



UNITED STATES
NUCLEAR REGULATORY COMMISSION

Att 2

REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

May 14, 1981

Energy Specialist
KMBC-TV, Channel 9
1049 Central Street
Kansas City, Missouri 64105

Dear Pam:

As a follow up to our meeting on Monday, May 11, 1981, here in our Arlington Office, I have enclosed a copy of our written comments concerning the numerous statements contained in a memo from a [redacted] that you sent to me on April 21, 1981. Once you have had a chance to review our comments, I will be very happy to answer any questions you may have.

As I mentioned to you in our meeting, the NRC is most anxious to work with you in responding to questions raised by members of the public about the activities associated with the construction of the Wolf Creek facility. I believe we both share a common goal, that of assuring the public that nuclear power plants are being constructed and operated safely.

If I can be of any assistance to you in the future, please don't hesitate to contact me at (817)465-8225.

Sincerely,

John T. Collins
John T. Collins
Deputy Director

Enclosure:
As stated

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1. "I was employed as a welder and worked primarily on stainless steel containment liners located in the fuel building. The liners are the same as those used in the reactor building and are an essential component of the radiation containments used at Wolf Creek."

The reactor cavity, fuel transfer canal, cask loading pit, and fuel pool liners are different from the reactor containment building liner in that these liner systems are not installed to prevent or mitigate the consequences of any of the postulated design basis accidents, but rather are installed to prevent an excessive burden on the liquid waste collection and disposal system and to allow the wall and floor area to be more easily decontaminated after pool usage. These liners, as a functioning element, are, therefore, not classified as safety-related as defined in 10 CFR 50, Appendix B, and are not included in the NRC inspection program.

2. "I recently had the occasion to read the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section III, Division 2, Subsection CC, the 1977 edition. Subsection CC appears to govern the work I was involved with at Wolf Creek."

Section III, Division 2, is applicable to reactor containment building liners, but the reactor cavity, fuel transfer canal, cask loading pit and fuel pool liners are erected in accordance with Bechtel Specification 10466-C172 which designates Subsections UW-26(b) through UW-38 of Section VIII, Division 1, 1974, as applicable.

3. "During field fabrication of the liners located in the cask loading pit, spent fuel pool, transfer canal and fuel pool extreme force was sometimes used to bring these components into alignment. This force was applied with turnbuckles and 50 ton hydraulic jacks often worked to their maximum capacity. The liners were deformed or held in constraint until concrete was placed around them. Some alignments where this force was most notable were - the squaring of the top of the cask loading pit, bringing the spent fuel pool gates into tolerance, and squaring safety-related wall embed plates in the spent fuel pool.

"In doing alignment work I was never instructed to limit the amount of force used."

NRC Inspection Reports Nos. 50-482/80-07 and 50-482/80-09 reported the inspection of the spalling of concrete in the reactor cavity collection trench. Inspection disclosed that cracking of the concrete in the areas adjacent the spalling had also occurred. NRC Inspection Report No. 50-482/80-13 also reported evaluation of the damage/cracking. It was determined that this occurrence was due to "excessive forces exerted on

the liner plate during the adjustment and fitting up process." Evaluation disclosed "the unsound concrete was limited to the immediate vicinity of the ledge around the reactor cavity and had no effect on the ability of the concrete structure to perform its safety-related function as defined in 10 CFR 50, Appendix B." Report 80-13 states "unsound concrete was removed and all damage was identified and documented. Repairs were accomplished in accordance with the Bechtel dispositions."

4. "On one occasion a fellow worker pointed out a crack in a 90 degree bent corner located in the northwest corner of the transfer canal. The crack penetrated the thickness of the liner so that light could pass through. By the location of the crack it appeared to be caused by the force used in alignment. The fellow worker told a supervisor of the defect and made a repair. To the best of my knowledge this incident had not been documented.

"Since sufficient force was apparently used to cause a failure in the metal and since no limits were placed on the use of force in alignment I assume much of the force used exceeded allowable amounts."

The licensee stated that there is no record of a crack in the transfer canal liner.

5. "Welders are required to mark permanent welds they make in order to provide traceability of welding material or to ensure that the specified material was used.

"The procedures used by Daniel do neither. Although a weld is marked there is no way of knowing how many other welders welded on the same weld. At any given location on a weld, up to four different welders may have welded, some tacking, some putting in filler beads, some capping and some making repairs. The marking requirement is superficially fulfilled by one mark every 3 ft. but that by itself does not indicate who else may have welded on the same weld.

"Daniel had no regularly implemented means of verifying if a welder marked a liner plate weld or not, and Daniel did not have daily work records which could show where a welder worked on a given day. Because of this there is no way of tracing welding material or ensuring that the specified material was used."

This requirement of ASME Section III, Division 2, is not applicable.

The applicable code is ASME Section VIII, Division 1, Subsection UW-37(f). For non-Q work, the welder's stamp only is required, no other traceability is specified. For Q work, the welder's stamp is required for permanent welder identification only. Traceability documentation is done by other quality records.

6. "A vertical stainless steel seam weld in the transfer canal was apparently made with a mild steel electrode. When it was discovered months later there was no means of tracing the filler metal used or the welder. Daniel knows about this incident and has repaired the weld."

