U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-263/85010

Docket No. 50-263 License No. DPR-22

Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Facility Name: Monticello Nuclear Generating Plant

Inspection At: Monticello Site, Monticello, MN
Fergus Falls, MN

Inspection Conducted: March 7 and 11-14, 1985

Inspector: DHDanielson for K. D. Ward 3/19/85 Date

Approved By: DHDanielson D. H. Danielson, Chief
Materials and Processes Section 3/19/85 Date

Inspection Summary

Inspection on March 7 and 11-14, 1985 (Report No. 50-263/85010)
Areas Inspected: Unannounced, special inspection of several allegations related to welding during the replacement of the Recirculation and RHR system piping; licensee actions related to a 10 CFR Part 21 item. This inspection involved a total of 39 hours by one NRC inspector, including 4 hours interviewing the alleger and 16 hours during offshifts.
Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Northern States Power Company (NSP)

*W. Shamla, Plant Manager
*G. Gunther, Construction Superintendent
*K. Trosen, Materials and Special Processes Engineer
P. Johnson, Project Manager
D. Nevinski, Superintendent, Engineering and Rad. Protection
F. Tierney, General Manager
R. Nelson, Level III, RT

Bechtel Power Company

J. Bradburn, Assistant Project Engineer

Hartford Steam Boiler Engineering and Insurance Company

M. Rudek, Authorized Nuclear Inservice Inspector (ANII)

The inspector also contacted and interviewed other licensee and contractor employees.

*Denotes the individuals present at the exit interview.

2. Licensee Action on 10 CFR 21 Item

(Closed) 10 CFR 21 Report (SSH-M-84/01): The inspector reviewed the final report dated February 8, 1985, and documentation related to the item.

As a result of the defects discovered in the 18" pipe, the decision was made to perform ultrasonic examinations (UT) of the total quantity of 18" and 16" pipe received using a straight beam circumferential scan and axial angle beam scans in two directions.

Corrective action report (CAR) M-27 was issued to Bechtel on July 5, 1984, requesting Bechtel to identify the cause of the defects, address the possibility of occurrence in other pipe materials or sizes and identify actions to be taken to prevent future delivery of defective pipe.

Bechtel Specification 10040-P-201(Q) was revised to require 5 scan UT for seamless and welded without filler metal tubular products. This revision will assure that future orders will require the proper examination to detect the reported defects.

Determination of cause and the possibility of occurrence in other materials was not undertaken by Bechtel.

Sample pieces of the defective pipe were sent to U.S. Steel for analysis and determination of cause and corrective action. The report from U.S. Steel indicates that the cause was furnace slag carried over to the ladle and subsequently entrapped in the ingot causing cracks to form during the piercing or rolling process. U.S. Steel also reported that it has implemented new clean steel ladle metallurgy processing to improve steel quality.

The NRC has issued IE Information Notice No. 84-63 to inform other licensees of this defect.

3. <u>Allegations</u>

The NRC received a letter to the Chairman of the NRC from an alleger dated February 18, 1985, with allegations related to pipe repairs at the Monticello Nuclear Generating Plant. The alleger provided a letter addressed to him from Northern States Power (NSP) dated October 12, 1984, acknowledging that NSP had investigated the allegations he had brought to its attention and that NSP had determined the replacement piping installation was in accordance with the ASME Code and NSP procedures.

The NRC inspector interviewed the alleger in Fergus Falls, Minnesota, March 7, 1985, to obtain clarification of the allegations that he had written and to determine if there were additional allegations. Most of the allegations were a result of conversations that were overheard by the alleger or from conversations between the alleger and other individuals.

The alleger stated that he was not involved in welding at the site and that he did not know the procedures used for the replacement of the Recirculation and RHR System piping.

The NRC inspector reviewed NSP internal correspondence (Enclosure 1) in which NSP reviewed the three allegations which NSP received on September 1, 1984. The NRC inspector reviewed the NSP inquiry into the three allegations and found NSP's findings and conclusions to be acceptable. The allegations were:

- Thermal sleeve piping was cut one inch too short.
- Argon gas used for weld shielding was contaminated by passing through copper tubing.
- Certain welds contain lack of fusion or are partially fused and will separate later.

The following paragraphs address each of the allegations received by the NRC, including additional information obtained during the interview with the alleger, and the findings of the NRC review relative to each allegation.

a. Allegation

There is a strong possibility that all ten thermal sleeves were cut 1" short. A General Electric (GE) engineer was fired or quit the same day he was questioned about this. The NSP crew installed ten jet pumps and had to force fit four jet pumps because of the 1" cut short of the thermal sleeves.

