February 10, 1987

Official

MEMORANDUM FOR: Joseph J. Holonich, Project Manager
Material Control Category
Employee Concern Program

FROM: Caudle A. Julian, Technical Program Manager
Material Control Category
Employee Concern Program

SUBJECT: DRAFT SER FOR SEQUOYAH ELEMENT REPORTS - MATERIAL CONTROL CATEGORY

The draft Safety Evaluation Report (SER) sections for Sequoyah (SQN) Element Reports MC-40301-SQN, MC-40302-SQN, MC-40307-SQN, and MC-40705-SQN are enclosed.

The format for the SER sections is based on B. J. Youndblood's August 8, 1986, memorandum.

Any allegations that may impinge upon the Element Report's subcategory will be handled by a separate allegations system. As material control type allegations are completed, they will be reviewed for impact on the subject, draft SERs.

Please contact myself (FTS 242-5541) or Mike Scott (FTS 242-5593) if you have any questions concerning the details of these draft SER sections.

(Original signed by C. A. Julian)

Caudle A. Julian

Enclosure:
Draft SER Sections

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SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT MC-40301-SQN "VALVE SUBSTITUTION
AS RELATED TO MATERIAL CONTROL"

I. Subject

Category: Materials Control (40000)

Subcategory: Installation (40300)

Element: Valve Substitution as Related to Material Control (40301)

Employee Concern: EX-85-181-001

The basis for Element Report MC-40301-SQN, Revision 2, dated October 31, 1986, is Employee Concern EX-85-181-001 which states:

> "On valve inspection (Test 70), Quality Control (QC) verifies the proper valve by the mark number tag which is installed by the warehouse or vendor and is often just a paper or metal tag which can be removed or replaced by anyone. If the valve has been substituted from what the drawing lists, the bill of materials does not properly reflect the change. No paperwork is provided to Watts Bar engineering to document that it is an acceptable replacement. Many substitutes have come from Hartsville, Phipps Bend, and Yellow Creek are a different type than what the drawing calls for. Check Unit 2, R1, Steam Generator Blowdown System, as an example."

The portion of the above quote that is generically responded to by the Element Report is the segment of the quote as follows: "If the valve has ... is an acceptable replacement." The remainder of the concern is addressed in Material Control Subcatagories, Purchasing and Requisitioning (MC-40200) and Material Identification (MC-40500), as stated by this Element Report.

This segment of the concern was evaluated by TVA as potentially nuclear safety-related and potentially generic to Sequoyah.

II. Summary of Issue

The issue defined by TVA is that valves may have been substituted from what the drawing requires without documenting the substitution, and the bills of materials were not revised to show the change.

III. Evaluation

TVA personnel interviewed personnel involved with valve installation during the construction phase at SQN, reviewed construction procedures related to valve installation, reviewed a sample of the 47W drawings, and reviewed construction valve documentation for 200 valves to determine if valve substitution was a standard practical SQN during construction.

The TVA evaluation concluded that during the construction phase of SQN, the valve installation program maintained adequate control of valve substitutions.

The NRC inspector interviewed the Employee Concern Task Group (ECTG) investigator who wrote the Element Report on January 7, 1987. The NRC inspector reviewed the ECTG documentation package which was collected during the TVA investigation. A pertinent fact, that was not clearly pointed out in the Element Report, is that the Watts Bar valve installation program is different from the program at Sequoyah. The program at Sequoyah is simpler and the means of valve installation verification is more definitive.

The NRC inspector cross-checked the conclusion of the Report by inspecting a sample of safety-related valves and verified them to be as indicated on plant drawings, and by checking the output of several programs which were performed by independent TVA groups or contractors which could indicate improper valve substitutions. No indications refuted the Report findings.

IV. Conclusions

The NRC staff believes that the TVA investigation of the portion of the concern addressed in the subject report was adequate, and that their resolution of the concern as described in Element Report MC-40301-SQN, Revision 2, is acceptable.

D R A F T

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT MC-40302-SQN "VALVE (CRACKED)
AS RELATED TO MATERIAL CONTROL"

I. Subject

Category: Materials Control (40000)

Subcategory: Installation (40300)

Element: Valve (Cracked) as Related to Material Control (40302)

Employee Concern: PH-85-035-002

The basis for Element Report MC-40302-SQN, Revision 4, dated December 5, 1986, is Watts Bar Employee Concern PH-85-035-002 which states:

> "The 3" SS valve located on the top of the pressurizer in Unit 1/system 68 has a lamination crack running through the valve body into the weld zone on weld upstream from valve."

This concern was evaluated by TVA as potentially nuclear safety-related and potentially applicable to Sequoyah.

II. Summary of Issue

The perceived problem that this report addresses is that one of the 3-inch valves in the top of the Unit 2 pressurizer at Sequoyah (SQN) was previously installed in the same area in Unit 1 at Watts Bar Nuclear (WBN), and that one of these valves at WBN is alleged to have a crack or lamination in the valve body that runs into the weld area. The subject valve was identified during the evaluation at WBN to be serial number 1983-3, manufactured by Target Rock Corporation.

