

December 22, 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 - NRC INSPECTION REPORT
50-461/00-21(DRS)

Dear Mr. Coyle:

On December 8, 2000, the NRC completed a routine inspection at your Clinton Power Station, Unit 1. The results were discussed on December 8, 2000, with you and other members of your staff. The enclosed report presents the results of that inspection.

The inspection was an examination of activities conducted under your license as they relate to radiation safety and to compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, this inspection focused on public radiation safety.

No findings of significance were 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/

Gary L. Shear, Chief
Plant Support Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 50-461/00-21(DRS)

See Attached Distribution

M. Coyle

-2-

cc w/encl: P. Hinnenkamp, Plant Manager
M. Reandeu, 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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OFFICIAL RECORD COPY

M. Coyle

-2-

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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 No: 50-461
License No: NPF-62

Report No: 50-461/00-21(DRS)

Licensee: AmerGen Energy Company, LLC

Facility: Clinton Power Station

Location: Route 54 West
Clinton, IL 61727

Dates: December 4 - 8, 2000

Inspector: Steven K. Orth, Senior Radiation Specialist

Observer: Ryan Alexander, Radiation Specialist

Approved by: Gary L. Shear, Chief
Plant Support 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

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

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 05000461-00-21(DRS), on 12/04-12/08/2000, AmerGen Energy Company, LLC, Clinton Power Station, Unit 1. Radiation Safety Specialist Report.

The inspection was conducted by a senior radiation specialist. 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.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Findings

A violation of very low significance (Green) which was identified by the licensee has been reviewed by the inspector. Corrective actions taken or planned by the licensee appeared reasonable. This violation is listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status

During this inspection, the plant was at essentially 100 percent power.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety (PS)

2PS2 Radioactive Material Shipping

.1 Walk-Downs of Radioactive Waste Systems

a. Inspection Scope

The inspector performed walk-downs of the liquid and solid radioactive waste systems to assess their material condition and operability. The inspector also discussed the current operation of the system with a member of the radioactive waste operations crew. Specifically, the inspector reviewed conditions in the following areas:

- Abandoned cement solidification area;
- Shipping bay and de-watering processing area;
- Unit 1 floor drain evaporator feed tank and pump rooms;
- Unit 1 phase separator tank and pump rooms;
- Unit 2 floor drain evaporator feed tank and pump rooms;
- Unit 2 phase separator tank and pump rooms; and
- Floor drain evaporators.

The inspector compared the operations of the liquid/solid radioactive waste systems to the descriptions in the Updated Safety Analysis Report and the licensee's process control program. In the case of abandoned equipment (i.e., cement solidification system), the inspector reviewed the administrative and physical controls to verify that the equipment would not contribute to an unmonitored release path and would not inadvertently affect operating systems.

b. Findings

No findings of significance were identified.

.2 Waste Characterization and Classification

a. Inspection Scope

The inspector reviewed the licensee's method and procedures for determining the classification of radioactive waste shipments, including the licensee's use of scaling factors to quantify difficult-to-measure radionuclides (e.g., pure alpha or beta emitting radionuclides). Specifically, the inspector reviewed the licensee's Fall 2000 radio-chemical analysis results for the spent resin, phase separator, dry active waste, and fuel

pool sludge waste streams. The inspector verified that the licensee's scaling factors were accurately determined such that waste shipments were classified in accordance with the requirements contained in 10 CFR Part 61 and the licensee's process control program. The inspector also verified that the licensee had measures to ensure that changes in operating parameters, that can result in changes to the waste stream composition, are identified between the annual or biennial scaling factor updates.

b. Findings

No findings of significance were identified.

.3 Shipment Preparation

a. Inspection Scope

The inspector observed ongoing shipments of contaminated laundry (Low Specific Activity - II (LSA-II)) and steam relief valves (Limited Quantity) to ensure that the shipping activities were performed in accordance with the requirements of 49 CFR Parts 172 and 173. For the laundry shipment, the inspector observed the final radiological surveys, labeling, placarding, vehicle inspections, and instructions to the driver. In the case of the steam relief valves, the inspector observed hazardous material workers loading the shipment. Since direct observations of shipping activities were limited, the inspector also verified that the licensee's training program provided training to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities. Specifically, the inspector reviewed lesson plans for initial and recurrent training and ensured that applicable personnel (shippers, radiation protection technicians, and hazardous material technicians) had completed the training sessions.

b. Findings

No findings of significance were identified.

.4 Shipping Records

a. Inspection Scope

The inspector reviewed a selection of non-excepted package shipments completed during calendar year 2000 to verify compliance with NRC and Department of Transportation requirements (i.e., 10 CFR Parts 20 and 71 and 49 CFR Parts 172 and 173). Specifically, the inspector reviewed the following radioactive materials/waste shipment records:

- 00-099 Contaminated Laundry (LSA-II, December 4, 2000);
- 00-091 Control Rod Drives (Type A, November 15, 2000);
- 00-082 Contaminated Refueling Equipment (LSA-II, November 2, 2000);
- 00-063 Waste Sludge (LSA-II, October 13, 2000);
- 00-055 Spent Resin (LSA-II, August 25, 2000);
- 00-026 Dry Active Waste (LSA-II, May 2, 2000);

- 00-021 Waste Filters (LSA-II, April 7, 2000); and
- 00-009 Waste Sludge (LSA-II, February 24, 2000).

b. Findings

No findings of significance were identified.