Information from Interview

The alleger stated that he had heard that the 12" riser pipes are cocked, therefore, the thermal sleeves had to be cut 1" short.

A specifically named GE engineer was fired or quit the same day he was questioned about this item.

The alleger also heard that a shift supervisor and maintenance people observed the force fit-up. The alleger did not know the identity of the shift supervisor or maintenance workers.

NRC Findings

The NSP Construction Superintendent and the Materials and Special Processes Engineer were interviewed. They provided a detailed explanation of the removal/reinstallation of the inlet safe ends and thermal sleeves.

The existing safe end was removed by cutting off the safe end on the safe end side of the nozzle-to-safe end weld. Prior to any cutting, reference marks were established to relocate the internal riser pipe.

The thermal sleeve was severed by using an inside diameter (ID) cutting tool. After cutting, several of the riser pipes moved in toward the reactor center line ¼" to 1¼". At the time these cuts were made, dummy jet pumps were in place.

When NSP tried to relocate the risers back to the before cut position, NSP found it impossible to locate the risers both radially and axially (this was with the dummy jet pumps installed).

A decision was made to plug the nozzles, pull the dummy jet pumps, relocate the risers to zero position (before cutting), and fit the jet pumps.

All the jet pumps were installed, riser position determined, jet pumps removed, and vessel drained again. NSP then resumed reinstallation as planned.

Any misalignment would show up during installation of equipment when assembling the reactor internals. The NRC inspector reviewed radiographs, travelers, welders qualifications, joint process control sheets, and other documentation including procedures relating to the thermal sleeves and the jet pumps installation. The NRC inspector determined that the thermal sleeves were cut accurately and not cut too short. The alignment of the four jet pumps indicated that they were not force fit.

The thermal sleeves in question are on the inside of a tuning fork type safe end. They are 12" inside diameter pipes which are welded to the reactor vessel nozzles. These pipes are located in the dry-well which is inaccessible when the plant is in operation. These inner thermal sleeves are connected to jet pump risers which are located in the annulus region of the reactor vessel. The NRC inspector did not inspect the pipes because the reactor vessel is inaccessible when the plant is in operation.

All GE personnel who were responsible for the welding are gone from the site. The Construction Superintendent informed the NRC inspector that the named GE engineer went to work for a consulting firm. The engineer's leaving had nothing to do with this allegation.

This allegation could not be substantiated and is considered closed.

b. Allegation

Five risers were cut short ¼" to 7/8" and pulled together.

Information from Interview

The alleger stated that he overheard the above statement. He stated that there may be two risers cut short in one group of five and three risers cut short in another group of five risers. The alleger could not identify the systems involved.

NRC Findings

Five risers are installed on the A and B loops for a total of 10 risers in the Recirculation System. The NRC inspector reviewed documentation for the 10 risers, including procedures and welders qualifications, and interviewed the NSP Construction Superintendent and the Materials and Special Processes Engineer. The inspector concluded that the risers were not cut too short. All the risers met fit-up requirements as specified by Bechtel and GE.

The 12" diameter risers were installed by cutting them approximately 3/16" too long. The bottom welds were welded out until the shrinkage brought the top of the riser down the 3/16" into place. At this time, the top welds were tacked and welded. This method was used to minimize welding stress in the piping system.

The NRC inspector did not inspect the risers because the risers are located inside the drywell and the drywell is inaccessible while the plant is in operation.

This allegation could not be substantiated and is considered closed.

c. Allegation

Soft copper tubing was used for argon lines.

Information from Interview

The alleger stated that he observed that all the welds were purged with argon using soft copper tubing and thought maybe it may not be acceptable.

NRC Findings

The NRC inspector interviewed NSP welding engineers. Argon gas is processed and transported through copper tubing as a normal procedure during manufacture and delivery. Since this gas is inert, it would not react chemically with copper. The Construction Superintendent informed the NRC inspector that the copper tubing was not touching the stainless steel pipe while it was being used onsite; therefore, there was no metallurgical contact by the copper.

The copper tubing was used as a supply header only. Tygon tubing was used from the shut off valves to the weld areas.

