U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-317/90-01
50-318/90-01

Docket Nos. 50-317
50-318

License Nos. DPR-53
DPR-69

Licensee: Baltimore Gas and Electric Company
MD Rts 2 & 4, P.O. Box 1535
Lusby, Maryland 20657

Facility Name: Calvert Cliffs Units 1 and 2

Inspection At: Lusby, Maryland

Inspection Conducted: January 8-19, 1990

Inspectors: for J. Strosnider — 3/16/90
H. W. Kerch, Senior Reactor Engineer, Materials & processes Section, EB, DRS — date

for J. Strosnider — 3/16/90
R. H. Harris, NDE Technician, Materials & Processes Section, EB, DRS — date

Deborah A. Jackson — 3/16/90
D. A. Jackson, NRR Intern — date

for J. Strosnider — 3/16/90
M. A. Oliveri, NDE Technician, Materials & Processes Section, EB, DRS — date

Approved by: Jack Strosnider — 3/16/90
J. R. Strosnider, Chief, Materials and Processes Section, EB, DRS, Region I — date

Inspection Summary: Routine Announced Inspection Conducted on January 8-19, 1990 (Report Nos. 50-317/90-01 and 50-318/90-01)

Areas Inspected: A routine, announced inspection was conducted at Calvert Cliffs Nuclear Power Station using the NRC Mobile Non-destructive Examination (NDE) Laboratory. The inspection focused on activities related to the inservice inspection, erosion-corrosion, and modification programs. Three violations and an unresolved item, as listed below, were identified during this inspection.

Violation 90-01-01 Failure to follow procedures (See Section 2.1.6 and 2.1.7).

Violation 90-01-02 Procedure NCE-CP-5.020 dated January 15, 1990 for qualifying nondestructive testing technicians to perform visual examinations does not satisfy ANSI N45.2.6 as required by Section XI of the ASME Code. (See Section 4.0).

Violation 90-01-03 Failure to mark the center line of welds as required by Section XI of the ASME Code (See Section 2.1.9).

Unresolved Item 90-01-04 Failure to identify starting point and direction of erosion-corrosion thickness measurements.

The first two violations (90-01-01 and 90-01-02) and the unresolved item (90-01-04) were related to licensee procedures and activities associated with nondestructive testing of plant modifications and the erosion-corrosion inspection program performed by the corporate Materials Engineering and Analysis-NDE Subunit; not the ISI program. The violations included examples of technical and administrative deficiencies in procedures and failure to follow procedures. These deficiencies indicate the need for improved assurance of quality in this area. One potential hardware deficiency identified by the NRC involved a rejectable indication in a Unit 2 auxiliary feedwater system weld (part of violation 90-01-01). This issue is being addressed by the licensee.

DETAILS

1.0 Persons Contacted (30703)

Baltimore Gas & Electric (BG&E)

B. C. Rudell, Pressurizer Project Engineer
*M. Melbradt, Licensing Engineer
A. Zimmerman, Engineer, Q&A
A. B. Anuje, Supervisor, QA
*L. Decker, ISI Engineer
S. R. Bufbaum, Supervisor NDE Unit
*A. S. Reed, Principal Materials Examiner
*S. Sanders, Supervisor Radiation Control
K. Hoffman, Supervisor Engineer
L. B. Russell, Manager-Calvert Cliffs
R. Marshall, ALARA Coordinator
S. Dobler, Engineer - PSEU
D. Shaw, Licensing Engineer

U.S. Nuclear Regulatory Commission

J. E. Beall, Senior Resident Inspector, RI
A. Asars, Resident Inspector, RI

*Denotes those attending the entrance and exit meeting.

The above listed personnel were present at the exit meeting. The inspector also contacted other administrative and technical personnel during the inspection.

