



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

December 20, 2013

Mr. Christopher Costanzo  
Site Vice President  
Nine Mile Point Nuclear Station  
Constellation Energy Nuclear Group, LLC  
P.O. Box 63  
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION UNIT 1 - NRC SUPPLEMENTAL  
INSPECTION REPORT 05000220/2013009 AND ASSESSMENT FOLLOW-UP  
LETTER

Dear Mr. Costanzo:

On November 22, 2013, the U. S. Nuclear Regulatory Commission (NRC) completed a supplemental inspection pursuant to Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," at your Nine Mile Point Nuclear Station Unit 1. The enclosed inspection report documents the inspection results, which were discussed on November 22, 2013, with you and members of your staff.

As required by the NRC Reactor Oversight Process Matrix, this supplemental inspection was performed because a performance indicator for unplanned scrams per 7000 critical hours crossed a threshold from Green to White on November 3, 2012, when Nine Mile Point (NMP) Unit 1 experienced its fourth reactor scram in the previous two quarters of operation. This issue was communicated in the fourth quarter 2012 performance indicator results. The NRC staff was informed on July 1, 2013, of your staff's readiness for this inspection.

The objectives of this supplemental inspection were to provide assurance that: (1) the root causes and the contributing causes for the risk-significant issues were understood; (2) the extent of condition and extent of cause of the issues were identified; and (3) corrective actions were or will be sufficient to address and preclude repetition of the root and contributing causes. The inspection consisted of examination of activities conducted under your license as they related to safety, compliance with the Commission's rules and regulations, and the conditions of your operating license.

Based on the results of this inspection, the NRC concluded that, overall, the supplemental inspection objectives were met and no significant weaknesses were identified. Additionally, no findings of significance were identified.

Based on the guidance in Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," and the results of this inspection, the White performance indicator transitioned back to Green and is no longer considered an active input to the NRC Action Matrix retroactive to the beginning of the 3rd quarter 2013. This letter transitions NMP Unit 1 from the Regulatory Response Column of the NRC's Action Matrix to the Licensee Response Column.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any), will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Daniel L. Schroeder, Chief  
Reactor Projects Branch 1  
Division of Reactor Projects

Docket No: 50-220  
License No: DPR-63

Enclosure: Inspection Report 05000220/2013009  
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket No: 50-220

License No: DPR-63

Report No: 05000220/2013009

Licensee: Constellation Energy Nuclear Group, LLC (CENG)

Facility: Nine Mile Point Nuclear Station, Unit 1

Location: Oswego, NY

Dates: November 18, 2013 through November 22, 2013

Inspectors: D. Spindler, Beaver Valley Senior Resident, Lead Inspector  
E. Miller, Nine Mile Point Resident Inspector

Approved by: Daniel L. Schroeder, Chief  
Reactor Projects Branch 1  
Division of Reactor Projects

## SUMMARY

IR 05000220/2013009; 11/18/2013 – 11/22/2013; Nine Mile Point Nuclear Station, Unit 1; Supplemental Inspection – Inspection Procedure (IP) 95001

A senior resident inspector and resident inspector from the Division of Reactor Projects, Region I, performed this inspection. No significant weaknesses or findings were identified in this report. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### **Cornerstone: Initiating Events**

The NRC performed this supplemental inspection to assess CENG's evaluation associated with the Initiating Events performance indicator (PI) for Unplanned Scrams per 7000 Critical Hours. This PI crossed the Green/White threshold (value > 3.0) on November 3, 2012, when Nine Mile Point (NMP) Unit 1 experienced its fourth reactor scram in the previous eight months of operation.

Based on the results of the inspection, the inspectors concluded that CENG had adequately performed a root cause analysis (RCA) of each event and completed and/or planned corrective actions were reasonable to address the related issues. Based on the guidance in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," and the results of this inspection, the White PI transitioned to Green as reported in the 3<sup>rd</sup> quarter 2013 PI and is no longer considered an active input into the NRC's Action matrix retroactive to July 1, 2013. Effective the date of this inspection report, NMP Unit 1 transitions from the Regulatory Response Column of the NRC's Action Matrix to the Licensee Response Column based upon satisfactory completion of the supplemental inspection. (Section 4OA4)

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA4 Supplemental Inspection (IP 95001)

##### .1 Inspection Scope

The NRC conducted this supplemental inspection in accordance with IP 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," to assess CENG's evaluations associated with a White Initiating Events cornerstone PI reported in the fourth quarter of 2012. The Unplanned Scrams per 7000 Critical Hours PI was based on the number of unplanned scrams that are experienced by a unit within the previous 7000 critical hours of reactor operation as measured on a 12-month periodicity. During a time-frame spanning approximately four months, from July to November 2012, NMP Unit 1 experienced four reactor scrams. This resulted in plant performance crossing the Green/White PI threshold value of greater than three unplanned scrams per 7000 critical hours. The objectives of this supplemental inspection were to:

- Provide assurance that the root and contributing causes of risk-significant issues were understood;
- Provide assurance that the extent of condition and extent of cause of risk-significant issues were identified; and
- Provide assurance that corrective actions for risk-significant issues were sufficient to address the root and contributing causes and to preclude repetition.

