December 7, 2000

Mr. Michael T. Coyle
Vice President
Clinton Power Station
AmerGen Energy Company, LLC
Mail Code V-275
P. O. Box 678
Clinton, IL 61727

SUBJECT: CLINTON - NRC INSPECTION REPORT 50-461/00-19(DRS);

Dear Mr. Coyle:

On November 14, 2000, the NRC completed an inspection at your Clinton Nuclear Power Station. The results were discussed with Mr. P. Hinnenkamp and other members of your staff on October 27 and November 14, 2000. The enclosed report presents the results of that inspection.

This inspection was an examination of activities conducted under your license as they relate to inservice inspection, safety, compliance with the Commission's rules and regulations, and with the conditions of your license. Specifically, the inspectors evaluated the implementation of your inservice inspection program for monitoring degradation of the reactor coolant system boundary, risk significant piping system boundaries, and the containment boundary. Within these areas the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the inspectors identified one issue involving several examples of human performance failures for which no risk significance or color was assigned. Additionally the inspectors identified one finding of very low safety significance (Green). The issue was determined to involve a violation of NRC requirements. However, because of the safety significance and because the issue has been entered into your corrective action program, the NRC is treating the finding as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

If you contest the Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC Resident Inspector at the Clinton Nuclear Power Station.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

John M. Jacobson, Chief
Mechanical Engineering Branch
Division of Reactor Safety

Docket Nos. 50-461;
License Nos. NPF-62

Enclosure: Inspection Report 50-461-00-19(DRS)

cc w/encl: P. Hinnenkamp, Plant Manager
M. Reandeau, Director - Licensing
G. Rainey, Chief Nuclear Officer
E. Wrigley, Manager-Quality Assurance
M. Aguilar, Assistant Attorney General
G. Stramback, Regulatory Licensing
Services Project Manager
General Electric Company
Chairman, DeWitt County Board
State Liaison Officer
Chairman, Illinois Commerce Commission

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-461
License Nos:	NPF-62
Report No:	50-461/00-19(DRS);
Licensee:	AmerGen Energy Company, LLC
Facility:	Clinton Power Station
Location:	Route 54 West Clinton, IL 61727
Dates:	October 24 - November 14, 2000
Inspectors:	K. GreenBates, NRC Engineering Specialist B. Metrow, Illinois Department of Nuclear Safety (IDNS)
Approved by:	John M. Jacobson, Chief Mechanical Engineering Branch Division of Reactor Safety

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas) reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

SUMMARY OF FINDINGS

IR 05000461-00-19(DRS), on 10/24/00 - 11/14/2000, Amergen Energy Company, LLC, Clinton Power Station. Inservice Inspection (ISI) report.

The inspection was conducted by an engineering specialist. The inspection identified one green finding which was considered a Non-Cited Violation and one no color finding. This report covers the initial baseline inspection of the effectiveness of the licensee's inservice inspection program for monitoring degradation of the reactor coolant system boundary, risk significant piping system boundaries, and the containment boundary. The inspectors used inspection procedures IP 71111.08, "Inservice Inspection," and IP 71152, "Identification and Resolution of Problems," to conduct the inspection. The significance of most/all findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "no color" or by the severity level of the applicable violation.

Cornerstone: Barrier Integrity

Green. The inspectors identified a Non-Cited Violation for the failure to perform radiographic examinations of Class 2 welds in compliance with applicable American Society of Mechanical Engineers (ASME) Code requirements. During installation testing of the 1999 Feedwater Keep Fill FW-39 modification, five radiographic examinations had recorded geometric unsharpness values which exceeded Section III and Section V ASME Code limits. Radiographic geometric unsharpness values are used to ensure that the film is of adequate quality to see defects. In addition, inspectors identified that three examinations did not meet Section V Code requirements for documentation of radiographic technique variables which can affect the image quality of the film.

The safety significance of this issue was considered very low at this time, based on the absence of adverse consequences, the presence of other image quality indicators, and because the issue did not involve the system isolation valves. The failure to comply with ASME Code radiographic examination requirements could result in the failure to detect flaws within reactor coolant boundary piping, and was considered a Non-Cited Violation of 10 CFR Part 50.55a, "Codes and Standards" (Section 1RO8).

