

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-410/84-08

Docket No. 50-410

License No. CPP-112 Priority -- Category B

Licensee: Niagara Mohawk Power Company

300 Erie Boulevard West

Syracuse, New York 13202

Facility Name: Nine Mile Point Nuclear Station, Unit 2

Inspection At: Scriba, New York

Inspection Conducted: April 30 - May 25, 1984

Inspectors:

J. P. Durr for
Harry W. Kerch
Lead Reactor Engineer

8/2/84
date

J. P. Durr for
Richard H. Harris
NDE Technician

8/2/84
date

J. P. Durr for
Randy M. Campbell
NDE Technician

8/2/84
date

Approved by:

J. P. Durr
Jacque P. Durr, Chief
Materials and Processes Section

8/2/84
date

Inspection Summary:

Inspection on April 30 - May 11 and May 7-25, 1984 (Report No. 50-410/84-08)

Areas Inspected: A routine, announced NRC independent measurements inspection was conducted at the utilities construction site using the NRC Mobile Nondestructive Examination (NDE) laboratory. Selected safety-related piping, structural and support weldments fabricated to ASME Code, Section III, Classes 1, 2, and 3, and American Welding Society (AWS) Code D1.1 requirements were inspected. Three regional based inspection personnel assisted by two contracted NDE personnel were utilized during this inspection. The inspection involved 462 on site hours and 200 off site hours.

Results: Three violations were identified concerning unacceptable radiographs and minimum weld thickness requirements.

DETAILS1. Persons ContactedNiagara Mohawk Power Company (NMPC)

- *W. D. Baker, Lead Construction Engineer
- *K. L. Tyger, Quality Administrative Supervisor
- *M. Burchell, Quality Assurance Engineer
- *J. P. Ptak, Senior Manager, Construction
- *J. DeSantis, Utility Construction Manager
- *E. Shows, Licensee Consultant
- *C. H. Millian, Lead Senior Engineer
- *W. Morrison, Project Director
- *M. J. Ray, Assistant Project Director

Stone & Webster Engineering Company (SWEC)

- *K. W. Maki, Site QA Supervisor
- *P. S. Hyslop, Jr., Site Licensing
- *C. L. Terry, Project Quality Assurance Manager
- *J. E. Huston, Quality Assurance Department Manager

ITT Grinnell

- *T. Grubbs, NDE Supervisor
- D. Harris, NDE Level III

USNRC

- *Robert Gramm, Resident Inspector
- *S. K. Chaudhary, Senior Resident Inspector

*Denotes those persons present at the exit interview.

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

During the period of April 30 through May 11, 1984, quality records received from Nine Mile Point Unit 2 were reviewed in the regional office for completeness and compliance to the licensee's FSAR commitment to applicable codes, standards and specifications. Subsequently, an on site independent verification inspection was conducted during the weeks of May 14 through May 25, 1984, using the NRC Mobile Nondestructive Examination (NDE) Laboratory. This inspection was conducted by regional based personnel in conjunction with NRC contracted NDE personnel.

The purpose of this examination was to verify the adequacy of the licensee's welding quality control program. This was accomplished by duplicating those examinations required of the licensee by the regulations and evaluating the results. In addition to the required examinations, several other confirmatory examinations designed to verify conformance with material specifications were performed and compared to quality assurance records.

An NRC inspector made a random selection of weldments. These were intended to provide a representative sample of piping systems, components, and structural weldments which represent various pipe sizes, shop and field weldments fabricated to AWS and ASME Class 1, 2, and 3 codes. The items selected were previously accepted by the licensee based on vendor shop and on site QA/QC records.

2.1 Quality Document Record Review

Forty-three safety-related piping system document packages containing the following documents were reviewed:

- Material certification, including weld wire
- NDE records
- Fabrication records
- Drawings (isometrics)
- Physical Properties
- Procedures

These documents were reviewed to verify NRC requirements and licensee's commitments to industry codes and standards are being met.

No violations were identified.

