (WEC) Energy Center, 4350 Northern Pike, Monroeville, Pennsylvania, by Special Agent Gary H. Claxton. Also present at the interview was Lisa CAMPAGNA, corporate counsel for WEC. SCRABIS acknowledged CAMPAGNA's role as representative for his employer and said she was present at the interview with his consent. SCRABIS, upon being advised of the interviewer's official identity and purpose of the interview provided the following information in substance:

SCRABIS said he is a materials engineer and has been employed by WEC for approximately 30 years. SCRABIS said he began his employment after receiving a master of science degree in mechanical engineering from the University of Pittsburgh and a bachelor degree in mechanical engineering from the University of Dayton, Dayton, Ohio.

SCRABIS related that his primary responsibility is to follow the design qualification of mechanical equipment, specifically the equipment related to the ice condenser containment systems of nuclear generating plants. SCRABIS said he has been involved with mechanical engineering of nuclear plants since he became employed with WEC in 1967.

SCRABIS recalled that he became involved with an issue related to the ice condenser at Watts Bar Nuclear Plant (WBN) in 1995 when he received a telephone call from Curtis OVERALL, a WBN system engineer. SCRABIS said OVERALL expressed a concern that broken screws had been located in the WBN ice condenser drain tank. SCRABIS did not recall whether OVERALL had specific questions about the screwheads but that OVERALL wanted him (SCRABIS) to take a look at a report that OVERALL would be faxing to him.

SCRABIS said he received the fax, reviewed it and then passed it on to a metallurgist at WEC for further review. The report received from OVERALL was a metallurgical evaluation of screws which had been taken from the WBN ice condenser. SCRABIS said OVERALL probably discussed the reference in the report to possible manufacturing defects but that he (SCRABIS) does not specifically recall .

SCRABIS said he believes OVERALL's call was to solicit his (SCRABIS') opinion of the metallurgical report and that it was not a formal TVA request for services. SCRABIS said he walked the report over to WEC's metallurgy department and asked someone to take a look at the information provided by OVERALL. As a result of the informal inquiry, SCRABIS learned that the screws had a slightly elevated hardness factor, but that the factor was acceptable.

He also learned that some of the screws exhibited cracks induced during the manufacturing process but that applicable technical literature indicated the percentage of defective screws which was evident in the TVA population was acceptable. SCRABIS said he recalls, strictly from memory, that a 5% defect rate would be acceptable. He said that the fact that the screws could withstand installation stresses substantiated significant structural strength. According to SCRABIS, defective screws would fail as a result of the torque stress applied during installation.

SCRABIS said he observed that all of the broken screws in the report exhibited evidence of stress which would come from either over-torqueing or intentional breaking. SCRABIS said such intention breaking would occur where the screw was misapplied and the technician would break the screw with a chisel and remove the shaft with pliers so that a subsequent screw could be correctly installed. SCRABIS recalled that very few screws actually exhibited quench cracks which

SCRABIS doesn't recall whether he ever provided an answer to OVERALL's inquiry because WEC was formally requested to evaluate the screws by WBN. SCRABIS stated that WEC was never formally asked to evaluate the metallurgical report which OVERALL questioned. SCRABIS does recall that WEC initially received the request from WBN by telephone to evaluate the ice condenser basket screws. SCRABIS doesn't recall who was involved in the teleconference on the part of WBN and doesn't recall whether OVERALL was a participant. SCRABIS said he had no one-on-one conversations with WBN personnel except for one occasion during the teleconference. He said he does not recall who was in on the conversation at WBN nor does he recall whether the metallurgical report was discussed which he had received by fax from OVERALL.

SCRABIS said it was very likely that WEC provided an evaluation of the ice condenser basket screws prior to the receipt of an actual written request. SCRABIS said it was not unusual to perform services for nuclear plants by verbal request and to then receive the formal written request after the service had been performed due to the time constraints. Accordingly, SCRABIS said WEC was addressing the screw issue on the basis of verbal orders because, according to SCRABIS, WBN was in a "mad rush" to get the plant started. SCRABIS identified a field deviation report (FDR), dated June 15, 1995, submitted by WEC representative Gordon YETTER, as the formal request for services.

SCRABIS initially provided to WEC management a preliminary evaluation of the number of screws needed in the ice condenser baskets. He recalled that this figure called for all 12 screws to be installed in the middle elevation. However, he said an analysis, RAEA-95-207, dated June 22, 1995, more exactly determined how many screws could be missing at any elevation. He said the information was summarized and provided to WBN in response to their inquiry.

According to SCRABIS, other WEC engineers conducted calculations at his direction in order to arrive at the statistical assessment on the distribution of the missing screws. SCRABIS said WEC first determined the probability of the missing screws at any given elevation. An analysis was then performed to determine how many screws could be missing and the ice condenser system still meet it's design requirements. The subsequent analysis indicated that at any given

elevation in the ice condenser basket column, 2 of 12 screws could be missing whereas, initial evaluation called for all 12 screws to be installed. WBN plant specific design information was used for the different load combinations for which the ice condenser baskets must be capable of resisting. SCRABIS further explained that WEC looked at each elevation of the basket to identify a realistic assessment of margin in the design. He said the results of the calculations were captured in WEC report RAEA-95-207 and that the results of the report were summarized in WEC's report to WBN.

WEC further analyzed the probability of the ice condenser baskets ejecting from their position and what the effects would be in the event of an ejection.

SCRABIS said he only received an incomplete copy of the first metallurgy report and that he definitely never received a subsequent metallurgy report from either OVERALL or WBN. In addition, SCRABIS said WBN never requested an evaluation of a metallurgy report. He added that the exact request from TVA would probably have been set forth in a contract, but that he would not normally see the contract or be involved with it. He identified John IRONS, WEC project manager as the person that would have negotiated the contract for the evaluation of the ice condenser basket screws.

AGENT'S NOTE: CAMPAGNA was informally requested to supply a copy of the contract between WEC and WBN which requested an evaluation of the ice condenser basket screw as well as a copy of the calculations used to support WEC's analysis. CAMPAGNA advised that the contract could not be located but that the calculations would be provided.

This report was prepared on October 8, 1999, from agent's notes.



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