III. Evaluation

TVA personnel visually examined spare valve (Serial Number 1985-10) for cracks or laminations and none were found. This valve was then placed in service replacing the subject valve (Serial Number 1983-3). The subject valve received a visual inspection of the interior and exterior of the valve body by a TVA nondestructive examination (NDE) Level II inspector. No indications of cracks or laminations were found in the weld areas. However, there was an elliptical shaped indication on the interior surface of the outlet side of the valve body adjacent to the indicator tube. This was further evaluated by a Level III NDE inspector and determined not to be a crack, but the specific nature of the indication and the valve's suitability for service was not determined by this inspection (note: this valve was no

longer installed). The indication identified was also present in the valves that were examined at WBN. The indications in the valves at WBN were evaluated and determined to be inherent to the manufacturing process and not detrimental to the safe operation of the valves. The inspections performed by TVA were documented on work requests.

The TVA evaluation concluded that the indication found in the valve is not in the weld area as stated in the perceived problem, and this indication is inherent of the manufacturing process for these valves and not a crack or lamination. Therefore the concern is not valid. The TVA evaluation also concluded that there was no criterion to determine the acceptability of this particular value for use, and this needed to be addressed by line management.

The NRC inspector contacted the Employee Concerns Task Group (ECTG) about the concern. The ECTG stated that the spare valve (serial 1985-10) installed in Unit 2 at Sequoyah had no such indication from the manufacturing process due to the fact that Target Rock had changed its process in the two-year span separating the valves' construction. Target Rock representatives had inspected the subject valves at the site. ECTG personnel had also been present during the valve inspections. Target Rock is providing a letter regarding the possible presence of the indications, which will become a part of the purchase order specification for future receipt inspections of procured valves of the subject valves' type.

IV. Conclusions

The NRC staff believes that TVA investigation of the concern was adequate and their resolution of the concern as described in Element Report MC-40302-SQN, Revision 4, is acceptable.

D R A F T

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT MC-40307-SQN "SCRAPPED MATERIAL
AS RELATED TO MATERIAL CONTROL"

I. Subject

Category: Materials Control (40000)

Subcategory: Installation (40300)

Element: Scrapped Material as Related to Material Control (40307)

Employee Concern: SQP-5-004-003

Part of the basis for Element Report MC-40307-SQN, Revision 2, dated October 31, 1986, is Employee Concern SQP-5-004-003 which states:

> "SEQUOYAH: New material has been ordered scrapped by a supervisor and later retrieved by a different group. This could represent a lack of control regarding scrapped material."

The Nuclear Safety Review Staff (NSRS) obtained additional information from the Employee Response Team follow-up group, which further specified the concern to be that the concerned individual (CI) had noticed new fittings still in the manufacturer's plastic bags, in a garbage pile next to a warehouse in November 1985. These fittings were picked up by someone from another plant organization the following week. The CI assumes that the fittings were later used somewhere in the plant but is unsure what happened to these fittings after they were picked up/retrieved from the garbage pile.

Additionally, the Element Report identified five Watts Bar concerns which were made generic to Sequoyah; the concerns were IN-85-291-001, IN-85-339-002, IN-85-624-003, PH-85-003-009, and WI-85-091-014. The report summarized the combined concerns (SQN and WBN) as follows:

> "The perceived problem, as stated in the concerns that this report addresses, is that material that had been scrapped was retrieved from the scrap pile and used in permanent plant installations."

These concerns were evaluated by TVA as potentially nuclear safety-related and both potentially and specifically applicable to Sequoyah.

II. Summary of Issue

The problem defined by TVA is summarily stated in the last quote above. The specific Watts Bar material (from WBN concern descriptions) supposedly used after being scrapped, included: general scrap, valves, snubbers, pipe, and hanger material. The specific Sequoyah concern is stated above. In all of the concerns, no specific end use was identified for the scrap material. The scrap material was not identified as being safety-related.

The use of non-safety-related material in a safety-related application, the use of safety-related material in the wrong application, and the use of safety-related material that had degraded in improper storage would be the primary regulatory considerations. Due to the Watts Bar concerns which were made generic to Sequoyah, the time frame for consideration in the Element Report was assumed from construction to the time of the investigation (1986).

III. Evaluation

The Sequoyah specific concern (SQP-5-004-003) was addressed by NSRS Report I-86-164-SQN as noted in the Element Report. The concern was recent enough that the actual events could be reconstructed. The scrapped material was not utilized in the plant. The Element Report recognized that NSRS Report should have identified corrective action which was specified in the Element Report.

The Element Report identified that there were no procedural controls for scrap during the construction phase and that some problems exist in current procedures.