2.2 Nondestructive Examinations

Examinations were performed using NRC procedures with addenda written specifically for compliance to the licensee's PSAR commitment to the ASME B&PV Code, for on site fabrication. The intent was to duplicate to the extent practicable the techniques and methods of the original examinations.

The following examinations were performed.

Radiographic Examination

Thirty-five welds were examined by radiography using an Iridium-192 source per NRC Independent Measurements Procedure, NDE-5, Rev. 0, addenda NMP-2-5-1, welds examined were ASME Class 1, 2, and 3.

No violations were identified.

Liquid Penetrant Examination

Thirty safety-related pipe weldments were examined per NRC Procedure NDE-9, Rev. 0, and addenda NMP-2-9-1, samples examined included ASME Classes 1, 2, and 3

No violations were identified.

Visual Examinations

Eighty-six weldments and adjacent base metal were visually inspected for weld reinforcement, overall workmanship and surface condition per NRC Procedure NDE 14, Rev. 0.

Fourty-one pipe support flare bevel and fillet welds were also visually examined for compliance to ASME Section III, subsection NF components.

No violations were identified.

Magnetic Particle Examination

Thirty safety-related pipe and structural weldments were examined per NRC Procedure NDE-6, Rev. 0, and addendum NMP-2-6-1. Samples included ASME and AWS Code welds.

No violations were identified.

Ultrasonic Examination (Anchor Bolts)

Forty Hilti anchor bolts were examined ultrasonically, for length only, per NRC Procedure NDE-18, Rev. 0.

No violations were identified.

Hardness Measurements

Twenty-six welds were checked for hardness (base material adjacent to welds) using the Equo-tip hardness tester per NRC Procedure NDE-12, Rev. 0. Hardness numbers were converted to Brinnell values and the approximate tensile strengths were determined by use of conversion tables.

No violations were identified.

Thickness Measurement

Thirty-four pipe welds and adjacent base material were examined per NRC Procedure NDE-11, Rev. 0, using a NORTEC NDT thickness gauge. Minimum wall thickness was determined by using ASTM standard pipe sizes and nominal thickness chart.

Weld RHS 66-34 - SW011 was found to be .015 below minimum wall thickness. This weld had been previously accepted by the licensee with no record of the unacceptable minimum wall thickness. This condition was not detectable visually or by radiography; but found during routine ultrasonic thickness checks completed during NRC Inspection. The licensee issued a Non-conformance Report, Number IG 2854.

This is a violation of 10 CFR 50, Appendix B, Criterion IX, and the Piping System Fabrication Specifications, P301B (410/84-08-01).

Ferrite Measurements

Twenty-six pipe welds were checked for delta ferrite content using a Type II Ferrite Indicator (Severn Gauge).

No violations were identified.

Alloy Analyzer

Seven pipe welds and adjacent base materials were examined using a Texas Nuclear Alloy Analyzer. A qualitative chemical analysis was made.

No violations were identified.

Visual (Structural Supports)

Twenty partial and full penetration fillet welds were inspected per AWS D1.1 and site visual inspection procedures and acceptance criteria (FQC-4.1-4-0). Welds were inspected for size, surface discontinuities, and workmanship. Areas inspected included structural supports, pipe hangers, and electrical cable trays.

No violations were identified.

3.0 Radiographic Review

One hundred and sixty-eight pipe weld radiographs were reviewed to verify accurate interpretation and the adequacy of the licensee's radiographic program. Twenty-five of the above welds were field welds and one hundred forty-three were vendor shop welds of ITT, CBI, and API.

The NRC has a concern regarding the total number of radiographs stored on site. The quantity of stored film is inconsistent with the percent complete of the project and other facilities (less than 50% of the total number of radiographs). This concern goes beyond the licensee letter, #NMQA434, dated April 11, 1984, "Indexing and Filing of Radiographs."

This item is considered unresolved pending completion of the licensee review and NRC verification (410/84-08-02).

