U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report Nos. 50-454/81-05; 50-455/81-05

Docket Nos. 50-454; 50-455 License Nos. CPPR-130; CPPR-131

Licensee: Commonwealth Edison Company
P. O. Box 767
Chicago, IL 60690

Facility Name: Byron Station, Units 1 and 2

Inspected At: Byron Site, Byron, IL

Inspection Conducted: May 26-27 and June 24-25, 1981

Inspector: K. D. Ward K. D. Ward 7/2/81

Accompanying personnel: D. E. Keating
(Training)

Approved By: D. H. Danielson, Chief D. H. Danielson for 7/2/81
Materials and Processes Section

Inspection Summary

Inspection on May 25-27, and June 24-25, 1981 (Reports No. 50-454/81-05; 50-455/81-05)
Areas Inspected: Review of preservice inspection (PSI) procedures, work activities, nondestructive examination (NDE) personnel certifications and data; review of Pittsburgh Testing Laboratory site NDE activities: reactor coolant pressure boundary and other safety related piping record review. The inspection involved a total of 23 inspector hours onsite by one NRC inspector.
Results: No items of noncompliance or deviations were identified.

DETAILS

Persons Contacted

Commonwealth Edison Company (CECo)

*M. Stanish, QA Superintendent
*R. Farr, QA Supervisor
*K. Hansing, QA Engineer
*J. Porter, Project Construction Staff Assistant
*R. Perry, QA Inspector
G. Sorensen, Project Construction Department Superintendent
R. Tuetken, Project Construction Department Assistant Superintendent
H. Kacemareb, QA Engineer
E. Potter, Chief, Level III

Ebasco Services Incorporated (Ebasco)

R. Paillaman, PSI/ISI Supervisor

Pittsburgh Testing Laboratory (PTL)

J. Troutman, Site Manager

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

*Denotes those attending the final exit interview on June 25, 1981.

Licensee Action on Previous Inspection Findings

(Open) Unresolved Item (454/79-07-01) Placing the lead letter "F" on the penetrameter. CECo informed the inspector that the ASME Section V Sub Group Committee accepted the lead letter "F" being on the penetrameters as being an acceptable radiographic technique. The written approval should be submitted by the Sub Group Committee in August, 1981. The inspector will review the matter at that time.

Functional or Program Areas Inspected

1. Preservice Inspection

   a. General

      (1) CECo requested the Ebasco Services Incorporated (Ebasco) to to develop and perform the PSI program in accordance with ASME Section XI, 1977 Edition, Summer 1978 Addenda.

      (2) Hunter Corporation is preparing all the welds for preservice inservice inspection.

b. Procedure and Program Review

The inspector reviewed the following procedures:

(1) Hunter Coporation, Visual Inspection, 1.1 No. 5, Revision 0, March 19, 1981.

(2) Ebasco, U.T. Examination of Class 1 and 2 Piping Welds Joining Similar and Dissimilar Materials ISI-UT-S78-1, Revision 1, March 18, 1981.

(3) Ebasco, U.T. Manual Examination of Class 1 and 2 Visual Welds Including Reactor Pressure Vessel Welds, ISI-UT-S78-2, Revision 1, March 18, 1981.

(4) Ebasco, U.T. Examination of Class 1 and 2 Bolts and Studs, ISI-UT-S78-3, Revision 1, March 20, 1981.

(5) Ebasco, Magnetic Particle Examination of Welds and Bolting, ISI-MT-S78-1, Revision 1, March 16, 1981.

(6) Ebasco, Liquid Penetrant Examination, ISI-PT-S78-1, Revision 1, March 16, 1981.

(7) Ebasco, Visual Examination of Bolting Components, ISI-VT-S78-2, Revision 1, March 20, 1981.

(8) Ebasco, Services Incorporated Procedure for Training Examination and Certification of Nondestructive Examination Personnel NDE-1, Revision 8, January 1980.

c. Material and Equipment Certification

The inspector reviewed the certification documents, relative to the following items:

(1) Ultrasonic instruments, calibration blocks, transducers and couplant.

(2) Liquid penetrant, Magnaflux materials, penetrant, cleaner and developer.

(3) Magnetic particle, Magnaflux materials and equipment.

d. NDE Personnel Certifications

The inspector reviewed the following Ebasco NDE personnel certifications in accordance with SNT-TC-1A, 1975 Edition:

NAME	UT	PT	MT
D. Irons	II	II	II
D. Dougan		II	II
R. Manganello	II	II	II
R. Paillaman	III		
T. Pederen	II		
J. Sturn	I		
L. Valenzuela		II	

e. Observation of Work Activities and Data Review

The inspector observed the work and had discussions with personnel during review of the following activities. These observations included calibrations, performance of the examinations and the review of data reports demonstrating that the QA/QC requirements were met.