.5 Problem Identification and Resolution

a. Inspection Scope

The inspector reviewed self-assessments, audits, and condition reports (CRs) completed during the previous 18 months which concerned the areas of radioactive waste processing and radioactive waste/material shipping. The inspector reviewed these documents to assess the licensee's ability to identify repetitive problems, contributing causes, the extent of conditions, and corrective actions which will achieve lasting results.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program

a. Inspection Scope

The inspector reviewed CRs Nos. 2-00-09-020 and 2-00-09-063, which concerned the licensee's unconditional release of potentially contaminated materials from the restricted area. The inspector reviewed these documents to assess the licensee's ability to identify repetitive problems, contributing causes, the extent of conditions, and corrective actions which will achieve lasting results. During this review, the inspector discussed the lack of timeliness for corrective actions assigned to condition report No. 2-00-09-063.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA6 Management Meetings

The inspector presented the inspection results to Mr. Coyle and other members of licensee management at the conclusion of the inspection on December 8, 2000. The licensee acknowledged the findings presented. No proprietary information was identified.

4OA7 Licensee Identified Violations. The following finding of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a Non-Cited Violation (NCV).

NCV Tracking Number

Requirement Licensee Failed to Meet

(1) NCV 50-461/00-21-1

The licensee is required by 10 CFR Part 20.1802 to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. During September 2000, the licensee conducted a survey of tools, equipment, etc. outside of the restricted area (protected area and owner controlled area) and identified low-level, contaminated materials that were not under constant surveillance or control. Based on the licensee's conservative annual dose assessment (about 1.56 millirem) and the inability to define the origin of each of the items, the inspector concluded that the issue constituted one occurrence/event per the NRC Significance Determination Process (Green). The licensee documented this incident in CR 2-00-09-020.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

- D. Basham, Supervisor, Quality Assurance
- R. Campbell, Manager, Waste Minimization Process
- R. Chalifoux, Manager, Rad Waste Process
- M. Coyle, Vice President
- R. Davis, Supervisor, Radiological Operations
- R. Denney, Inspector, Quality Assurance
- J. Forman, Licensing
- R. Mauer, Director, Chemistry
- M. Moore, Manager, Work Management
- J. Ramanuja, Supervisor, Radiation Protection Support
- M. Reandeu, Director, Licensing
- P. Sawyer, Acting Director, Radiation Protection
- R. Serocke, Radiological Engineer
- D. Siebert, Supervisor, Rad Waste/Environmental
- C. Southerland, Exelon

NRC

- P. Loudon, Senior Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

| | | |
|-----------------|-----|--|
| 50-461/00-21-01 | NCV | Radioactive material found outside of the radiologically posted area (Section 40A7). |
|-----------------|-----|--|

Closed

| | | |
|-----------------|-----|--|
| 50-461/00-21-01 | NCV | Radioactive material found outside of the radiologically posted area (Section 40A7). |
|-----------------|-----|--|

Discussed

None

LIST OF ACRONYMS USED

| | |
|-----|------------------------------------|
| CFR | Code of Federal Regulations |
| CR | Condition Report |
| DRS | Division of Reactor Safety |
| LSA | Low Specific Activity |
| NCV | Non-Cited Violation |
| PS | Public Radiation Safety |
| SDP | Significance Determination Process |

LIST OF DOCUMENTS REVIEWED

Audits and Assessments

"6-month Transportation Drill," conducted August 25, 2000
"Informal Self-Assessment Report on Process Control Program Contract Administration," dated February 18, 2000
Quality Assurance Assessment Report, "Process Control Program," dated October 26, 2000
Quality Assurance Assessment Report, "Radioactive Material Shipping Activities," dated February 18, 2000
Quality Assurance Assessment Report, "Waste Minimization," dated November 4, 1999
Quality Assurance Field Observation Reports Nos. 1999-40-005, 1999-40-06, 2000-40-007, 2000-40-008, and 2000-40-009

Condition Reports Nos.:

1-99-08-096, 1-99-08-165, 1-99-12-061, 2-00-01-044, 2-00-01-098, 2-00-02-151, 2-00-05-061, 2-00-06-005, 2-00-07-040, 2-00-08-063, 2-00-10-041, 2-00-10-269, 2-00-09-020, 2-00-09-063, 2-00-12-016, and 2-00-12-032

Miscellaneous

Outline of Instruction, "Operating Experience Review Seminar 97-02"
Qualification Training Requirements, Task No. 101509C512 (Revision 19), "Shipping Radioactive Material"
Qualification Training Requirements, Task No. 101509C513 (Revision 19), "Receipt of Radioactive Material"
Qualification Training Requirements, Task No. 211190C525 (Revision 03), "Radioactive Material Sorting/Packaging/Shipping"
RP-1379-04, "CPS Radiological Survey Sheet," Nos. 00-10-7-2 and 00-12-6-9
Training Guide No. LP10144 (Revision 09), "GET -- Chemical Hazards"
Training Guide No. LP32019 (Revision 03), "Radioactive Material Shipment"
Training Guide No. LP32205 (Revision 00), "Radioactive Material Receipt"
Training Guide No. LP32801 (Revision 00), "Radioactive Material Regulations"
Training Guide No. LP32802 (Revision 00), "Solid Waste Management/Hazardous Material Regulations"

Procedure Nos.

CPS 1888.00 (Revision 10), "Process Control Program"
CPS 7013.12 (Revision 3a), "Shipment of Radioactive Material"
CPS 7013.40 (Revision 8), "10 CFR Part 61 Compliance Program"