This allegation was substantiated. However, the use of copper tubing to deliver argon gas to the weld area is a common industry practice. This item is considered closed.

d. Allegation

The welding was welded too cold (low amps and voltage) causing surface fusion. When the root pass was in and gamma ray acceptable, the extra weld metal was added to fill the joint one-half out. That part of the weld would be gamma rayed for acceptance also. Sometimes the root would be separated in spots. When these spots were reconsumed and gamma rayed for acceptance, many times the root pass or adjoining area would be separated again. Fifty percent of the welds were found bad prior to acceptance. NSP and GE changed welding procedures in the last few welds and had no more trouble. Extra testing was done with the test coupons using much more heat and the tests were satisfactory.

Information from Interview

The alleger stated that the automatic welding machines were set too low in amps and voltage causing surface fusion. He used the term "surface fusion" meaning that the weldment was laying on top of the material and not fused. The alleger observed a strip of weld material separate from the parent metal during machining of a mockup of part of the system.

The alleger stated that he didn't have a problem that the root pass was radiographed (RT) and found acceptable, also that the weld was acceptable when welded one-half out. He had a concern that he heard that 50% of the welds had been unacceptable prior to final acceptance. It is the alleger's opinion that all the machine welding is unacceptable except for the following six welds that were welded with a new procedure: RCBJR-7, RCBJR-9, RCBJR-19, RCBJR-21, RCAJR-21, RCAJR-23. He stated that the end result was that radiography showed that all the welds were acceptable. The alleger stated that various tests were run with new procedures proving that the welds were acceptable using more heat. He also stated that he didn't know what procedure was used, old or new or the Code that was used for welding.

It is the opinion of the alleger that because of vibration of the pipe when the plant is operating the metal will fatigue, and the weld will separate and rupture.

NRC Findings

The NRC inspector reviewed procedures, welders certifications, NDE records, and other documentation on the above six welds and several other welds. The same procedures were used for all of the weld documentation reviewed. All the stainless steel to stainless steel welding procedures were qualified prior to GE coming onsite.

All the welds in the Recirculation System that were installed in accordance with ASME Code Section III were liquid penetrant examined (PT), visually examined (VT), and radiographed (RT). All welds that were installed in accordance with ASME Code Section XI were also liquid penetrant, visually, and ultrasonically examined (UT'd). Prior to startup, the welds were heat treated using the induction heating stress improvement (IHSI) process to reduce the possibility of intergranular stress corrosion cracking occurring in the welds. Following IHSI, all welds were again visually and ultrasonically examined to establish the inservice inspection (ISI) base line data.

All the welds in the Residual Heat Removal System (RHR) that were installed in accordance with ASME Code Section III were liquid penetrant, visually examined, and radiographed. All welds that were installed in accordance with ASME Code Section XI were also liquid penetrant, visually, and ultrasonically examined to establish the ISI base line data.

A completed series of radiographs for each weld in the Recirculation System and the RHR System were reviewed with the alleger by NSP's Level III in radiography and a NSP metallurgist on September 19, 1984. The alleger indicated that the completed welds were acceptable by the ASME Code, but that the Code requirements and the welding procedure qualifications were weak. Therefore, according to the alleger the welds will fall apart when subjected to vibration and operating pressure. It is important to note two facts regarding the welds in question. The first fact is that the welds are specifically designed to withstand the effects of fatigue, vibration and pressure. The second fact is that the welding procedure qualifications were found to be acceptable.

The Code requires that only the completed weld be radiographed (RT) for acceptance. It is good workmanship to RT the root when the weld is one-half complete instead of waiting until the weld is completed and then to RT and find out that a defect is in the root. In the Recirculation and RHR System there were several inprocess areas repaired in the root when the weld was one-half complete. After the welds were completed, RTs were taken on the Recirculation and the RHR Systems, there was one repair on the Recirculation System and three repairs on the RHR System. After the repairs were completed, the welds were again radiographed and found to be acceptable.

In October 1984, the NRC inspector interpreted radiographs of 54 welds and found them all to be acceptable and meet ASME Code requirements (Reference NRC Inspection Report No. 50-263/84-21). The NRC inspector also observed ultrasonic and liquid penetrant examinations being performed on pipe bends and welds (Reference NRC Inspection Report No. 50-263/84-06).

This allegation could not be substantiated and is considered closed.

e. <u>Allegation</u>

The stainless steel pipe was "blackish" from excess heat. NSP under close monitoring is going to run this plant for one year or so then if necessary will redo all piping using manual welding instead of automatic machine.

Information from Interview

The alleger stated that he observed the blackish area on the outside of the pipe in the mockup area. He stated that blackish on the outside of the pipe is unacceptable and that too much heat was used. He stated that he heard that NSP was going to monitor the plant and possibly rework all the welds welded by the automatic welding machine.