Cross-Cutting Issues - Human Performance

No Color. The inspectors reviewed three special process procedures, and identified areas where all three procedures were not written in compliance with the applicable ASME Code. The procedure deficiencies had the potential to affect the ASME Code compliance of weld fabrication and nondestructive examination used on safety-related components and piping. The inspectors noted that each of the ASME Code problems identified contained elements of human performance deficiencies. The human performance aspects, while not always being the root cause of the problem, were significant contributors leading to procedure deficiencies. While the risk of the individual examples was very low, the number of deficiencies indicated a problem with incorporation of applicable ASME Code requirements into special process procedures (Section 4.0A4).

Report Details

Summary of Plant Status

The inspection was conducted during the Clinton RF-7 refueling outage which was the first of three period examinations planned for the Second Ten Year Inservice Inspection (ISI) interval. The Clinton Power Station is committed to ASME Code Section XI, 1989 Edition (no addenda), with several relief request exceptions. For performance demonstrated initiative (PDI) ultrasonic examinations Clinton inservice inspection program is committed to the 1995, 1996 Addenda ASME Code as per regulatory requirements.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R08 Inservice Inspection Activities

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's inservice inspection program for monitoring degradation of vital system boundaries. This inspectable area verifies aspects of the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones for which there are no indicators to measure performance. Nondestructive testing activities were reviewed including the planning, scope, and method employed, as well as portions of applicable test procedures and initial findings. The inspectors observed in-progress examinations and flaw evaluations. Lastly, the inspectors reviewed Clinton's activities associated with ISI problem identification and resolution. As part of this review, the inspectors:

(1) Observed a sample of in-progress ISI activities including, ultrasonic calibrations and examination of a Class 1 valve to pipe weld (1-RH-12-1) , and visual examinations for bolts on a Class 1 feedwater check valve (1FW-32A);

(2) Reviewed repair and replacement program radiographs and radiographic documentation for the newly installed Feedwater Keep Fill System to verify procedural and ASME Code compliance;

(3) Reviewed a sample of non-destructive examination procedures to verify associated ASME Code and regulatory compliance;

(4) Reviewed a sample of refueling outage inservice inspection examination records and interviewed Clinton and General Electric (GE) contractor ISI personnel and

(5) Reviewed a sample of condition reports/evaluation records issued for problems identified in the inservice inspection area to verify the identification of ISI problems at an appropriate threshold.

b. Findings

In general, inservice inspection activities were found to be adequate to monitor degradation of the reactor coolant system boundary and risk significant piping system boundaries, however, the inspectors identified a green finding in this area which was considered a Non-Cited Violation.

b.1 Radiographic Examinations Not in Compliance with ASME Code Requirements

The inspectors review of Repair and Replacement Program activities conducted during the 1999 Clinton outage, identified that installation testing of the 1999 Feedwater Keep Fill FW-39 modification did not meet the following two ASME Code requirements:

1. ASME Code Geometric Unsharpness Requirements Not Met

The licensee's Repair and Replacement Program had conducted installation testing of the new Feedwater Keep Fill System per Code case N-416-1, "Alternate Pressure Test Requirement for Welded Repairs or Installation." This Code case is approved without condition in the current revision to RG 1.147 and allows replacement of a hydrostatic pressure test with additional and more stringent 1992 ASME Section III and XI nondestructive examination requirements.

The 1992 ASME Code Section III, NC 5111 "Examination General Requirements" specifies that radiographic examination shall be in accordance with Section V, Article 2, except that the geometric unsharpness shall not exceed the limits of T-285.

ASME Section V, Article 2, T-285 "Geometric Unsharpness Limitations" states that when required by the referencing Code section, geometric unsharpness of the radiograph shall not exceed the limits of 0.020 inches for material thickness under 2 inches.

Licensee staff stated that Appendix III of the licensee's radiographic procedure SC-111 had been used to perform these examinations. Inspector review of this procedure noted that Appendix III, section 2.0; "RT Technique", stated: "geometric unsharpness limits are mandatory".

Contrary to the above, during the February 1999 installation testing of the Feedwater Keep Fill modification, five Class 2 weld radiographic examinations (RH-815-3,-6, -13, -38, and W-33) had recorded geometric unsharpness values of 0.030 inches which exceeded both the Section III, NC-5111 and Section V, T-285 ASME Code limits of 0.020 inches. The purpose of Code bounds on radiographic geometric unsharpness values is to ensure that the film is of adequate quality to evaluate defects.

2. ASME Code Technique Variable Documentation Requirements Not Met

The inspectors identified three examinations which did not meet ASME Section III NC-5112 and Section V, T-211.2 requirements for documentation of radiographic technique variables which can effect the image quality of the film.