(1) Ultrasonic examination on Loop 2, Weld 1RC29AB-10".

(2) Liquid penetrant examinations on Welds 1RC02AB-31", 1RC14AB-2" and 1RC09FB-3".

(3) Visual examination of weld surfaces that are prepared for preservice/inservice inspections including RC Loop 1, hot and cold leg and FW stop valve to steam generator.

No items of noncompliance or deviations were identified.

2. Review of Pittsburgh Testing Laboratory NDE Activities

The inspector made a tour of the PTL site facilities and the following are the inspector's findings.

NDE personnel certifications reviewed and found to be in accordance with SNT-TC-1A, 1975 Edition.

NAME	MT	PT	RT	UT
D. Garnhart	II	II		
L. Klink			II	
D. Rhodes		II		
M. Troutman	II	II		
G. Reardan	II	II		II
R. Hachmeister			I	

NDE procedures reviewed and found to be in accordance with ASME Section V, 1974 Edition, Summer 1975 Addenda.

. PTL , Qualification and Certification of PTL NDE Technicians No. QC-PQ-1-NDE, Revision 5, July 31, 1980.

- PTL, Radiographic Examination Procedure No. QC-RT-1, Revision 5, July 31, 1980.

- PTL, Radiographic Examination Welded Structural Steel Procedure No. QC-RT-2, Revision 2, July 31, 1980.

- PTL, Radiographic Film Processing Procedure No. QC-FP-1, Revision 2, July 31, 1980.

- PTL, Magnetic Particle Examination, QC-MT-1, Revision 3, July 31, 1980.

- PTL, Liquid Penetrant Testing, QC-PT-1, Revision 5, November 3, 1980.

- PTL, Ultrasonic Inspection Procedure No. QC-UT-1, Revision 4, July 31, 1980.

- PTL, Ultrasonic Inspection Welded Structural Steel Procedure No. QC-UT-2, Revision 3, November 6, 1980.

(1) Radiography (RT)

- The NRC License expires May 31, 1986, and covers IR 192 up to 150 cures and CO 60 up to 100 curies.

- PTL does not have a CO 60 source or an x-ray machine onsite.

- The lab has five IR 192 sources onsite.

- PTL hauls the sources from place to place onsite in a pick-up using correct radioactive signs.

- The lab has a Kodak X-Omat automatic processor and a hand film processing tank that can be used.

- Survey meters are calibrated every 90 days.

- Docket dosimeters are read and recorded every day when performing RT.

- Film badges are processed and recorded every month.

Acceptable color rope and signs were available for securing areas when radiography is being performed.

- Decay curves of the IR 192 sources are posted in lab.

- The lab uses Kodak industrial radiographic film only, Types I and II.

- No outdated film was observed.
- Film cassettes were in acceptable condition.
- Lead screens are checked and replaced when necessary.
- Fluorescent screens are not used nor are there any onsite.
- The film is stored in the dark room prior to exposure.
- PTL uses lead numbers for the number belt and a flasher for the identification.
- The lab uses an X-Rite densitometer in acceptable condition.
- PTL uses a film density step wedge traceable to the Bureau of Standards for the calibration of the densitometer.
- ASME Section V penetrameters are the only penetrameters used onsite and they have certifications.
- PTL had various thicknesses of shims to be used under the penetrameters.

(2) Magnetic Particle (MT)

- The lab has one field prod unit and two field yoke units.
- PTL uses red finely divided magnaflux magnetic particles.

(3) Liquid Penetrant (PT)

- The lab uses Magnaflux materials and receives certifications.

(4) Ultrasonic (UT)

- PTL has a Nortec 131-D ultrasonic instrument onsite including various calibration blocks.
- The lab uses GX185 glycerol couplant and has UT transducers in various sizes, MHZ, and angles.

(5) Eddy Current (ET) Visual (VT), Leak Testing (LT)

To date PTL has not performed ET, VT or LT onsite.

No items of noncompliance or deviations were identified.

3. Radiography

a. The inspector reviewed radiographs and reports of the following shop welds in accordance with ASME Section III, 1974 Edition, Summer 1975 Addenda.

