

Joseph E. Pacher  
Site Vice President

Office: 585-771-5200  
Fax: 585-771-3943  
Email: Joseph.Pacher@cengllc.com

# CENG<sup>SM</sup>

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January 30, 2014

U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**ATTENTION:** Document Control Desk

**SUBJECT:** R.E. Ginna Nuclear Power Plant  
Renewed Facility Operating License No. DPR-18  
Docket No. 50-244

Response to Request for Additional Information Regarding Response to NRC  
Bulletin 2012-01, "Design Vulnerability in Electric Power System"

- REFERENCES:**
- (a) NRC Bulletin 2012-01, "Design Vulnerability in Electric Power System," dated July 27, 2012 (ML12074A115)
  - (b) Letter from J.E. Pacher to NRC Document Control Desk, "Response to NRC Bulletin 2012-01," dated October 25, 2012 (ML12306A233)
  - (c) Letter from M.G. Evans (NRC) to Addressees, "Request for Additional Information Regarding Response to Bulletin 2012-01, 'Design Vulnerability in Electric Power Systems,'" dated December 20, 2013 (ML13351A314)

By Reference (a), the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2012-01, "Design Vulnerability in Electric Power System" to all holders of operating licenses and combined licenses for nuclear power reactors. By Reference (b), the R.E. Ginna Nuclear Power Plant, LLC (Ginna) responded to the requested actions by the NRC. Following that response and subsequent activities undertaken by the NRC and the Nuclear Energy Institute (NEI), the NRC requested the additional information described in Reference (c) to verify that licensees have completed interim corrective actions and compensatory measures and to determine the status of each licensee's long-term corrective actions. The Ginna response to Reference (c) is provided in Attachment 1. There are no regulatory commitments identified in this letter.

Should you have any other questions regarding this submittal, please contact Thomas Harding at 585-771-5219.

R.E. Ginna Nuclear Power Plant, LLC  
1503 Lake Road, Ontario, New York 14519-9364

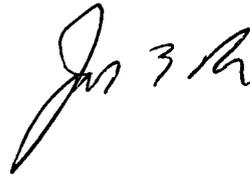
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I declare under penalty of perjury that the foregoing is true and correct. Executed on this 30 day of January 2014.

Sincerely,

A handwritten signature in black ink, appearing to read "J. S. R.", written in a cursive style.

JEP/JPO

Attachment: Response to RAI, dated 12/20/13, on NRC Bulletin 2012-01

cc: NRC Regional Administrator, Region I  
NRC Project Manager, Ginna  
NRC Senior Resident Inspector

**ATTACHMENT**

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**RESPONSE TO RAI, DATED 12/20/13, ON NRC BULLETIN 2012-01**

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# ATTACHMENT

## **Response to RAI, dated 12/20/13, on NRC Bulletin 2012-01**

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This attachment provides the response to the following Request for Additional Information (Reference 1):

*"In order for the NRC staff to complete its review of responses to the bulletin, the following additional information is requested:*

- 1. Provide a summary of all interim corrective actions that have been taken since the January 30, 2012, event at Byron Station, Unit 2, to ensure that plant operators can promptly diagnose and respond to open phase conditions on the offsite power circuits for Class-1E vital buses until permanent corrective actions are completed.*
- 2. Provide a status and schedule for completion of plant design changes and modifications to resolve issues with an open phase of electric power."*

### **Response 1 - Summary of All Interim Corrective Actions**

Lessons learned from the events at Byron station were reviewed and various interim corrective actions evaluated for safety and efficiency at the R.E. Ginna Nuclear Power Plant, LLC (Ginna). Based on the plant's offsite power configuration, electrical design details, and on lessons learned, the following actions were taken to ensure plant operators can promptly diagnose and respond to open phase conditions (OPC):

- **Interim Corrective Actions**

- Alarm response procedures have been revised to require verification of voltages on all 3 phases. This action will ensure that operators diagnose the open phase condition immediately.
- Night orders were issued briefing Operators on the procedure changes and the basis. A Read & Acknowledge was also issued to ensure all operators understand the design vulnerability.
- Main Control Board (MCB) voltmeters will be maintained in the V<sub>ca</sub> position to ensure operators have a visual indication that offsite power is degraded.
- Electrician routine checks of the onsite Transformer Yard and 115kV Switchyard have been modified to include an inspection of the overhead sections of Ginna's offsite power system.

### **Response 2 - Status and Schedule for Completion of Plant Design Changes**

- **Status**

- All holders of operating licenses and combined licenses for nuclear power reactors are investigating options being researched by several vendors (PSC2000, Electric Power Research Institute (EPRI), Schweitzer, etc.) to

## ATTACHMENT

### **Response to RAI, dated 12/20/13, on NRC Bulletin 2012-01**

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detect OPC faults. There is currently no generic, off-the-shelf technology that has been proven to detect all the required open phase fault conditions for all plant and transformer designs.

- All holders of operating licenses and combined licenses for nuclear power reactors are fully engaged in the development of the Nuclear Energy Institute (NEI) OPC Guidance Document, as well as development of enhancements to software tools being used to analyze OPC faults.
- With the goal of ensuring accurate detection without compromising nuclear safety or increasing plant risk, this new OPC technology is being thoroughly evaluated, will be tested, and will be fully analyzed before installation.
- Ginna has developed a preliminary Electro Magnetic Transient Program (EMTP) model of the station, the results of which are summarized in Ginna's original response to Bulletin 2012-01 (Reference 2). This study, which will be used to develop the plant design change, will be refined using the NEI Open Phase Condition Guidance Document, which was issued in December 2013.

- **Schedule**

- Ginna has committed to the generic schedule provided in the Industry OPC Initiative.
- Ginna intends to meet the milestones of this schedule; however, deviations may be required to accommodate outage schedules, software and hardware availability, manufacturer's delivery capabilities, licensing delays, etc.
- Any deviation from the Industry OPC Initiative schedule will be documented through the deviation/exemption process addressed in the NEI OPC Guidance Document.

#### **Reference**

1. Letter from the NRC to Addressees, "Request for Additional Information Regarding Response to Bulletin 2012-01, 'Design Vulnerability in Electric Power System,'" dated December 20, 2013 (ML13351A314)
2. Letter from J.E. Pacher to NRC Document Control Desk, "Response to NRC Bulletin 2012-01," dated October 25, 2012 (ML12306A233)