2.0 Independent Measurements - NRC Nondestructive Examination and Quality Records Review of Safety Related Systems

During the period January 8-19, 1990 an onsite independent inspection was conducted at the Calvert Cliffs Nuclear Power Station. The inspection was conducted by NRC regional based inspectors. The objectives of the inspection were to assess the adequacy of the licensee's inservice inspection, welding quality control, erosion-corrosion, and modification programs and to assess the licensee's actions regarding configuration control for piping hangers and supports. This was accomplished by repeating examinations required of the licensee by regulations and codes and then evaluating the results.

2.1 Nondestructive Examination (NDE)

2.1.1 Visual Examination of Piping Welds (57050)

Thirty-five (35) safety related pipe weldments and adjacent base material (1/2 inch on either side of the weld) were visually examined in accordance with NRC procedure NDE-10, Rev. 1, Appendix A, and the associated site procedure for Visual Examination of pipe systems and attached components, QC documents, isometrics and as-built drawings. This inspection included ASME Class 1, 2 and 3 pipe weldments from the High Pressure Safety Injection (HPSI), Main Steam (MS), Auxiliary Feedwater (AFW), and Shutdown Cooling (SDHX) systems. The examination was performed specifically to identify any cracks or linear indications, gouges, leakage, arc strikes with craters, or corrosion, which may infringe upon the minimum pipe wall thickness. Mirrors, flashlights and weld gauges were used to aid in the inspection and evaluation of the weldments.

Results: The welding and overall workmanship inspected was satisfactory. No violations were identified.

2.1.2 Visual Inspection of Hangers and Supports (57050)

During this inspection twenty-one (21) safety related hanger and supports were visually inspected per NRC procedure NDE-10, Rev. 1, Appendix A and B in conjunction with the site procedure for visual examination of pipe systems and attached components, QC documents and associated isometric drawings. Included in this inspection were hangers and supports selected from the Safety Injection (SI), Service Water (SW), Component Cooling Water (CCW), and Shutdown Cooling (SDHX) Systems. The accessible surface area and adjacent base metal for a distance of one-half inch on either side of the welds was examined. In the area of component integrity specific attributes looked for were proper installation, configuration or modification of supports, evidence of mechanical or structural damage, corrosion and bent, missing or broken members. Attachment #2 is a list of specific hangers and supports inspected.

Results: Welding and overall workmanship were acceptable. No violations were identified.

2.1.3 Liquid Penetrant Examinations (57060)

Twelve (12) safety related pipe weldments and adjacent base material (1/2 inch on either side of the weld) were examined using the visible dye, solvent removable method per NRC procedure NDE-9, Rev. 0, in conjunction with the licensee's procedure and associated QC records. Included in this inspection were ASME Class 2 stainless steel weldments selected from the Safety Injection (SI) and Shutdown Cooling (SDHX) Systems.

Results: The surface areas examined were properly prepared for the examination. No violations were identified.

2.1.4 Magnetic Particle Examinations (57070)

Eighteen (18) safety related pipe weldments and adjacent base material (1/2 inch on either side of the weld) were examined using the direct contact method (Yoke) with dry powder as the inspection medium. The examination was performed in accordance with NRC procedure NDE-6, Rev. 1, in conjunction with the licensee's procedure and associated QC records. Included in this examination were ASME Class 2 and 3 pipe weldments selected from the plant pipe modification program. The packages selected were for modifications made to the Main Steam (MS) and Auxiliary Feedwater (AFW) systems.

Results: No violations were identified.

2.1.5 Radiographic Examinations (57090)

Twenty (20) safety related pipe weldments were examined using an Iridium 192 source. The procedure and method used to perform radiography were in accordance with NRC procedure NDE-5, Rev. 1 in conjunction with the licensee's procedure for radiographic examination of welds NDE-5.300, Rev. 0 and associated drawings and QC documentation. Included in this examination were ASME Class 2 and 3 weldments selected from the Mainsteam (MS), Auxiliary Feedwater (AFW) and Safety Injection Systems.

Results: The resulting radiographs were reviewed for indications of defects and compared to site radiographs to ensure that the welds identified were the same as those identified by the NRC. No violations were identified.

