September 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 POWER STATION INSPECTION REPORT 50-461/2000013(DRP)

Dear Mr. Coyle:

On August 19, 2000, the NRC completed a safety inspection at your Clinton Power Station. The enclosed report presents the results of that inspection which were discussed on August 21, 2000 with the Plant Manager, P. Hinnenkamp, and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, there were no findings identified.

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/

Thomas J. Kozak, Chief
Reactor Projects Branch 4

Docket No. 50-461
License No. NPF-62

Enclosure: Inspection Report No. 50-461/2000013(DRP)

cc w/encl: P. Hinnenkamp, Plant Manager
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G. Rainey, Chief Nuclear Officer
E. Wrigley, Manager-Quality Assurance
M. Aguilar, Assistant Attorney General
G. Stramback, Regulatory Licensing
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State Liaison Officer
Chairman, Illinois Commerce Commission

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-461
License No:	NPF-62
Report No:	50-461/2000013(DRP)
Licensee:	AmerGen Energy Company, LLC
Facility:	Clinton Power Station
Location:	Route 54 West Clinton, IL 61727
Dates:	July 1 - August 19, 2000
Inspectors:	P. L. Louden, Senior Resident Inspector C. E. Brown, Resident Inspector D. E. Zemel, Illinois Department of Nuclear Safety
Approved by:	Thomas J. Kozak, Chief Reactor Projects Branch 4 Division of Reactor Projects

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 a 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 a safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in a 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 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 05000461-00-13, on 07/01-08/19/2000; AmerGen Energy; Clinton Power Station; Unit 1; Resident Operations Report.

The report covers a 7-week inspection by the resident inspectors. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process.

There were no findings identified during this inspection.

Report Details

Summary of Plant Status

The licensee operated the plant at 100 percent power from the beginning of the period until shutting the plant down for a planned maintenance outage (MO10) on August 1, 2000. Major work items included replacing a reactor recirculation (RR) system pump seal and bearings, repairing a feedwater leak, and troubleshooting and repairing an RR system flow control valve circuit. Problems were encountered during the repair of the motor driven reactor feed pump. This resulted in the plant being restarted on August 9, with the motor driven reactor feed pump being out of service. The plant was operated at essentially 100 percent power for the remainder of the inspection period.

1. Reactor Safety

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R04 Equipment Alignments (71111.04)

a. Inspection Scope

The inspectors reviewed piping and instrument drawings (P&IDs) and conducted partial walkdowns to verify equipment alignment and identify any discrepancies that impact the function of the following high risk importance safety systems:

- Low Pressure Core Spray (LPCS) System, CPS 3313.01V001, "Low Pressure Core Spray Valve Lineup," Revision 12, and P&ID M05-1073
- High-Pressure Core Spray (HPCS) System, CPS 3309.01V001, "High Pressure Core Spray Valve Lineup," Revision 11, and P&ID M05-1074

b. Findings

There were no findings identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors reviewed portions of the licensee's Fire Protection Evaluation Report (FPER) and the Updated Safety Analysis Report (USAR) to verify consistency between the documented analysis and installed fire protection equipment at the station. To assess the control of transient combustibles and ignition sources, the material and operational condition of fire protection systems and equipment, and the status of fire barriers, the inspectors conducted walkdowns of the following risk significant areas:

- Fuel pool and general access areas located on the 737, 755, and 781-foot elevations of the fuel building (Fire zone F-1p)

- High pressure core spray system pump room located on the 712-foot elevation of the fuel building (Fire zone F-1b)

- Low pressure core spray system pump and fuel pool cooling room located on the 707-foot elevation of the auxiliary building (Fire zone A-2c)

- The Division I and II switchgear rooms located on the 781-foot level of the auxiliary building (Fire zones A-2n and A-3f)

b. Findings

There were no findings identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed heat exchanger performance testing on the Division I (Div I) emergency diesel generator (EDG) to verify identification of potential deficiencies which could mask degraded performance, to verify potential common-cause heat sink performance problems that have the potential to increase risk, and to verify the identification and resolution of heat-sink performance problems that could result in initiating events or that could affect multiple heat exchangers in mitigating systems and thereby increase risk.

b. Findings

There were no findings identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

The inspectors reviewed the licensee's operator training program to evaluate operator performance in mitigating the consequences of a simulated event, particularly in the areas of human performance, procedure quality issues, and emergency response organization performance. The inspectors observed operator performance during a simulator training scenario involving a small break loss-of-coolant accident (LOCA) leading to an anticipated transient without SCRAM (ATWS). The inspectors evaluated the following attributes of the activity:

- communication clarity and formality;
- timeliness and appropriateness of crew actions;
- prioritization, interpretation, and verification of alarms;
- correct use and implementation of procedures; and
- oversight and direction provided by the shift supervisor and shift manager.