NRC Findings

During welder training in the mockup area, prior to the start of replacement, a problem developed in an argon header system. This problem was found to be caused by a bad bottle of argon or dirty supply piping. This problem only happened once and did cause a darkening on the outside of the pipe in the weld area.

The NRC inspector visually examined the Recirculation and RHR System piping after replacement and determined that all applicable Codes and procedures were used to fabricate and inspect the system (Reference NRC Inspection Report No. 50-263/84-21). The NRC inspector did not observe the darkening of any welds.

The NRC inspector inquired about the monitoring of the plant and the possible rework of all the welds that were made by the automatic welding machine. No one interviewed had made or was aware of this statement being made.

The stainless steel pipe being blackish was substantiated and was corrected because of the problem encountered during the mockup. These allegations are closed.

f. Allegation

The prepared ends of all RHR lines and fittings were machined to minimum wall thickness. For a length of over 1", one prepared end was machined 0.002" below minimum wall thickness. NSP decided it was ok.

Information from Interview

The alleger stated that he observed and was concerned that all the fittings and pipe ends were machined to the minimum wall thickness because the cover welds were ground off, there is undercut on each side of the welds, and they are below minimum wall. He stated that the 0.002" was measured with calipers, but he did not know which line.

NRC Findings

Two engineers from the NSP staff along with the ANI reviewed all the QC documents relative to the machining of the weld preparation for the Recirculation and RHR System piping and fittings. The NRC inspector was present and monitored this review and selected over 24 packages of the completed machining records for detailed review and evaluation. All dimensions were determined to be within the specifications/requirements. Further, no instance of minimum wall violations were evaluated and accepted by NSP.

After blending, the welds were visually examined by the licensee and their contractors to assure compliance with ASME Code requirements. In addition, the NRC inspector visually examined all of the modification welds. (Reference NRC Inspection Report No. 50-263/84-21).

Based on the above record review and VT of the completed welds, the NRC inspector concluded that all machining activities were proper, no minimum wall violations existed, and undercut was not visible.

The allegation could not be substantiated and is considered closed.

g. Allegation

One RHR line had been installed and gamma rayed acceptable. It was mistakenly gamma rayed and the weld was found unacceptable. The person that ground out the weld stated that the weld area looked like porosity, but it was not porosity. It was separating the weld area (surface fusion, lack of fusion). When a weld like this was gamma rayed acceptable and then the weld was machined out to the weld "prep" for the mockup, the tool on the machine would pull metal from the fitting to the original weld "prep" as if the weld was bonded and not fused.

Information from Interview

The alleger didn't know the number of the RHR line in question. The alleger stated that he observed surface fusion in the machining operation.

NRC Findings

In reviewing the RHR and Recirculation Systems documentation and interviewing the available individuals that were onsite at the time of the piping replacement, no evidence indicating the existence of this concern was identified.

To the contrary, all the welds in the Recirculation System that were installed in accordance with ASME Code Section III were liquid penetrant examined (PT), visually examined (VT), and radiographed (RT). All welds that were installed in accordance with ASME Code Section XI were also liquid penetrant, visually, and ultrasonically examined (UT'd). Prior to startup, the welds were heat treated using the induction heating stress improvement (IHSI) process to reduce the possibility of intergranular stress corrosion cracking occurring in the welds. Following IHSI, all welds were again visually and ultrasonically examined to establish the inservice inspection (ISI) base line data.

All the welds in the Residual Heat Removal System (RHR) that were installed in accordance with ASME Code Section III were liquid penetrant, visually examined, and radiographed. All welds that were installed in accordance with ASME Code Section XI were also liquid penetrant, visually, and ultrasonically examined to establish the ISI base line data.

In October 1984, the NRC inspector interpreted radiographs of 54 welds and found them all to be acceptable and meet ASME Code requirements (Reference NRC Inspection Report No. 50-263/84-21).

This item could not be substantiated and is considered closed.

h. Allegation

At least one weld had the wrong kind of welding rod used. This weld was corrected but there could be more.

Information from Interview

The alleger stated that he observed a document stating that weld RHCJR-9 had the wrong rod used. The alleger is concerned that there may be more. Stainless steel was used on carbon steel. He stated that the weld was repaired with no problem and that it is now acceptable.