Observations during this inspection revealed that the radiographic (reference datum) starting point and direction of the radiography for shop welds are located at various positions around the pipe. Without as-built drawings accurately locating the radiographic datum point, it will be extremely difficult during the service life of this facility to verify ISI ultrasonic reflectors.

This item is considered unresolved pending further licensee review and NRC verification (410/84-08-03).

Weld 01-14-2-MSS-44-1-88, film area B, has a 1-1/8" linear indication. This indication was not reported or dispositioned on the initial radiographic report of the two previous licensee film reviews initiated as a result of the NRC Construction Assessment Team Inspection. The indication was found to be on the O. D. surface. The licensee had previously issued a change to the radiographic examination procedure RTP-3-1C, dated January 4, 1984, requiring all interpreted indications to be recorded.

The failure to record all interpreted radiographic indications is a violation of 10 CFR 50, Appendix B, Criterion IX, and the Piping System Installation Specification P301C (410/84-08-04).

Welds RHS 66-38 FW006R1 and FW004R1 were identified during this inspection as not meeting the ASME V Code in that only two views were taken. The ASME Code, Section V, paragraph T-271, requires a minimum of four views for each weld. Further, investigation revealed this was identified by the previous NRC CAT inspection and that the licensee had written Nonconformance Reports IG2130 and IG1336. The inspector had no further questions regarding this matter.

The NRC radiographed an ASME III, Class 3 weld that originally required a visual surface examination only. However, the NRC radiographs reveal indications that require repairs. The licensee issued Nonconformance Report IG2893.

No violation was identified.

Weld CSL-3-2-20-SWA/R2 radiographic examination report was found to contain several "white outs" of information. Normally, alterations of records are accomplished by "lining through" and initialing the change. Although this practice does not appear to be widespread, an authorized

procedure for these levels of changes should be established. This item is unresolved pending further review by the NRC and licensee actions (410/84-08-05).

A review of weld ICS-57-8-SWF radiographs disclosed that the licensee had accepted radiographs of this weld to meet ASME Code, Section III requirements. The original film area 12-13 contained a detectable, unacceptable transverse linear indication not identified or dispositioned by the licensee. However, during the licensee's radiographic reverification program, the subject weld was reviewed again by the licensee and still not detected or dispositioned. The NRC radiographed the subject weld and verified the indication. This and similar findings are indicative of significant radiographic film interpretation problems at NMP2. The licensee issued Nonconformance Report Number IG-2855.

The failure to identify and disposition ASME III Code, Class 1 weld rejectable radiographic indications is a violation of 10 CFR 50.55(a) (410/84-08-06).

4.0 Review of NDE Procedures, Welding Procedures and Specifications

The following procedures and specifications were reviewed for compliance to the licensee's FSAR commitment and applicable codes, standards and specifications.

Welding Procedures and Specifications

No. 1-4-2-2	No. 8-4-7-11
No. 1-2-1-8	No. 81-1-7-6
No. 1-9-2-4	No. 4-3
No. 1-1-3-10	No. 6-4
No. 1-1-1-7	No. 2-3
No. 1-4-1-9	
No. 81-4-7-9	

(NDE) Nondestructive Examination Procedures

ITT Grinnell

UTP-1-0
 RTP-3-1
 RTP-2-1
 RTA-1-1
 MTP-1-1
 MTA-1-0
 PTP-i-2
 PTA-1-0
 V1-FQC-4.1-4-0
 V1-FQCR-4.2-31-S

No violations were identified.

5.0 NDE Personnel Qualifications

The NDE qualification and certification records of four ITT Grinnell industrial piping (ITT) employees and four Reactor Control (RCI) employees were reviewed. The trainer's record for RCI did not indicate adequate radiographic training hours and the records did not have the required written delegated authority as required by SNT-TC-1A to train site NDE personnel for RCI. These deficiencies were corrected during this inspection. The NRC acceptance of records and the review were based on SNT-TC-1A and ASME criteria.

No violations were identified.

