December 5, 2008

Mr. Charles G. Pardee
President and Chief Nuclear Officer (CNO), Exelon Nuclear
Chief Nuclear Officer (CNO), AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville IL 60555

SUBJECT: BYRON STATION, UNITS 1 AND 2, REQUEST FOR INFORMATION FOR AN NRC TRIENNIAL BASELINE COMPONENT DESIGN BASES INSPECTION (CDBI) INSPECTION REPORT 05000454/2009007; 05000455/2009007(DRS)

Dear Mr. Pardee:

On February 23, 2009, the NRC will begin a triennial baseline Component Design Bases Inspection (CDBI) at Byron Station, Units 1 and 2. A team of six inspectors will perform this 3-week inspection. This inspection will be performed in accordance with NRC Baseline Inspection Procedure (IP) 71111.21.

The CDBI focuses on components that have high risk and low design margins. The components to be reviewed during this baseline inspection will be identified during an in-office preparation week prior to the first week of the on-site inspection. In addition, a number of risk significant operator actions and operating experience issues, associated with the component samples, will also be selected for review.

The inspection will include three weeks on-site. The inspection team will consist of six NRC inspectors, of which five will focus on engineering and one on operations. The current inspection schedule is as follows:

- On-site weeks: February 23 – 27, 2009;
  March 9 - 13, 2009; and
  March 23 - 27, 2009.

The team will be preparing for the inspection, mainly during the week of February 16 through February 20, 2009, as discussed in the Enclosure. A Region III Senior Reactor Analyst may accompany the inspection team during the week of February 23 through February 27, 2009, to review probabilistic risk assessment data, and assist in identifying risk significant components, which will be reviewed during the inspection.

Experience with previous baseline design inspections of similar depth and length has shown that this type of inspection is extremely resource intensive, both for the NRC inspectors and the licensee staff. In order to minimize the inspection impact on the site and to ensure a productive inspection for both parties, we have enclosed a request for information needed for the inspection.

In accordance with 10 CFR 2.390 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), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Ann Marie Stone, Chief
Engineering Branch 2
Division of Reactor Safety

Docket No. 50-454; 50-455
License No. NPF-37; NPF-66

Enclosure: Information Request for Component Design Bases Inspection (CDBI)

cc w/encl: Site Vice President - Byron Station
Plant Manager - Byron Station
Regulatory Assurance Manager - Byron Station
Chief Operating Officer and Senior Vice President
Senior Vice President - Midwest Operations
Senior Vice President - Operations Support
Vice President - Licensing and Regulatory Affairs
Director - Licensing and Regulatory Affairs
Manager Licensing - Braidwood, Byron, and LaSalle
Associate General Counsel
Document Control Desk - Licensing
Assistant Attorney General
Illinois Emergency Management Agency
J. Klinger, State Liaison Officer,
Illinois Emergency Management Agency
P. Schmidt, State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station

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Director - Licensing and Regulatory Affairs
Manager Licensing - Braidwood, Byron, and LaSalle
Associate General Counsel
Document Control Desk - Licensing
Assistant Attorney General
Illinois Emergency Management Agency
J. Klinger, State Liaison Officer,
Illinois Emergency Management Agency
P. Schmidt, State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station

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DATE:	12/05 /08	12/05/08	

OFFICIAL RECORD COPY

Letter to Mr. Charles Pardee from Ms. Ann Marie Stone dated December 5, 2008.

SUBJECT: BYRON STATION, UNITS 1 AND 2, REQUEST FOR INFORMATION FOR AN NRC TRIENNIAL BASELINE COMPONENT DESIGN BASES INSPECTION (CDBI) INSPECTION REPORT 05000454/2009007; 05000455/2009007(DRS)

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INFORMATION REQUEST FOR

COMPONENT DESIGN BASES INSPECTION (CDBI)

Inspection Report: 05000454/200007; 05000455/200007(DRS)

Inspection Dates: February 23–27, 2009;
March 9–13, 2009; and
March 23–27, 2009.

Inspection Procedure: IP 71111.21 "Component Design Bases Inspection"

Lead Inspector: Zelig Falevits, Lead Inspector
(630) 829-9717
zelig.falevits@nrc.gov

I. Information Requested Prior to the On-site Information Gathering/Inspection Week

The following information is requested by January 13, 2009, or sooner, to facilitate inspection preparation. If you have any questions regarding this information, please call the team leader as soon as possible. (Please provide the information electronically in "pdf" files, Excel, or other searchable formats, preferably on some portable electronic media (e.g., CDROM, DVD, flash drive, etc.). The portable electronic media should contain descriptive names, and be indexed and hyperlinked to facilitate ease of use. Information in "lists" should contain enough information to be easily understood by someone who has knowledge of light water reactor technology).

1. Risk ranking of top 150 components from your site specific probabilistic safety analysis (PSA) sorted by Risk Achievement Worth (RAW). Include values for Birnbaum Importance, Risk Reduction Worth (RRW), and Fussell-Veseley (FV) (as applicable).