NRC Findings

The NRC inspector reviewed the documentation for weld RHCJR-9 and found that the wrong rod was issued. After approximately two inches of weld was made the welder realized the wrong weld rod was issued. The welder stopped the weld, notified quality control and the correct weld rod was then issued. The original weld was removed and rewelded with the correct filler material. The weld is now acceptable.

The Lead ANI and QC/QA personnel compared rod slips against the travelers, audits were conducted and other reviews were made to make sure that this did not happen elsewhere. These reviews were monitored by the NRC inspector. No other similar instances were identified.

The allegation was substantiated in that there was one weld that was welded with the wrong weld rod. This item is considered closed.

i. Allegation

Some welders time limits had run out and NSP Superintendent stated all he had to do was juggle some paperwork in the office and everything would be alright.

Information from Interview

The alleger stated he and several others heard the NSP superintendent state that all he had to do was juggle some paperwork in the office and the 90-day welder requirement would be taken care of. He didn't know if anyone was welding that wasn't qualified/certified.

NRC Findings

The welders used on the Recirculation and RHR System replacement project were first qualified by manually welding and passing several tests. Approximately 300 welders were tested and approximately 70 were accepted. These welders were then given several weeks of training on the automatic welding machines. Prior to production welding, they had to pass another welding test made on a coupon using the automatic welding machine.

The NRC inspector reviewed several welders' qualifications and found that they had all welded within the 90-day time period. The ANI and other welding individuals were interviewed by the NRC inspector and this 90-day time period was not indicated to be a problem.

This allegation could not be substantiated and is considered closed.

j. Allegation

There was a wedge (iron) or object left in one of the thermal sleeves. The gamma ray picked it up. It was decided to leave it as it was too hard to get to.

Information from Interview

The alleger stated that he heard that the piece is approximately 1½" - 2" long and ½" wide and was made up of five pieces. He stated that 54 NSP engineers stated that the pieces did not have to come out. He did not know the number of the thermal sleeve.

NRC Findings

According to the Construction Superintendent extreme care was taken to assure that no foreign objects were left in the annulus area between the thermal sleeve and the nozzle. Immediately prior to the purge dam being installed and the safe end being put in place, inspections of this area were performed by GE production personnel, GE QC, and NSP engineering.

The NRC inspector, NSP's Level III and the ANI each reviewed the thermal sleeve radiographs, and did not observe a wedge or any such object during their interpretation of radiographs or the review documentation of the thermal sleeves. Also, the NRC inspector interviewed with the NSP Level III, ANI and NSP engineers for this project and no one knew of any such object left in a thermal sleeve.

This allegation could not be substantiated and is considered closed.

k. Allegation

A worm hole crack almost through was discovered by gamma ray in one nozzle ½" from the weld area. This was repaired before the weld was made and there may be more.

Information from Interview

The alleger stated that he heard of this and that there may be more that were missed.

NRC Findings

The NRC inspector interviewed the ANI and welding QC/QA inspectors. The NRC inspector was informed that during their review of the radiographs a worm hole crack was not found in any nozzle. Further, the NRC inspector reviewed the radiographs and did not see a worm hole crack or the existence of any repairs in the area described in the allegation.

This allegation was not substantiated and is considered closed.

l. Allegation

ANI signoffs were run over, deleted or forged.

Information from Interview

The alleger stated that he overheard individuals stating the above and that it was a Hartford inspector and there were probably hold points not met also.

NRC Findings

The NRC inspector interviewed the lead ANI who was onsite at the time of the replacement piping. The NRC inspector also reviewed several travelers and other documents that the ANIs had signed.

The Lead ANI stated that only three hold points were waived on the job. Further, there were even hold points established on the mockups and there was an NCR written because a hold point was bypassed on the mockup.

In reviewing several of the travelers, the NRC inspector compared signatures and could not determine that signatures were forged. It should be noted that the NRC inspector has been monitoring the Recirculation and RHR System piping since the beginning of its replacement during March 1984. At no time did any of the four ANIs involved with this project express a concern to the NRC inspector that their signatures were forged, deleted, missed, or otherwise altered.

This item could not be substantiated and is considered closed.

m. Overall NRC Conclusion

The NRC inspector determined that the quality of welding for the Recirculation and RHR System piping replacement was in accordance with the ASME Code and NSP procedures.

The Lead ANI and the NRC inspector had several discussions about replacement piping activities while the replacement effort was in progress. It is the opinion of the ANI and the NRC inspector that the job went very well.

The NRC inspector followed the replacement piping activities and his efforts are documented in NRC Inspection Reports No. 50-263/84-06; No. 50-263/84-13; and No. 50-263/84-21).