6.0 Archive Quality Tests

During this inspection, it was disclosed that Reactor Controls, one of NMP2 nondestructive examination contractors, was not performing and documenting any film quality tests to verify the extended archive storage life of the radiographic film. Licensee has committed that NDE contractors would perform and document film quality tests.

This is considered unresolved pending NRC verification of these tests (410/84-08-07).

7.0 Attachments

Attachment No. 1 is a tabulation of the specific items examined and results.

Attachment No. 2 is a list of specific radiographs reviewed.

8.0 Exit Interview

An exit interview was held on May 25, 1984, with members of the licensee's staff. The inspector summarized the scope and findings of this inspection. No written material was provided to the licensee during this inspection.

INDEPENDENT MEASUREMENT PROGRAM

NINE MILE POINT UNIT 2

ATTACHMENT NO. 1

WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M.T.	R.T.	U.T.	P.T.	HARDNESS	VISUAL	REMARKS
RHS-66-6 FW004	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
RHS-66-6 FW005	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
RHS-66-10 FW004	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
RHS-66-8 FW001	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
RHS-66-8 SW A	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
RHS-60-40 FW001 RT	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
RHS-66-34 FW008	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
ICS-57-6 FW003	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
ICS-57-3 FW006	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
ICS-57-2 FW012	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CSH-25-3 FW004	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CSH-25-4 FW001	2	N/A	ACC	ACC	N/A	ACC	N/A	N/A	ACC	ACC	
ICS-57-3 FW007	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	

INDEPENDENT MEASUREMENT PROGRAM

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WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M.T.	R.T.	U.T.	P.T.	HARDNESS	VISUAL	REMARKS
CSL-26-2 FW008	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CSL-26-3 SW B	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CSH-25-5 FW003	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
SWP-21-39 FW013	3	N/A	N/A	ACC	N/A	REJ	N/A	N/A	N/A	ACC	Not Required by Code to Radiograph
HCS-49-4 SW A	2	N/A	ACC	ACC	N/A	ACC	N/A	ACC	ACC	ACC	
HCS-49-3 FW011	2	ACC	ACC	ACC	N/A	ACC	N/A	ACC	ACC	ACC	Anal. Weld and Base Metal Either Side
CSH-25-06 SW D	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CSL-26-2 SW A	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CSL-26-2 FW017	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CSH-25-4 SW A	2	N/A	ACC	ACC	N/A	ACC	N/A	N/A	ACC	ACC	
CSH-25-5 SW A	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
CPA-24-1 SW A	2	N/A	ACC	ACC	N/A	ACC	N/A	ACC	ACC	ACC	
HCS-49-1 SW008	2	N/A	ACC	ACC	N/A	ACC	N/A	ACC	ACC	ACC	

INDEPENDENT MEASUREMENT PROGRAM

ATTACHMENT NO. 1		NINE MILE POINT UNIT 2										
WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M.T.	R.T.	U.T.	P.T.	HARDNESS	VISUAL	REMARKS	
RHS-66-3 Spool Pc.	2	ACC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	304 S/S	
HCS-49-3 Spool Pc.	2	ACC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	304 S/S	
WCS-09-6 SW E	1	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC		
ICS-57-8 SW A	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC		
ICS-57-8 SW F	2	N/A	N/A	ACC	N/A	REJ	N/A	N/A	N/A	ACC	Transverse Indication @ Sta. Marker 13	
ICS-57-6 SW 5	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC		
ICS-57-6 SW03	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC		
CSH-25-9 FW008	1	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
CSH-25-9 FW009	1	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
HCS-49-1 FW017	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC		
HCS-49-1 SW009	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC		
HCS-49-2 SW004	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC		
HCS-49-2 SW005	2	N/A	ACC	N/A	N/A	ACC	N/A	ACC	ACC	ACC		
HCS-49-2 SW006	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC		