2. Provide a list of the top 200 cut-sets from your PSA.

3. Risk ranking of operator actions from your site specific PSA sorted by RAW. Provide copies of your human reliability worksheets for these items.

4. List of time critical operator actions. Identify those actions that do not have job performance measures (JPMs).

5. If you have an External Events or Fire PSA Model, provide the information requested in Items 1 and 2 for external events and fire. Provide narrative description of each coded event (including fire, flood zone description).

INFORMATION REQUEST FOR

COMPONENT DESIGN BASES INSPECTION (CDBI)

6. Any pre-existing evaluation or list of components and associated calculations with low design margins, (i.e., pumps closest to the design limit for flow or pressure, diesel generator close to design required output, heat exchangers close to rated design heat removal etc.).

7. List of available design (setup) margins in both the open and closed direction (identify safety-related direction) for valves in the motor-operated valve (MOV) and air-operated valve (AOV) programs. Identify the basis for how the margin was determined.

8. List of high risk Maintenance Rule systems/components based on engineering or expert panel judgment (i.e., those systems/components not identified in the PRA).

9. Structures, systems, and components (SSCs) in the Maintenance Rule (a)(1) category for the last three years.

10. Site top ten issues list (if applicable).

11. A list of operating experience evaluations for the last three years.

12. Information of any common cause failure of components experienced in the last five years at your facility.

13. List of Root Cause Evaluations associated with component failures or design issues initiated/completed in the last five years.

14. List of open operability evaluations.

15. Current management and engineering organizational chart.

16. Electronic copies of Updated Final Safety Analysis Report, Technical Specifications, Technical Specifications Bases, and Technical Requirements Manual.

17. Major one line electrical drawings (AC and DC) and key diagrams (paper copies).

18. Electronic copy of P&IDs (if available).

INFORMATION REQUEST FOR

COMPONENT DESIGN BASES INSPECTION (CDBI)

II. Information requested (for the approximately 30 selected components) to be available by February 11, 2009, (will be reviewed by the team in the Regional office during the week of February 16 through February 20, 2009).

This information should be separated for each selected component, especially if provided electronically (e.g., folder with component name that includes calculations, condition reports, maintenance history, etc.).

1. List of condition reports (corrective action documents) associated with each of the selected components for the last four years.

2. The corrective maintenance history associated with each of the selected components for the last four years.

3. Copies of calculations associated with each of the selected components (if not previously provided), excluding data files. Please review the calculations and also provide copies of important referenced material, (such as drawings, engineering requests, and vendor letters).

4. System Health Reports, System Descriptions, Design Basis Documents, and/or Training Lesson Plans that are associated with each of the selected components.

5. A list of modifications, including equivalency evaluations and setpoint changes, associated with each of the selected components. This list should include a descriptive paragraph on the purpose of the modification. Please ensure this list only includes design completed (not canceled) modifications.

6. Copies of operability evaluations (open/closed for last three years) associated with each of the selected components and plans for restoring operability, if applicable.

7. Copies of selected operator work-around evaluations associated with each of the selected components and plans for resolution, if applicable.

8. Copies of any open temporary modifications associated with each of the selected components, if applicable.

9. Trend data on the selected electrical/mechanical components' performance for the last three years, (e.g., the pumps' performance including in-service testing, other vibration monitoring, oil sample results, etc., as applicable).

10. A copy of any internal/external self-assessments and associated corrective action documents generated in preparation for the inspection.

11. A copy of engineering/operations related audits completed in the last two years.

12. Provide list of PRA assumptions regarding operator actions and the associated procedures.

13. Provide copies of any simulator scenarios, lesson plans, or job performance measures for the selected operator actions.

14. Provide copies of the results of any time-dependent simulator scenarios or job performance measures for operator crews/individuals for the selected operator actions.

15. Provide copies of the emergency operating procedures, normal and abnormal operating procedures and any alarm response procedures for the selected operator actions. Also provide copies of the conduct for operations and operability determination procedures.

III. Additional Information to be provided on February 23 through February 27, 2009 on-site (for final 15 - 20 selected components)

During the in-office preparation activities, the team will be making final selections and may identify additional information needed to support the inspection. The lead inspector will provide a list of the additional information needed during the preparation week.

IV. Information Requested to be provided throughout the inspection

1. Copies of any corrective action documents generated as a result of the team's questions or queries during this inspection.

2. Copies of the list of questions submitted by the team members and the status/resolution of the information requested (provide daily during the inspection to each team member).

3. One complete set of P&IDs (paper copies).

4. Reference materials. (make available if needed during all on-site weeks):

   - IPE/PRA report;
   - Procurement documents for components selected (verify retrievable);
   - Plant procedures (normal, abnormal, emergency, surveillance, etc.); and
   - Vendor manuals.

If you have questions regarding the information requested, please contact the lead inspector.