2.1.6 Review of Licensee's Radiographs (57090)

Seventy (70) safety related radiographs from the licensee's files were reviewed to verify the adequacy of the radiographic program. Radiographs were reviewed for technique, film quality and weld integrity. See Attachment 4 for specific licensee radiographs reviewed.

Results: This inspection revealed numerous problems in the licensee's radiographs. The problems are summarized in the Attachment 4 and discussed below.

The following examples of failure to follow existing procedures were identified.

1. Film Density Radiographic film density on 13 of the films reviewed did not meet ASME code or the licensee's radiographic procedure density requirements for density range (2.0 minimum

to 4.0 maximum) nor uniformity (-15% to +30%). The licensee's radiographic procedure NDE-5.300, paragraphs 10.2, 10.4 and 12.7 has the same density requirements as the code.

2. Missed Indications The NRC inspector identified rejectable indications (porosity with tails indicating possible cracking) on the licensee radiograph of weld 7, view 8-11, in the auxiliary feedwater system. The weld was made as part of a modification in 1982 and was radiographed at that time. Subsequent to the NRC inspector identifying the rejectable indications, the licensee independently verified the condition and issued NCR M-82-6178.

3. Inconsistent Marking On Piping: Paragraph 6.2 of the licensee's Procedure NDE -5.300 requires that reference starting locations be marked on welds when they are ultrasonically examined. The inspector found that most welds examined as part of the modification process did not have the required reference marking.

The three findings discussed above are examples of failure to follow existing procedures. This is a violation of 10CFR 50, Appendix B, Criterion V. (90-01-01) Another example of failure to follow procedure is discussed in the section of this report entitled," Failure to Document NDE Deficiencies in NCRs." During the inspection, it also was noted that the quality of the radiographic film was poor due to improper film processing. Seven film packets contained film with streaks. The streaks indicate that the developing fixer was not adequately removed from the film. In time, this can cause fading of the developed radiographic image. The methods of determing acceptable residual fixer concentration levels are presented in standard SE94 part III, processing films and viewing and storing radiographs, which is referenced by Section V of the ASME Code. Site radiographic procedure NDE-5.300, paragraph 12.6 states that the manufacturers recommendation in developing exposed film is to be used. Although the streaks on the radiographic film were out of the area of interest, they indicated poor film developing practices.

The inspector also identified the following areas where improvement could be made in Radiographic Procedure NDE-5.300.

1. Radiographic Procedure NDE-5.300 references the wrong procedure in paragraph 11.0. The procedure references NDE-CP5.002 "Qualification and Certification of NDE Personnel" when it should reference procedure NDE-CP-5.020.

2. Radiographic Procedure NDE-5.300 does not address how radiographs of repairs are to be tracked. Recording of repairs on radiographic reader sheets is not performed in a consistent manner.

3. Radiographic Procedure NDE-5.300 does not address which weld is intended to be reviewed when more than one weld is on a single radiograph.

4. Calvert Cliffs QA Policy Rev. 20, Appendix 1B FSAR invokes ANS3.2-1076, paragraph 5.3.2(3) which states that references should be included in procedures. However, radiographic Procedure NDE-5.300, paragraph 3.0 and associated NDE reports do not reference the applicable code addenda and year for Calvert Cliffs. The procedure only states that the weld shall be evaluated in accordance with the applicable code. During this inspection, the inspector found it extremely difficult to identify the appropriate code addendum and year for modifications that had been performed. It is important that the applicable acceptance criteria be clearly identified and readily available to the NDE technicians to assure appropriate reviews.

It should be noted that the above violation (90-01-01) and procedure deficiencies are related to activities and a procedure associated with the BG&E Corporate Materials Engineering and Analysis-NDE Subunit and involve primarily modification activities and not the ISI program inspections.