INDEPENDENT MEASUREMENT PROGRAM

ATTACHMENT NO. 1		NINE MILE POINT UNIT 2									
WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M. T.	R. T.	U. T.	P. T.	HARDNESS	VISUAL	REMARKS
SVV-32-3-103 SM019	3	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	12" S/S Pipe
SVV-30-3-82 SM020	3	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	12" S/S Pipe
DFR-31-4F SM017	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DFR-31-4F FW010	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DFR-31-4F SM013	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DFR-31-4F FW012	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DFR-31-4F FW014	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DER-28-1F EW011	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DER-28-1F FW013	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DER-28-1F FW008	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
DER-28-1F SM003	1	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	
HCS-49-1 FW009	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC	
HCS-49-1 SM013	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC	
HCS-49-1 SM012	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC	

INDEPENDENT MEASUREMENT PROGRAM

ATTACHMENT NO. 1		NINE MILE POINT UNIT 2										REMARKS
WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M.T.	R.T.	U.T.	P.T.	HARDNESS	VISUAL		
HCS-49-1 SW007	2	N/A	ACC	N/A	N/A	N/A	N/A	ACC	ACC	ACC		
SWP-21-54 FW020	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-54 FW027	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-160 SW004	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-160 FW010	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-160 FW007	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-155 FW009	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-156 FW001	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-156 FW002	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-151 FW003	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-159 FW002	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-155 FW018	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
SWP-21-155 FW019	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC		
RHS-66-34 SW011	2	N/A	N/A	REJ	N/A	ACC	N/A	N/A	N/A	ACC	Under Min. Wall Pipe 2.60 Weld 2.30	

INDEPENDENT MEASUREMENT PROGRAM

NINE MILE POINT UNIT 2

ATTACHMENT NO. 1

WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M.T.	R.T.	U.T.	P.T.	HARDNESS	VISUAL	REMARKS
CSH-25-6 SW D	2	N/A	N/A	ACC	N/A	ACC	N/A	N/A	N/A	ACC	
WCS-09-6 FW009	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
WCS-09-6 FW010	1	N/A	N/A	ACC	N/A	ACC	N/A	ACC	N/A	ACC	
WCS-09-5 FW011	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
WCS-09-5 FW003	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
WCS-09-5 FW004	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
WCS-09-5 FW005	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
WCS-09-5 FW007	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
WCS-09-5 FW008	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
WCS-09-5 FW010	1	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
SVV-32-3-103 SM021	3	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	12" S/S Pipe
SVV-32-3-82 FW006	3	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	12" S/S Pipe

INDEPENDENT MEASUREMENT PROGRAM

ATTACHMENT NO. 1	NINE MILE POINT UNIT 2										REMARKS	
	WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M.T.	R.T.	U.T.	P.T.	HARDNESS		VISUAL
HCS-49-2 FW011	2	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	ACC	
HCS-49-1 SW010	2	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	ACC	ACC	
SWP-21-65 EW023	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	
SWP-21-65 FW009	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	
SWP-21-65 FW010	2	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	
RHS-66-31 FW012	1	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	
RHS-66-31 FW013	1	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	N/A	ACC	
G006-A-2 Weld 6A	1	ACC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	316 S/S
G007-A-2 Spool Pc.	1	ACC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	316 S/S
HCS-49-2 SW016	2	ACC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	304 S/S
SFC-7-21 SW009	2	ACC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	304 S/S
SFC-7-21 SW007	2	ACC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	304 S/S
WCS-49-1 FW007	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	
HCS-49-1 FW009	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	ACC	N/A	ACC	

INDEPENDENT MEASUREMENT PROGRAM

ATTACHMENT NO. 1		NINE MILE POINT UNIT 2									
WELD NUMBER LINE/ISO	CLASS	ALLOY ANAL.	FERRITE	THICK	M.T.	R.T.	U.T.	P.T.	HARDNESS	VISUAL	REMARKS
MSS-PRS-037 W-AL	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
MSS-PRS-037 W-AM	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
MSS-PRS-037 W-BA	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
MSS-PRS-037 W-BB	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
MSS-PRS-037 W-AY	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
MSS-PRS-037 W-AZ	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
MSS-PRS-037 W-AN	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
MSS-PRS-037 W-AR	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
RCS-PRS-006 W-CUF	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
RCS-PRS-006 W-FH	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	
RCS-RRS-006 W-CS	NF	N/A	N/A	N/A	ACC	N/A	N/A	N/A	N/A	ACC	