The inspectors also reviewed Simulator Seminar Outline of Instruction, Simulator Dynamic Scenario (SDS) 22, Revision 11 for the expected crew responses. The

inspectors attended the pre-scenario briefing on expectations and lessons learned and observed portions of the scenario.

b. Findings

There were no findings identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the effectiveness of the licensee's maintenance efforts in implementing the maintenance rule (MR) requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, and current equipment performance problems. These systems were selected based on their designation as risk significant under the MR, or their being in the increased monitoring (MR category a(1)) group. The systems evaluated were:

- Division I EDG and support system maintenance during outage week
- Division II Shutdown Service Water (SX) outage and supported systems unavailability
- Feedwater "A" flow venturi repairs

b. Findings

There were no findings identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's risk assessment processes and considerations used to plan and schedule maintenance activities on safety-related structures, systems, and components particularly to ensure that maintenance risk and emergent work contingencies had been identified and resolved. The inspectors assessed the effectiveness of risk management activities for the following work activities or work weeks:

- Division I outage, week of July 3
- APRM "B" calibration and meter replacement along with Div II EDG maintenance, week of July 17
- Inclined fuel transfer system winch cable and sensors replacement risk assessment, week of July 24
- Residual heat removal (RHR) inboard suction valve, (1E12F009) pressure locking after shutdown

b. Findings

There were no findings identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions (71111.14)

a. Inspection Scope

The inspectors reviewed personnel performance during planned and unplanned plant evolutions. The review was performed to ascertain that operators' responses were in accordance with the required procedures. The inspectors observed shutdown activities for and the startup activities after MO10 including control rod pull-to-criticality, shifting the reactor recirculation system pumps from slow to fast speed, turbine startup and synchronization, and assorted troubleshooting activities.

b. Findings

There were no findings identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following condition reports and operability determinations which affected mitigating systems and barrier integrity to ensure that operability was properly justified and that the component or system remained available such that no unrecognized risk increase had occurred:

CR 2-00-07-027, “Annunciator 5066-8F, SLC B Out of Service Annunciator Actuation and Squib Light De-Energized”

CR 2-00-07-051, “APRM B Edge Connector Found Damaged During Channel Calibration”

CR 2-00-06-084, “Inadequate Implementation of Post Modification Testing Requirements”

CR 2-00-06-090, “Inadequate PMT Specified for Functional Check of Implementation of ECN 30253 at Remote Shutdown Panel”

b. Findings

There were no findings identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed and observed portions of the following post-maintenance testing (PMT) activities involving risk significant equipment to ensure that the activities were adequate to verify system operability and functional capability:

- VC-A train outage return to service PMT, week of 7/10
- Testing per CPS 2800.56, "Off-Site Source Permissive Circuit Test," Revision 1, to verify adequacy of wiring changes to the off-site source permissive circuit in the remote shutdown panel. This was a follow up to a failure to properly specify and perform required PMT which was documented in Section 1R17 of Inspection Report 50-461/2000012.

b. Findings

There were no findings identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

To verify that risk significant systems and equipment were capable of performing their intended safety functions and to assess their operational readiness, the inspectors observed the performance of the following surveillance tests:

- CPS 9054.01, "RCIC [reactor core isolation cooling] System Operability Check," Revision 37a
- CPS 9015.01, "Standby Liquid Control System Operability," Revision 37b
- CPS 9080.01, "Diesel Generator 1A (B) Operability - Manual and Quick Start Operability," Revision 45b on the Div II EDG
- CPS 9437.01, "Post-Accident Containment Pressure Channel Calibration," Revision 33
- CPS 9433.07, "ECCS [emergency core cooling system] Reactor Vessel Water Level B21-N073C (G) Channel Calibration," Revision 35

b. Findings

There were no findings identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed Temporary Modification 00-028, “Leak Repair of Flange Connections on the 1FWO2EA-20 Pipeline,” to ensure that the safety functions of important systems had not been affected.

b. Findings

There were no findings identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

On July 12, 2000, to assess the licensee's conduct of drills and adequacy of performance critiques in identifying weaknesses and deficiencies, the inspectors observed the emergency response organization's response to a station-blackout scenario.

b. Findings

There were no findings identified.

4. Other Activities

4OA6 Meetings, including Exit

The inspectors presented the inspection results to Mr. P. Hinnenkamp, Plant Manager, and other members of licensee management on August 21, 2000. The licensee acknowledged the findings 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

G. Baker, Manager - Nuclear Support Services
S. Clary, Director - Plant Engineering
M. Coyle, Vice President
P. Hinnenkamp, Plant Manager - Clinton Power Station
W. Maguire, Director - Operations
R. Moore, Manager - Work Management
M. Reandeau, Director - Licensing
R. Schenck, Manager - Maintenance
D. Smith, Director - Security and Emergency Planning
P. Walsh, Manager - Nuclear Station Engineering Department
E. Wrigley, Manager - Quality Assurance

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ATWS	Anticipated Transient Without SCRAM
CR	Condition Report
DG	Diesel Generator
EDG	Emergency Diesel Generator
FPER	Fire Protection Evaluation Report
HPCS	High Pressure Core Spray
LOCA	Loss of Coolant Accident
LPCS	Low Pressure Core Spray
MO	Maintenance Outage
MR	Maintenance Rule
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
P&IDS	Piping & Instrumentation Drawings
PMT	Post Maintenance Testing
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RR	Reactor Recirculation
SDS	Simulator Dynamic Scenario
SX	Shutdown Service Water
TS	Technical Specification
USAR	Updated Safety Analysis Report