2.1.7 Failure To Document NDE Deficiencies In NCRs: It also was determined during this inspection that the licensee was not documenting NDE deficiencies, including those identified as part of the inservice inspection program, in nonconformance reports as required by their procedure QAP26. Examples included deficiencies identified in welds 13-200W1W2, 13-2002W1, 13-2003W4 and valves 9048-3, E9047-1 and E9047-2. The inspectors determined that the deficiencies were tracked through the maintenance MO system and the welds were repaired and re-radiographed, but this system does not provide the same level of review as the NCR system. Failure to document deficiencies identified by NDE activities on an NCR as explicitly required by procedure QAP26 is another example of violation (90-01-01) of failure to follow procedures.

2.1.8 Ultrasonic Examination (57080)

Five (5) safety related pipe weldments were ultrasonically examined using a Krautkramer USL48 ultrasonic flaw detector in accordance with NRC procedure NDE-1, Rev. 0, licensee procedure Southwest Research Institute (SWRI) procedure SWRI-NDT-800-36, Rev. 24 and associated ultrasonic test data. Instrument calibration (linear verification) was performed using NRC procedure NDE-2, Rev. 0. A distance amplitude correction curve (DAC) was constructed using the licensee's calibration standards numbers 16, 62, 42, and 59. To ensure repeatability of the ultrasonic examinations, instrument settings and search units (transducers) were matched as nearly as possible to those indicated by the licensee's ultrasonic data reports.

Results: No violations were identified.

2.1.9 ISI Reference Working System (73753)

During their independent inspections, the inspectors determined that neither welds made as part of piping system modifications nor balance of plant piping system welds that are included in the Calvert Cliff's ISI program are marked as required by Section XI IWA2600, Appendix III, Supplement 2 of the 1983 ASME Code. The following welds did not have the centerlines marked as required by ASME Section XI: Class 2 weld numbers 4R and 5R in system 16FW2018, Class 2 weld numbers 2R and 3R in system 16FW2019, and Class 1 weld numbers 5 and 31 in system SI2011. Failure to mark the center of these welds in accordance with Section XI IWA2600 and Appendix III, Supplement 2 of the ASME Code is a violation of 10 CFR 50.55a. (90-01-03)

2.1.10 Erosion-Corrosion (57080)

Five pipe components were examined for erosion-corrosion using a Nova D-100 ditigal thickness gauge. The method and procedures used were in accordance with NRC procedure NDE-11, Rev. 0., the licensee's procedures, and quality assurance records. The erosion-corrosion examination was performed on selected pipe components to determine if wall thinning was present and to verify the accuracy of licensee data. The thickness measurements were taken at predetermined locations in the systems selected and were on a 2 inch by 2 inch grid pattern. Included in this inspection were various size components selected from the Feed Water (FW), Heater Drain (HD), and Main Steam (MS) systems.

Results: Based on the inspections performed, the following problem in Materials Engineering and Analysis Implementing Procedure (MEE&A) 5.05 "SECONDARY SYSTEM PIPING EROSION/CORROSION INSPECTION PROGRAM" was discovered. ME&A IP 5.05, Attachment B, paragraph 2 states "The examiner will also be responsible for the following on the geometric sketch provided on the bottom of the ultrasonic thickness report A. Inspection starting point..." This "0" starting point was either missing from the data reports or it was unclear in which direction from the starting point it was intended to perform the inspection (i.e., axial or circumferential). The NRC reviewed five welds and for four of these welds the procedural requirement to identify the starting points was not adhered to (see attachment No. 3 for tabulations). Failure to identify the starting point and direction of inspections precludes effective trending of inspection results. This is an unresolved item (90-01-04).

3.0 Review Of Open Items

Violation 89-21-02 (closed): During NRC inspection 89-21 the inspector found that the licensee's procedure for qualification of NDE personnel included a 60 day grace period beyond the ASME Code requirement for requalification every 3 years. During this inspection, the inspector found that the licensee deleted the 60 day grace period for NDE certification from the subject procedure. An audit of NDE records was performed by the licensee which identified 8 inspections that required being reperformed. Based on the above action, the inspector considers violation 89-21-02 closed.