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SYSTEM/LINE	WELD ID	ACC	REJ	C	SL	P	T	LF	IP	LI	UI	A	S	CC	CV	COMMENTS
ICS-57-6	FW003	X					X									
ICS-57-6	FW011	X			X	X	X							X		
ICS-57-3	FW006	X										X				
ICS-57-2	FW012	X			X	X										SL. in Code @ 16
ICS-57-3	FW007	X												X		
CHS-25-13	FW006	X				X						X		X	X	
CHS-25-21	FW006R1	X				X						X		X	X	
CHS-25-6	FW009R1	X					X					X				
CSH-25-5	FW005	X					X									
CSH-25-4	FW004	X				X	X					X				
CSH-25-3	FW004	X					X					X			X	
CSH-25-6	FW002	X				X	X									
FWS-47-4	FW001	X					X					X				
FWS-47-4	FW016	X				X	X					X				
CSL-26-2	FW008	X										X				
CRS-24-2	FW003	X										X				
HCS-49-3	FW011	X										X				
RHS-66-38	FW003R2	X				X	X					X		X	X	
RHS-66-39	FW012R1	X				X										
RHS-66-6	FW004	X				X						X				
RHS-66-6	FW005	X				X										
RHS-66-10	RW004	X				X						X			X	
RHS-66-8	FW001	X										X				
RHS-66-34	FW008	X				X										
RHS-66-40	FW001R1	X				X	X						X			
RHS-66-11	SW A	X														

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SYSTEM/LINE	WELD ID	ACC	REJ	C	SL	P	T	LF	IP	LI	UI	A	S	CC	CV	COMMENTS
MSS-01-21	SW A	X				X						X				
MSS-01-21	SW B	X				X						X				
WCS-09-06	SW A	X				X						X				
WCS-09-06	SW B	X										X				
WCS-09-06	SW C	X														
WCS-09-06	SW D	X														
WCS-09-06	SW E/R2	X														
WCS-09-06	SW F/R1	X														
WCS-09-06	SW G	X														
CSH-25-5	SW A	X														
CPS-24-1	SW A	X														
SFC-07-37	B/Z0	X														
CSH-25-1	C/R1	X														
CSH-25-72	SW A	X														
CSH-25-72	SW B	X														
CSH-25-72	SW C	X														
CSH-25-72	SW D	X														
CSH-25-72	SW E	X														
CSH-25-72	SW F	X														
CSL-26-3	SW A	X														
CSL-26-3	SW B	X														
CSL-26-3	SW C	X														
ISC-57-4	SW A/R1	X														
ISC-57-4	SW B	X														
ISC-57-4	SW C/R	X														

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CSL-3-2-20	SW A/R2	X														
CSL-3-2-20	SW B/R1	X														
CSL-3-2-20	SW C	X														
ICS-1-2-77	SW A/R2	X														
ICS-1-2-77	SW B	X														
ICS-1-2-77	SW C	X														
ICS-1-2-77	SW D/R1	X														
RHS-5-2-94	SW A/R1	X														
RHS-5-2-94	B	X														
RHS-66-11	SW A	X														
CSL-26-2-6X	SW A	X														
CSL-26-2-51X	SW A	X														
CSL-26-2-51X	SW B	X														
ICS-57-8	SW B	X														
ICS-57-8	SW E	X														
ICS-57-8	SW F		X													Transverse Indication
ICS-57-8	SW G	X														
ICS-57-8	SW J/R1	X														
ICS-57-8	SW K	X														
HCS-49-4	SW A	X														
HCS-49-4	SW B	X														
HCS-49-4	SW C/R1	X														
HCS-49-4	SW D	X									X					
HCS-49-1-7X	SW A	X									X					
HCS-49-1-7X	SW D	X									X					
MSS-01-4	SW A	X				X					X					