Section III, NC-5112 “Nondestructive Examination Procedures” states that all nondestructive examinations required by this Article shall be performed in accordance with detailed written procedures and that the procedure shall comply with the appropriate Article of Section V for the particular examination method.

Section V, Article 2, T-211.2 “Requirements & Compliance for a Written Radiographic Procedure” specifies that procedures “shall contain as a minimum the following technique variables... (f) screens used.”

Licensee staff stated that RT procedure SC-111 had been used to perform these examinations. Inspector review noted that Section 12.0 “Records” of this procedure stated: “that the radiography report shall include, as a minimum, the following: (11) “Screen Thickness.”

Contrary to the above, during the February 1999 installation testing of the Feedwater Keep Fill modification, three Class 2 weld radiographic examinations (RH-815-3, -38, and W34) had not recorded required information to indicate whether screens had been used at all during the three tests, or whether Code compliant screens were used.

As the licensee had failed to implement required Code criteria for several welds, this problem was not considered to be an isolated occurrence. In each case, the Code required criteria, was more than an administrative limitation (i.e., had the potential to effect the quality of the exam). This issue has a credible potential impact on safety and can be reasonably viewed as a precursor to a significant event. Due to the potential to adversely affect the examination results for a reactor coolant boundary component, this issue was considered to be more than of minor significance and is considered to be green.

The licensee initiated Condition Reports 2-00-10-236, 2-00-11-105, and 2-00-11-106 to document these conditions and examined the radiographic documentation for the remaining welds in the system. The safety significance of this issue was considered very low at this time, based on the absence of adverse consequences, the presence of other image quality indicators on the film, and because the Feedwater Keep Fill system isolation valves were not affected by this issue. The failure to comply with ASME Code radiographic examination requirements could result in the failure to detect flaws within reactor coolant boundary piping, and was considered a Non-Cited Violation of 10 CFR Part 50.55a, “Codes and Standards,” in accordance with Section VI.A.1 of the NRC’s Enforcement Policy (NCV 50-461-00-19-01(DRS)).

4. OTHER ACTIVITIES

4OA4 Cross Cutting Issues - Human Performance

a. Inspection Scope

The inspectors reviewed human performance errors associated with the inservice inspection program and plant repair and replacement program which resulted in special process procedures not in compliance with the applicable ASME Code.

b. Findings

The inspectors reviewed three special process procedures used for safety related systems at the plant: welding fabrication, manual ultrasonic examination, and radiographic examination procedures, for compliance with plant technical specification and 10 CFR 50 Appendix B procedural requirements, and identified areas where all three procedures were not fully in compliance with the applicable ASME Code. The procedure deficiencies had the potential to affect the ASME Code compliance of weld fabrication and nondestructive examination. The inspectors noted that each of the ASME Code problems identified contained elements of human performance deficiencies with the control and review of procedures. The human performance aspects, while not always being the root cause of the problem, were significant contributors leading to procedure deficiencies. While the risk of the individual issues was very low, the number of deficiencies indicated a problem with incorporation of applicable ASME Code requirements into special process procedures. Some examples identified where plant special process procedures which were not written in compliance with the appropriate ASME Code were:

1. Procedure Inadequacy - Weld Fabrication Procedure CPS 8209.50D003

Inspector review of welding procedures and associated technique sheets used for safety related weld fabrication, identified that the licensee's welding technique sheet No. CPS 8209.50D003, "Welding Technique for P-1 Materials without Postweld Heat Treatment with Impact testing at -30F," did not accurately specify ASME Code required welding parameters. Although the procedure had stated weld parameters which could result in the fabrication of a weld that exceeded qualified heat input limits, the deficient welding instructions had not yet been used for any welding in the plant which required heat input control and therefore this issue was not a technical concern at the time of the inspection.

2. Procedure Inadequacy - Ultrasonic Examination Procedure PDI-UT-1

Inspector review of ultrasonic procedures used for ISI examination of carbon steel welds, identified that the licensee's ultrasonic test procedure No. PDI-UT-1, for carbon steel did not accurately specify ASME Code information. On September 22,1999 the NRC required licensees to update their ultrasonic inspection programs to the 1995 Edition, 1996 Addenda, of the ASME Code along with specific modifications as stated in 10CFR50.55a. Although the

Clinton ISI Program committed to the 1995 Edition, the UT procedure used during the outage stated only compliance with the 1992 Edition, 1993 Addenda.