4.0 Review of Site NDE Procedures and Manuals

The procedures listed in Attachment 5 were reviewed in the regional office during this inspection period for compliance to the licensee's FSAR commitments and applicable codes, standards and specifications.

Results: Calvert Cliffs has used two different qualification and certification programs for visual ASME Section XI VT1, VT2, VT3 and VT4 personnel. Procedure CCI-613D is a Calvert Cliffs procedure used for the qualification of test and inspection personnel. This procedure meets the applicable ANSI N45.2.6-1978 requirements including the required minimum experience of 3 years.

The second procedure, NDE-CP-5-020, is a Baltimore Gas & Electric C any procedure for qualification and certification of non-destructive examination personnel to ASME Section XI visual VT1, VT2, VT3 and VT4 requirements also. Personnel qualified by this procedure performed code required inspections at Calvert Cliffs. However, this procedure does not meet the ASME Section XI-1983 requirements and ANSI N45.2.6. For example, the three months minimum experience listed in Attachment 2 of procedure NDE-CP-5-020 does not meet the minimum of 3 years required by ANSI N45.2.6-1978.

This is a violation of 10 CFR 50.55(a) that requires plant inservice inspections be performed in accordance with applicable editions of the ASME Code (90-01-02). Furthermore, it was noted that the independent review of the procedure, as required by Section XI of the ASME Code, did not identify this deficiency.

5.0 Attachments

Attachment No. 1 is a tabulation of specific pipe weldments and components examined and the examination results. Attachment No. 2 is a tabulation of hanger and support components examined and the examination results. Attachment No. 3 is a tabulation of specific areas selected for examination from the site erosion-corrosion plan and the examination results. Attachment No. 4 is a tabulation of radiographic films reviewed.

6.0 Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items or violations. An unresolved item is identified in Section 2.1.5.

7.0 Management Meetings (30703)

Licensee management was informed of the scope and purpose of the inspection at the entrance interview on January 8, 1990. The findings of the inspection were discussed with the licensee representatives during the course of the inspection and presented to licensee management at the exit interview (see paragraph 1.0 for attendees).

At no time during the inspection was written material provided to the licensee by the inspector. The licensee did not indicate that proprietary information was involved within the scope of this inspection.

INDEPENDENT MEASUREMENTS PROGRAM ATTACHMENT 1 PAGE 1 OF 2

SITE: CALVERT CLIFFS DATE: 01/08/90 THRU 01/19/90

ID	SYSTEM	CL	PT	MT	RT	UT	VI	ACC	REJ	COMMENTS
2-103-W1	MAINSTEAM	3		X	X		X	X		
2-103-W2	MAINSTEAM	3		X	X		X	X		
2-103-W3	MAINSTEAM	3		X	X		X	X		
2-103-W4	MAINSTEAM	3		X	X		X	X		
2-106-W1	MAINSTEAM	3		X	X		X	X		
2-106-W2	MAINSTEAM	3		X	X		X	X		
2-106-W3	MAINSTEAM	3		X	X		X	X		
2-106-W4	MAINSTEAM	3		X	X		X	X		
EB2006-W6	AUX FW	3		X	X		X			
EB2006-W7	AUX FW	3		X	X		X	X		
EB2006-W8	AUX FW	3		X	X		X	X		
EB2006-W9	AUX FW	3		X	X		X	X		
EB2006-W10	AUX FW	3		X	X		X	X		
EB2001-W1	AUX FW	3		X	X		X	X		
EB2001-W2	AUX FW	3		X	X		X	X		
EB2001-W3	AUX FW	3		X	X		X	X		
EB2001-W4	AUX FW	3		X	X		X	X		
EB2001-W5	AUX FW	3		X	X		X	X		
SI-2001A-2	SAFETY INJ.	2				X	X	X		CAL BLK 16
SI-2002-1	SAFETY INJ.	2				X	X	X		CAL BLK 62
SI-2009-1	SAFETY INJ.	2				X	X	X		CAL BLK 42
SI-2011-5	SAFETY INJ.	1				X	X	X		CAL BLK 59
SI-2001-31	SAFETY INJ.	1				X	X	X		CAL BLK 16
SI-2005A-2	SAFETY INJ.	2	X	X			X	X		
SI-2005A-3	SAFETY INJ.	2	X	X			X	X		
SI-2005A-4	SAFETY INJ.	2	X				X	X		
SC-2007-2	SHUTD COOLG.	2	X				X	X		
SI-2006-3	SAFETY INJ.	2	X				X	X		