The Element Report appears to have adequately covered the area of concern for current site activities. The Employee Concern Task Group (ECTG) that generated the report utilized personnel observation, interviews, and program review to evaluate the concern. Via the site staff, ECTG obtained corrective action on programmatic scrap material problems. As stated in the report, these problems had not caused scrap to be misused.

The Element Report utilized interviews as the means of evaluating scrap use during the construction period. With regard to interviews of TVA construction personnel, the report states:

> "During the construction phase of Sequoyah (SQN), material was on occasion scrapped by mistake, its traceability maintained, and therefore retrieved for installation at a later time. However, no specific items could be identified."

The report did not state the number or types of personnel interviewed by ECTG.

The NRC staff met with the ECTG investigator on January 7, 1987, to discuss the subject Element Report. The NRC inspector reviewed the supportive evaluation package for the report. The NRC inspector determined that misuse of scrap material during the construction period was probably the most difficult part of the concern to resolve, and aside from destructive sampling or nondestructive sampling of material, the interview method was the most useful tool available.

From the discussion with the ECTG investigator and review of support documentation, the NRC inspector determined more information on the ECTG interviews with TVA personnel regarding scrap use during plant construction. The interview results appear satisfactory with the possible exception of the small number of TVA Quality Control (QC) inspectors interviewed. This oversight appeared to be one of personnel availability at the time of the ECTG evaluation. QC inspectors are, and were responsible for verification of material at installation. The ECTG investigator had interviewed mainly engineering staff who, under the TVA system, were responsible for material release.

The NRC inspector interviewed three additional construction period QC inspectors during January 8 and 9, 1987, at Sequoyah. The QC inspectors interviewed corroborated the results of the Element Report. Two were emphatic about scrap not being used and the third could not remember any specific misuse of scrap. Although there were no procedures during construction regarding reuse of scrap, the QC inspectors stated that it was and is, common knowledge as to what is required for safety-related installations.

IV. Conclusion

The NRC staff believes that TVA investigation of the concern was adequate and that their resolution of the concern as described in Element Report MC-40307-SQN, Revision 2, is acceptable.

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SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT MC-40705-SQN "QUALITY RECEIVING UNIT"

I. Subject

Category: Materials Control (40000)

Subcategory: Procedural Control (40700)

Element: Quality Receiving Unit (40705)

Employee Concern: XX-85-027-X02

The basis for Element Report MC-40705-SQN, Revision 1, dated October 31, 1986, is Sequoyah Employee Concern XX-85-027-X02 which states:

> "Material inspectors were not allowed to validate heat numbers of structural steel received onsite as required by procedure [;] heat No. 7438383 is an example."

This concern was evaluated by TVA as potentially nuclear safety-related, and only relevant to Sequoyah.

II. Summary of Issue

The issue defined by TVA is that the concerned individual (CI) who had been a quality control (QC) inspector felt that during the construction period, there was impedance in the inspection process with regard to heat number validation of structural steel. The Element Report addresses the impedance issue, but does indicate other areas of concern which resulted from or paralleled this concern (and other concerns by this CI). A harassment issue regarding the CI is being handled by the TVA Inspector General Office by concern number HI-85-005-001. Heat number programmatic traceability problems are being addressed by concern number MC-40703-SQN.

III. Evaluation

Although seemingly extraneous information appears in the text of the Element Report, the thrust of the report is the interviews with QC inspectors by the Employee Concerns Task Group (ECTG). The NRC staff discussed the details of the report with the ECTG investigators and supervision on January 15, 1987. Some of the seemingly extraneous information was an attempt to point out oddities in the Employee Response Team (QTC) Report (XX-85-027-X02) in the concern area, and with other information pointing out the margins between the impedance concern and the heat number issue of Element Report MC-40703-SQN.

The ECTG investigators interviewed at least ten QC inspectors on possible impedance during performance of heat number validation. This interview methodology is considered by the NRC staff to be the primary means relevant information was obtained regarding the concern. The parametric boundaries of the questions asked by the ECTG of the interviewees should have discerned any impedance problems on the part of the QC inspectors. The ECTG (and the report) indicated that no inspector had problems validating heat numbers. As stated by the ECTG, the QC inspectors' only difficulty was with the procedures involved in the validation process which is not mentioned in the subject Element Report but was stated by the ECTG to be programmatically addressed in MC-40703-SQN. During the discussion with the ECTG on January 15, 1986, ECTG supervision indicated that they would probably change Element Report MC-40705-SQN to point out the procedural problems and the fact that these problems are addressed in MC-40703-SQN.

IV. Conclusion

The NRC staff believes that TVA investigation of the concern was adequate and their resolution of the concern as described in Element Report MC-40705, Revision 1, is acceptable. Although the difficult language of the report and side issues identified in the report required some clarification between the NRC and the ECTG and required a working knowledge of the applicable inspection process, the results of the interviews (the ECTG with the TVA QC inspectors) support acceptance of the report. Any additional clarification of the report by the ECTG should only aid in the readability of the report and not affect its conclusions.