Unit 1

S/N	Weld	Diameter	Thickness	Date RT	NRC Results
7-S116-1-2P	W2	24"	0.375"	01/08/81	Acceptable
MS-16-6	W2	28"	1.888"	07/27/79	Acceptable
MS-16-6	W12	28"	1.188"	07/27/79	Acceptable
MS-16-6	W4	8"	1.800/2.165"	07/28/79	Acceptable
S1-43-4	W6	16"	0.600"/0.750"	08/03/79	F on penetrameter
S1-43-4	W2	16"	0.600/0.750"	08/03/79	F on penetrameter
S1-43-4	W5	16"	0.600/0.750"	08/03/79	F on penetrameter
S1-43-4	W16	16"	0.600/0.750	08/03/79	F on penetrameter
S1-43-4	W17	16"	0.600/0.750"	08/03/79	F on penetrameter
MS-16-6	W3	8"	0.906"	07/30/79	F on penetrameter

Unit 2

S/N	eld	Diameter	Thickness	Date RT	NRC Results
S1-34-10	W2	8"	0.906"	06/12/80	F on penetrameter
S1-34-10	W3	8"	0.906"	06/12/80	F on penetrameter
S1-34-10	W4	8"	0.906"	06/12/80	F on penetrameter
S1-34-10	W5	8"	0.906"	06/12/80	F on penetrameter
FW-18-7	W1	16"	1.219"	06/24/80	F on penetrameter
RE-14-3	W2	3"	0.379"	06/24/80	F on penetrameter
FW-18-12X	W1	16"	1.219"	06/24/80	F on penetrameter
FW-18-12X	W2	16"	1.219"	06/24/80	F on penetrameter
FW-18-12X	W3	16"	1.219"	06/24/80	F on penetrameter
FW-18-12X	W4	16"	1.219"	06/24/80	F on penetrameter
S1-29-2	W2	12"	1.125"	03/19/81	F on penetrameter
S1-29-2	W3	12"	1.125"	03/19/81	F on penetrameter
S1-29-2	W4	12"	1.125"	03/19/81	F on penetrameter
S1-29-2	W5	12"	1.125"	03/19/81	F on penetrameter

b. The inspector reviewed radiographs and reports of the following field welds in accordance with ASME Section III, 1974 Edition, Summer 1975 Addenda.

Unit 1

ISO	Weld	Diameter	Thickness	Date RT	NRC Results
FW50	FW383	3"	0.438"/0.466"	05/22/81	Acceptable
MS-16	FW140	6"	0.727"/0.719"	05/22/81	Acceptable
FW39	FW308	6"	0.562"/0.575"	05/26/81	Acceptable
FW51	FW394	4"	0.438"	05/22/81	Acceptable

ISO	Weld	Diameter	Thickness	Date RT	NRC Results
FW51	FW393	4"	0.438"	05/22/81	Acceptable
FW16	FW239	16"	0.844"	05/26/81	Acceptable
MS-16-8	FW276	8"	0.906"	05/22/81	Acceptable
FW50	FW377	3"	0.438"/0.466"	05/22/81	Acceptable
FW50	FW378	3"	0.438"/0.466"	05/22/81	Acceptable
MS16	FW139	6"	0.719"/0.727"	05/22/81	Acceptable
SCV00197	FW2787	2"	0.343"	03/12/81	Acceptable
FW51	FW393	4"	0.438"	05/22/81	Acceptable

Unit 2

ISO	Weld	Diameter	Thickness	Date RT	NRC Results
2PC10	FW24	22"	0.875"	03/26/81	Acceptable
0G686	FW273	3"	0.216"	05/06/81	Acceptable
0G686	FW275	3"	0.216	05/09/81	Acceptable
0G676	FW228	3"	0.216"	05/11/81	Acceptable
0G635	FW314	3"	0.216"	05/26/81	Acceptable
0G69	FW35	3"	0.216"	05/22/81	Acceptable
0G669	FW211	3"	0.216"	04/02/81	Acceptable
0G677	FW243	3"	0.216"	04/02/81	Acceptable
0G6810	FW288	3"	0.216"	04/02/81	Acceptable
0G6711	FW236	3"	0.216"	04/02/81	Acceptable
0G6910	FW293	3"	0.216"	05/07/81	Acceptable
0G63	FW186	3"	0.216"	05/20/81	Acceptable

No items of noncompliance or deviations were identified.

Exit Interview

The inspector met with site representatives (denoted in Persons Contacted paragraph) at the conclusion of the inspection. The inspector summarized the scope and findings of the inspection noted in this report.