SITE: CALVERT CLIFFS DATE: 01/08/90 THRU 01/19/90

ID	SYSTEM	CL	PT	MT	UT	VI	ACC	REJ	COMMENTS
SI-2006-3A	SAFETY INJ.	2	X			X	X		
SI-2006-5	SAFETY INJ.	2	X			X	X		
SI-2044-16	SAFETY INJ.	2	X			X	X		
SI-2045-10	SAFETY INJ.	2	X			X	X		
SI-2002-1	SAFETY INJ.	2	X			X	X		
SI-2002-2	SAFETY INJ.	2	X			X	X		
SDHX-N1	SDHX	2	X			X	X		

HANGER/SUPPORT INSPECTION ATTACHMENT 2

SITE: CALVERT CLIFFS DATE: 01/08/90 THRU 01/19/90

HANGER/SUPPORT	SKETCH	SYS	ACC	REJ	COMMENTS
CC-6-2008-H17	SK-36493 REV.3	SI	X		
HB-22-2124-R21	SK-2-5906 REV.1	SI	X		
DC-1-2010-H3	SK-211304 REV.4F	SI	X		
DC-1-2010-R5	SK-211304 REV.4F	SI	X		
DC-1-1008-H11	SK-1435 REV.0	SI	X		
DC-1-1008-R9	SK-1435 REV.0	SI	X		
HB-22-2352-H3	SK=9913 REV.1	SW	X		
HB-22-2252-R10	SK-9914 REV.0	SW	X		
HB-22-2124-R21	SK-2-5906 REV.1	SW	X		
HB-22-2282-R2	SK-2-21802 REV.3	SW	X		
HB-23-2031-H3	SK-2-11205 REV.2	CCW	X		
HB-23-2012-H11	SK-2-114 REV.5F	CCW	X		
HB-23-2045-H8	SK-2-112 REV.3F	CCW	X		
GC-3-1007-H4	SK-1633 REV.1	SDHX	X		
HC-3-1007-R9	SK-1630 REV.4	SDHX	X		
GC-5-1004-R14	SK-1138 REV.1	SDHX	X		
HC-3-1006-R15X	SK-1142 REV.1	SDHX	X		
MC-3-1006-[illegible]4	SK-178/1115 REV.4	SDHX	X		
GC-2-1006-R3	SK-178/1115 REV.4	SDHX	X		
HB-22-2035-R17	SK-2-5917 REV.4F	SW	X		
HB-22-2035-H14	SK-2-5922 REV.4F	SW	X		

COMPONENTS	SYSTEM	COMMENTS
GB-06-2001-11	HEATER DRAIN	"O" MARKED ON SKETCH BUT AXIS UNCLEAR
GB-06-2002-12	HEATER DRAIN	NO "O" MARKED
HB-08-2013-05	FEEDWATER	ACCEPTABLE
HB-08-2015-05	FEEDWATER	NO "O" MARKED
EB-03-2010-01	MAINSTEAM	"O" MARKED ON SKETCH BUT AXIS UNCLEAR