When following the replacement piping or in investigating the above allegations, there were no items of noncompliance or deviations identified.

4. Alleger's Concern

In interviewing the alleger as stated in Paragraph 2, "Allegations," of this report, the alleger also stated that he had a concern. He did not want to make this an allegation. The following is the alleger's concern and the NRC findings.

Concern

Around the 5th floor refueling area there is sheet metal siding and a sheet metal roof. If winds like a cyclone would come, the area would be contaminated for several miles from the spent fuel pool.

NRC Findings

The NRC inspector determined that the correct siding and roof was installed on the 5th floor and all precautions have been taken in accordance with GE's 30-page document entitled, "Tornado Protection for Spent Storage Pool," APED-5696. This document is referenced in the FSAR and has been accepted by the NRC.

This concern could not be substantiated and is considered closed.

No items of noncompliance or deviations identified.

5. Exit Interview

The inspector met with site representatives (denoted in Persons Contacted Paragraph 1) at the conclusion of the inspection. The inspector summarized the scope and findings of the inspection noted in this report. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents/processes as proprietary.

Enclosures:
1. Internal Correspondence dated October 10, 1984

03/12/85 09:06 N S P MPLS 02

Internal Correspondence FILE COPY NSP

NE&C

Investigative File

Date October 10, 1984

From C. H. Harmsen, Supt Conventional Projects QA Location Midland Square - 3

To F. P. Tierney, General Manager - Nuc Eng & Const Location General Office - 7

RECEIVED

OCT 11 1984

N.E. & C. Dept.

Subject QUALITY CONCERNS OF [redacted] AND STEPS TAKEN TO RESOLVE THEM.

9-1-84 4:35 P.M. L. Moling stopped at J. Meier's house in Monticello to express his concerns about weld quality during replacement of the Monticello Plant recirculation piping.

These concerns are:

1. Thermal sleeve piping was cut one inch too short.
2. Argon-gas used for weld shielding was contaminated by passing through copper tubing.
3. Certain welds contain lack of fusion or are partially fused and will separate later.

9-4-84 Report by Gary Gunther covering a meeting with [redacted] at the Monticello Plant site to discuss his concerns.

9-4-84 Letter from F. P. Tierney to D. Youngdahl requesting a metallurgist to follow-up on [redacted] concerns.

9-5-84 Letter from F. P. Tierney to [redacted] stating that C. Harmsen had been assigned to follow-up his concerns.

9-10-84 Letter from D. Youngdahl to W. Jokela concurring with assignment of C. Harmsen.

9-6-84 C. Harmsen met with J. Meier to discuss the quality concerns reported to J. Meier by [redacted] on 9-1-84.

9-10-84 [redacted] was interviewed by C. Harmsen (3 hr). Areas of concern were defined as:

1. Piping on safe ends was cut short.
2. Argon-gas used for weld shielding was contaminated when transported through copper tubing from the storage container to the weld area.
3. Certain welds contain lack of fusion or are partially fused and will separate later during plant operation.

Attachment I

CHH100984AMM1

9-10-84 (3) (continued)

The questionable welds are:

RHBJR-14A   RRGJR-3   RRHJR-3   RHCJR-15

9-12-84 Met with Mike Bates, Senior Welding Supervisor, G. E. on Monticello Plant site to discuss the welding procedures during the recirculation and residual heat removal piping system replacement.

9-18-84 Interview and information meeting with Gerry Deaver, Project Engineer, G. E., [redacted] and C. Harmsen present (2½ hr). Discussed the design of internal piping from recirc. safe ends to the jet pump inside of the reactor and methods used for replacement of the safe ends on the reactor vessel nozzles.

9-19-84 Interview and information meeting with Robert Nelson, RT Level III, NSP, [redacted] and C. Harmsen present (2½ hr). Discussed lack of fusion at the weld root as perceived by L. Moling.

The Radiographic history of each weld referenced above was explored through interpretation of root and final radiographs.

An NRC Inspector had approved the final radiographs of these welds earlier on 9-19-84. This is in addition to official evaluation by GE and NSP Level III examiners.

10-8-84 Letter from C. Harmsen to F. P. Tierney summarizing steps taken to investigate concerns expressed by L. Moling and recommending that no additional investigation would be required.

Carl H. Harmsen

C. H. Harmsen
Supt Conventional Projects QA

am

cc: A. V. Dienhart
F. H. Fahlen
W. V. Jokela
P. F. Suleski

CHH100984AM1