Furthermore, licensee ISI staff stated they were aware of the April 17, 2000 PDI bulletin "1995 Code Year for Procedures Qualified through PDI." This letter directed utilities to change the Code year of plant procedures and clarified areas such as the length sizing acceptance criteria, where the older Code procedures would not meet the new 1995 Edition Code requirements as modified by 10CFR50.55a. However, plant staff had taken no actions to revise the ultrasonic procedure to comply with regulatory and ISI Program requirements. Although this issue was not a technical adequacy issue at the time of the inspection because flaws had not been identified in plant examinations, ISI staff rigor to assure ISI program procedure accuracy appeared to be lacking.

3. Failure to Follow Radiographic Examination Procedure SC-111

Radiographic Examination Procedure SC-111 Sections 9.7.2 & 9.10.2.3 stated that penetrameter sizes & thicknesses must be as stated in Table 2 of the procedure. However, the penetrameters actually used in the field for plant Feedwater Keep Fill modification weld examinations, were not the same as those required by the procedure's Table 2. Licensee staff stated that workers were just 'verbally told' the to use a 1992 Code year attachment table rather than the table specified in the body of the procedure. This attachment was listed only as one of the references in the body of the procedure, the procedure never invoked or directed examiners to use the attachment. Documentation of the attachment used was not recorded anywhere, nor was an explanation documented for the failure to follow the procedure as written.

The problem found with procedure SC-111, was not considered a technical adequacy issue at the time of the inspection because fortuitously appropriate penetrameter sizes had been used in accordance with the Feedwater Keep Fill modification design requirements. However, ISI staff knowledge of Code radiographic examination requirements and rigor to assure program procedure accuracy and adherence appeared to be weak.

While the risk of the individual issues was very low, the number of welding, ultrasonic and radiography-related issues indicated a problem exists with the control and review of special process procedures. These problems could not be easily evaluated by present risk analysis methods because failures to follow program guidance such as nondestructive related procedures or management expectations was not modeled in the Clinton Individual Plant Evaluation. Licensee management has acknowledged that a declining trend in human performance exists and several CRs have been written to document the concerns. Condition Report 2-00-09-055 documents a site-wide concern regarding human performance. Actions taken by license management to-date include management meetings with all site work groups to emphasize the need for attention-to-detail and procedural compliance, and vendor training sessions emphasizing error prevention techniques.

4OA5 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the on-site portion of the inspection on October 27, 2000, and on November 14, 2000, via telecon. The licensee acknowledged the results presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Anthony, Engineering
M. Baig, ISI Coordinator, Engineering
S. Clary, Director - Plant Engineering
M. Coyle, Site Vice President
W. Iliff , Director - Experience Assessment and Corrective Actions
J. Foreman, Licensing
P. Hinnenkamp, Plant Manager - Clinton Power Station
B. Puckett, Engineering Supervisor
M. Reandeau, Director - Licensing
R. Schenck, Manager - Maintenance
T. Wilmoth, Engineering
E. Wrigley, Manager - Quality Assurance

Nondestructive Examination (NDE) General Electric Contract Personnel

S. Everet, NDE Level II
R. Williams, NDE Level II

NRC

P. Louden, Senior Resident Inspector, RIII

ITEMS OPENED, CLOSED, AND DISCUSSED

Open

50-461/00-19-01(DRS)	NCV	Failure to follow ASME Code radiographic examination requirements for five Class 2 welds (Section 1R08)

Closed

50-461/00-19-01(DRS)	NCV	Failure to follow ASME Code radiographic examination requirements for five Class 2 welds (Section 1R08)

Discussed

None

LIST OF ACRONYMS

ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
CPS	Clinton Power Station
GE	General Electric
ISI	Inservice Inspection
NCV	Non-Cited Violation
NDE	Nondestructive Examination
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation (NRC)
PDI	Performance Demonstrated Initiative
RG	Regulatory Guide
RT	Radiographic Testing
SDP	Significance Determination Process
UT	Ultrasonic Testing