ATTACHMENT 4

Tabulation of Radiographic Film Reviewed

System/Line	Weld ID	Comments
13-2002	W1	Accepted
13-2002	W2	Accepted
13-2002	W3	Accepted
13-2002	W4	Accepted
13-2002	W5	Accepted
13-2002	W7	NRC rejected area 8-11 (porosity with tails)
13-2002	W8	Improper Development
13-2002	W9	Accepted
13-2002	W10	Transverse indication under film area #2 outside of weld not reported nor dispositioned
13-2002	W12	Accepted
13-2002	W13	Density
13-2002	W14	Accepted
13-2002	W14	Accepted
13-2003	W1	Accepted
13-2003	W2	Improper Development
13-2003	W3	Improper Development
13-2003	W4	Accepted
13-2003	W5	Accepted
13-2003	W6	Accepted
13-2004	W8	Improper Development
13-2004	W9	Accepted

System/Line	Weld ID	Comments
13-2004	W10	Improper Development
13-2004	W11	Accepted
13-2004	W12	Accepted
13-2004	W13	Accepted
13-2004	W14	Density less than 2.0 in penny of all views
13-2004	W15	Density less than 2.0 in penny all views
13-2004	W16	Acceptance
13-2004	W17	Density -15 in all rems
13-2004	W18	Acceptance
13-2004	W19	Acceptance
13-2004	W20	Density over 4.0 under #12
13-2004	W21	Acceptance
13-2004	W1	Acceptance
13-2004	W2	Acceptance
13-2004	W3	Improper Development
13-2004	W4	Acceptance
13-2004	W5	Density under 2.0
13-2004	W6	Improper Development
12-2007	W1	Acceptance
12-2008	W4	Acceptance
12-2008	W1	Acceptance
12-2007	W4	Acceptance
13-2010	W1	Acceptance

System/Line	Weld ID	Comments
13-2010	W2	Acceptance
13-2010	W3	Acceptance
13-2010	W4	Acceptance
13-2010	W5	Acceptance
8-2002	W2	Acceptance
8-2003	W2	Acceptance
2MS-109	W1	Acceptance
2MS-109	W2	Acceptance
2MS-103	W1	Acceptance
2MS-103	W2	Acceptance
2MS-103	W3	Acceptance
2MS-103	W4	Acceptance
2MS-106	W1	View 2-3 exceeds +30 density View 3-4 exceeds +30 density View 4-1 exceeds +30 density
2MS-106	W2	Acceptance
2MS-106	W3	Acceptance
21 S/G AFP	W2	View 1-3 less than -15 View 2-3 less than -15
89-10-322A #11 pump	W1	Accepted
22 S/G AFP	W7	Accepted
22 S/G AFP	W8	Accepted
22 S/G AFP	W9	View 1-2 exceeds -15 density View 3-4 exceeds -15 density
22 S/G AFP	W10	Accepted

System/Line	Weld ID	Comments
22 S/G AFP	W6	Accepted
22 S/G AFP	W5	Two welds on film procedure nor weld identifyings which weld is being RTed
22 S/G AFP	W1	Accepted
22 S/G SFP	W2	Accepted
22 S/G AFP	W3	Accepted

ATTACHMENT 5

PROCEDURES REVIEWED

Procedure title	Number/Revision
VISUAL EXAMINATION OF PIPE SYSTEMS NON-DESTRUCTIVE EXAMINATION PERSONNEL	NDE-CP 5.020 issued January 15, 1990
VISUAL EXAMINATION OF PIPE SYSTEMS AND ATTACHED COMPONENTS	NDE 5.702, REV 8
RADIOGRAPHIC EXAMINATION OF WELDS	NDE 5.300, REV. 0
RADIOGRAPHIC EXAMINATION OF NONFERROUS	NDE 5.301, REV. 2
RADIOGRAPHIC EXAMINATION OF STEEL CASTING	NDE 5.302, REV. 0
MATERIALS ENGINEERING AND ANALYSIS IMPLEMENTING PROCEDURE	ME&A IP 5.05, REV. 0
QUALIFICATION OF TEST AND INSPECTION PERSONNEL	CC-6130, Ch. 1
Southwest Research Institute (SWRI)	
MANUAL ULTRASONIC EXAMINATION OF AUSTINITIC PRESSURE PIPING WELDS	NDT 600-31, REV. 24