This was substantiated in NRC Report 50-482/80-09. The discrepant weld was located and corrected. Also, action was taken to correct the problem of weld rod control. Deficiency Report No. IND3864M was issued on April 29, 1980.

7. "Improper welding rods were also used on the liner plates inside the reactor cavity. This was substantiated in NRC Investigation Report No. STN 50-482/80-06, Allegation No. 7."

This item was substantiated in NRC Reports Nos. 50-482/80-06 and 80-07. A small quantity of E308 electrodes was used instead of E309L electrodes for welding the carbon steel reactor cavity liner to the stainless steel reactor cavity seal ring. The discrepancy was documented on NCR No. INN1551M, dated December 21, 1979.

8. "CC-4542.2 (c)

Single welded butt joints were made where the alignment was excessively narrow making complete penetration doubtful. This was true of most of the leak chase system butt welds I made and at least one liner plant butt weld I observed."

The requirement of Section III, Division 2, is the same as that of Section VIII, Division 1, Subsection UW-37(d). The alignment allowed by Specification 10466-C172 for the refueling pool liner plate butt joints is 3/8-inch + 1/8-inch and for the spent fuel pool and fuel transfer canal liner plate butt joints it is 1/2-inch + 1/8-inch. However, a note on the drawings gives allowance to go outside of these requirements to meet overall dimensional tolerances. There are no documented cases by the licensee of having exceeded these tolerances.

9. "CC-4542.3 and CC-4545.2

In grinding welds care was not always taken to avoid reducing the weld and base material below the required thickness. I saw many areas of the liner plates that appeared to be ground below 1/16-in."

Specification 10466-C172 addresses the minimum wall requirements by reference to ASTM A480. The tolerance for 1/4-inch plate is + .01-inch. The licensee reported that on occasion, grinding of welds violated minimum wall requirements, but repairs were made to bring the material back to specified thickness.

10. "CC-4545.2 (c)

Throughout the term of my employment at Wolf Creek I saw well over 1000 ft. of liner plate welds that had surface defects removed by grinding but none were ever checked with magnetic particle or liquid penetrant methods."

Specification 10466-C172 does not require surface check by magnetic particle or liquid penetrant method after weld defect removal.

11. "Unacceptable defects (leaks in the leak chase system and liner plates) were not removed by mechanical means or by the thermal gouging processes. In making repairs I was instructed by my foreman to weld over defects. This was the accepted and common practice. Only in a few cases of back charged factory leaks in the cask loading pit were defects removed by mechanical means and examined according to CC-5533.

"I made approximately 300 to 500 repairs in the liner plates and leak chase system without removing the defects and without the area of repair being examined to meet the requirements of CC-5533 or CC-5534."

Subsection UW-38 requires visible defects and defects detected by NDE be removed and the joint rewelded. The licensee stated that weld defects were removed and repaired per procedures. That is, they were repaired as required to produce acceptable quality.

12. "CC-4545.3.4

Areas of repair were not examined as required by this paragraph except for the few cases of back charged factory leak mentioned above. This is true of all the repairs I was involved in or have knowledge of."

Repaired welds received the same inspection as original welds in accordance with the Fabrication Specification 10466-C172. Examination of welds in accordance with the specification is outlined in Allegation No. 13.

13. "CC-5521

No butt welds in the liner were radiographed when they were or could have been accessible nor were they examined by the magnetic particle or liquid penetrant methods as required by this paragraph.

"This is true of all the liner butt welds I was involved in or have knowledge of.

"CC-5536.1

Vertical and horizontal liner welds were not tested by either the vacuum box, halogen diode or helium mass spectrometer methods as required in this paragraph.

"This is true of all vertical and horizontal liner welds I was involved in or have knowledge of."

The above Code paragraph is not applicable.

Nondestructive examination of the reactor cavity, transfer canal, cask loading pit and fuel pool liners is outlined in Specification 10466-C172 as follows:

- a. Floor seams are to be vacuum box tested
- b. Wall leak chase are to be pressure tested
- c. Embed to liner welds are to be vacuum box tested
- d. Where vacuum box testing is not feasible, dye penetrant testing will be made.

According to the KG&E welding QA Engineer, to date 80% of the welds have been completed and overall, about 40 of the welds have been tested and found acceptable.

14. "CC-5535.2

Some of the pipes in the leak-chase system were blocked shut with dirt and debris so that air would not pass through them. I found one such pipe while making a repair in the leak-chase system on the east side of the cask loading pit. The debris was packed tightly into the pipe for approximately 6-in. After cleaning the pipe out I reported the problem to my foreman and general foreman who were unconcerned. I found several other pipes similarly filled with debris on the west side of the transfer canal.

"I do not believe a leak test can be valid when the pipes are packed with debris."

NRC inspectors do not normally review the program for clearance and functioning of liner leak chase systems for the fuel handling pits. The NRC has no records concerning the inspection of cleaning/flushing and pressure testing of these leak chases. However, the licensee states that their records are as follows:

- a. Those channels which were found blocked were documented on NCRs.
- b. Where a blocked leak chase channel precluded pressure testing of a liner weld at the time of inspection, an alternate inspection method (vacuum box or liquid penetrant) was employed to ensure leak tightness.
- c. In one case, a blocked leak chase channel could not be cleared. This matter is documented on NCR's and the blockage bypassed.