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HCS-49-1-7X	SW C	X										X				
HCS-49-1-8X	SW A	X				X										
HCS-49-1-8X	SW B	X														
HCS-49-1-8X	SW C	X				X										
HCS-49-1-8X	SW D	X														
HCS-49-1-8X	SW E	X														
CSH-25-6-35X	SW A	X				X						X				
CSH-25-6-35X	SW B	X			X	X	X					X				SL. in Code @ D
CSH-25-6-35X	SW C	X			X	X										SL. in Code @ H
CSH-25-6-35X	SW D	X										X				
CSH-25-6-35X	SW E	X										X				
FWS-47-16-127X	SW B	X														
FWS-47-16-127X	SW C/R2	X														
MSS-150-1130	SW A	X				X										
MSS-150-1130	SW B	X														
RHS-66-34	SW 011	X														
RHS-78-2-261	SW A	X				X						X				
RHS-78-2-261	SW B	X										X				
RHS-78-2-261	SW C	X				X						X				
ICS-1-2-2	SW B	X														
ICS-1-2-2	SW C	X														
FWR-3-4-12	SW A	X														
FWR-3-4-12	SW B	X										X				
FWR-3-4-12	SW C	X														
FWR-3-4-12	SW D	X														
FWR-3-4-12	SW E	X										X				

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*Associated Piping & Engineering Corporation																
G005-B-2 S/S#6	ARMCO Pipe		X													
G005-B-2	WA		X													
G005-B-2	END A		X													
G005-A-2	ELL #19		X													
G009-A-2	WA		X													
G005-A-2	WB		X													
G005-A-2 767E286	3A		X													
G010-13.2	WA		X													
G010-13.2	WB		X													
*Grinnell RT																
33-8-2DSR-1-4-73	A		X													
33-8-2-DSR-1-4-73	B		X													
33-8-2-DSR-1-4-73	C		X													
33-8-2-DSR-1-4-73	E		X													
26-2-2-CSL-1-2-11	A/YO		X													
66-57-2RHS-288-2-386	XL		X													
66-57-2RHS-288-2-386	C		X													
66-57-2RHS-288-2-386	B		X													
26-2-2-CSC-1-2-11	B		X													
26-2-2-CSC-1-2-11	XO		X													
26-2-2-CSL-1-2-11	20		X													
25-3-2-CSH-43-2-2	A/20		X													
25-3-2-CSH-43-2-12	YO		X													
25-3-2-CSH-43-2-12	Y2		X													
25-3-2-CSH-43-2-12	B		X													

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SYSTEM/LINE	WELD ID	ACC	REJ	C	SL	P	T	LF	IP	LI	UI	A	S	CC	CV	COMMENTS
21-46-2-SWP-85-3	D	X														
21-46-2-SWP-85-3	20/21	X														
07-29-2-SFC-41-3-143	XR	X														
07-29-2-SFC-41-3-142	2R	X														
07-29-2-SFC-41-3-138	21	X														
07-28-2-SFC-41-3-389	21/20	X														
07-28-2-SFC-41-3-389	X1X0	X														
01-14-2-MSS-44-1-88	B		X													Linear Indication
01-14-2-MSS-44-1-89	C	X														
01-14-2-MSS-44-1-89	A	X														
66-25-2-RHS-432-143	A	X														
66-25-2-RHS-432-143	B	X														
66-31-2-RHS-25-2-195	A	X														
66-31-2-RHS-25-2-195	B	X														
66-57-2-RHS-288-2-386	A	X														
1-6-MS-16	A	X														
1-6-MS-16	B/ZO	X														
1-6-MS-16	C/YO	X														Class 3 as welded
1-6-MS-16	D	X														
1-6-MS-16	F	X														
1-6-MS-16	6R1	X														
1-6-MS-16	WR	X														
1-6-MS-16	XB	X														
1-6-MS-16	YR	X														
1-6-MS-16	ZR	X														