PARTIAL LIST OF DOCUMENTS REVIEWED

Condition Reports

1-98-11-171-0	"Pipe Support Welds Were Incorrectly Assigned as Aisc in Place of Required ASME," dated 11/14/98
1-98-11-085-0	"Failure to Initiate Repair/Replacement Data Sheet for Work on ASME Component," dated 11/07/00
1-99-11-059-0	"Errors in Performance Qualification Test Records for Welder Qualification," dated 11/08/99
1-99-02-443-0	"Inadequate Tech Review Performed in Mod MS-42 for RCIC System (ASME)," dated 2/26/99
2-00-01-057-0	"Inappropriate Closure of CR 1-99-04-185," dated 1/12/00
2-00-10-078-0	"MSL A Inboard MSIV (1B21-F022A) Leakage Exceeds Procedural Limits," dated 10/16/00
2-00-10-159-0	"High Pressure Core Spray Testable Check Valve 1E22-F005 failed Category A 1000 psig testing," dated 10/21/00

Condition Reports Resulting from Inspection

2-00-10-228-0	"Potential for Welding Parameters to Exceed Maximum heat Input in Welding Technique Sheet CPS8209.50D003, dated 10/26/00
2-00-10-236-0	"Radiographic Inspection Reports Not Completed and do not Meet Minimum ASME Code Requirements," dated 10/27/00
2-00-10-236-1	"Radiographic Inspection Reports Not Completed and do not Meet Minimum ASME Code Requirements," dated 11/14/00
2-00-10-237-0	"PDI Ultrasonic Procedure States Compliance with 1992 ASME Code, ISI Program & Regulatory Requirements Necessitate 1995 ASME Code," dated 10/27/00
2-00-10-236-0	"Radiographic Inspection Reports Not Completed and Do Not Meet All ASME Code Requirements," dated 10/27/00
2-00-11-105-0	"Radiography Procedure Does Not Provide Adequate Guidance," dated 11/14/00
2-00-11-106-0	"14 Radiographs of FW-39 Welds Do Not Meet Geometric Unsharpness Limitations of ASME Section III," dated 11/14/00

Procedures

Clinton Procedure SC-111, "Radiographic Testing", dated 8/31/98
Clinton Procedure PDI-UT-1, "Carbon Steel - PDI UT," Revision B
Clinton Welding Procedure No. CPS 8209.50, "Welding Procedure Specification for Bi-Process Welding of Carbon Steel," dated 9/14/99
Welding Technique Sheet No. CPS 8209.50D003, "Welding Technique for P-1 Materials without Postweld Heat Treatment with Impact Testing at -30F," dated 11/16/98

Miscellaneous

Maintenance Work Order No. C980209021, “Installation of Feedwater Keep Fill MOD FW-039 to Provide Water Seal Between FW
GE Nuclear Energy UT/MT Examination Summary Sheet Report No. R00-031, dated 10/26/00
GE Nuclear Energy UT/MT Examination Summary Sheet Report No. R00-047, dated 10/26/00
Performance Demonstration Initiative Memo, “1995 Code Year Reference for Procedures Qualified through PDI,” dated 4/17/00
Illinois Power Magnetic Particle Examination Record MWO C980209021 for Weld No. 1-RH-815-13, dated 6/10/99
Illinois Power Magnetic Particle Examination Record MWO C980209021 for Weld No. 1-RH-815-10, dated 6/10/99
SPEC Consultants, Inc. Radiographic Inspection Report No. 010528, dated 12/4/96
SPEC Consultants, Inc. Radiographic Inspection Report No. 010544, dated 12/4/96
SPEC Consultants, Inc. Radiographic Inspection Report No. 012465, dated 2/10/99
SPEC Consultants, Inc. Radiographic Inspection Report No. 012468,dated 1/18/99
SPEC Consultants, Inc. Radiographic Inspection Report No. 012470, dated 1/18/99
SPEC Consultants, Inc. Radiographic Inspection Report No. 013142, dated 2/12/99
SPEC Consultants, Inc. Radiographic Inspection Report No. 013143, dated 2/22/99
SPEC Consultants, Inc. Radiographic Inspection Report for Weld D81258 W33, dated 2/8/99
SPEC Consultants, Inc. Radiographic Inspection Report for Weld D81258 W34, dated 2/9/99
Clinton RF7 ISI Nuclear Oversight Assessment Observations, Revision 1
Weld History Report RH/1RH116F-3/4, “Weld to 1FW02KB-20-inch,” dated 6/7/99
Illinois Power Procedure Qualification Record No. A-001, “Manual GTAW and SMAW- Impact Tested,” dated 10/19/98
Illinois Power Procedure Qualification Record No. PQR9-50c-AWIT, “Manual GTAW and SMAW Impact Tested,” dated 6/16/86