The following reactor scrams contributed to the White PI:

- July 17, 2012, the reactor automatically scrammed on high neutron flux due to a pressure transient related failure of the main turbine control pressure regulation system's electronic pressure regulator. (Condition Report 2012-006792)
- September 20, 2012, the reactor automatically scrammed when the main turbine tripped due to generator under excitation caused by a failure of the voltage regulation system. (Condition Report 2012-008673)
- October 29, 2012, the reactor automatically scrammed due to a loss of generator load when a lightning arrestor pole fell in the Scriba switchyard causing an electrical fault which tripped the main generator off-line and resulted in a reactor scram. (Condition Report 2012-009820)
- November 3, 2012, the reactor automatically scrammed from 21 percent power on low reactor water level because the feedwater level control system failed, resulting in a loss of level control. (Condition Report 2012-010039)

The inspectors reviewed CENG's collective RCA for the four scrams (Condition Report 2012-010049), the RCAs conducted for each reactor scram (Condition Reports listed above), in addition to other evaluations conducted that supported the station's actions to address the performance issues involved. The inspectors reviewed corrective actions that were taken and/or planned to address the identified causes. The inspectors also held

discussions with CENG personnel to ensure that the root and contributing causes and the contribution of safety culture components were understood and corrective actions taken or planned were appropriate to address the causes and preclude repetition.

## .2 Evaluation of the Inspection Requirements

### 2.01 Problem Identification

- a. As directed by IP 95001, determine that the evaluation documented who identified the issue (i.e., licensee-identified, self-revealing, or NRC-identified) and under what conditions the issue was identified.

Between July 17 and November 3, 2012, the NMP Unit 1 reactor scrambled four times. This resulted in NMP Unit 1 crossing the Green/White PI threshold value of greater than three unplanned scrams per 7000 critical hours during the fourth quarter of 2012. This was properly reported by CENG to the NRC via the fourth quarter 2012 NRC PIs, which showed the Unplanned Scrams per 7000 Critical Hours PI (IE01) as White. Since the PI was characterized and reported properly via the licensee's PI reporting process, the White PI would be considered licensee-identified.

Overall, the inspectors determined that CENG's evaluation of the issue adequately documents the identification of the issue and the conditions under which the issue was identified. A timely RCA was conducted for each individual reactor scram event and collective RCA for the four scrams to identify common causes among the four events.

- b. As directed by IP 95001, determine that the evaluation documented how long the issue existed and prior opportunities for identification.

The NMP Unit 1 PI for Unplanned Scrams per 7000 Critical Hours crossed the Green/White threshold value of greater than three unplanned scrams following the November 3, 2012 scram, and was properly reported to the NRC via the fourth quarter 2012 PI submittal. The PI returned to the Green band in the third quarter of 2013 after the third quarter 2012 scrams (July 3 and September 20, 2012) were no longer counted towards the PI calculation. This was properly reported in the third quarter 2013 PI submittal.

Overall, the inspectors determined that CENG's evaluation of the issue adequately documented how long the issue existed and prior opportunities for identification.

- c. As directed by IP 95001, determine that the licensee's evaluation documents the plant specific risk consequences, as applicable, and compliance concerns associated with the issue(s).

In their common root cause report (Condition Report 2012-010049), the inspectors noted that CENG assessed the risk consequences from four scrams over one year and concluded that the increase in core damage frequency to be approximately  $2.4E-9$ . Each of the scrams was uncomplicated and plant systems responded as designed. Since Performance Indicator Program is a voluntarily industry initiative to provide a quantitative measure of a plant's performance to be considered in the Reactor Oversight Process vice a regulatory requirement, there are no compliance concerns for the White PI. For the individual scrams, performance deficiencies were identified and finding of very low safety

significance were documented for the July 12, 2012 reactor scram in NRC Inspection Report (IR) 050002220/2012004, the September 20, 2012 reactor scram in IR 05000220/2013002, and the October 29, 2012 reactor scram in IR 05000220/2012005. As documented in the respective IRs, corrective actions were planned or completed to restore compliance. The team reviewed these corrective actions as discussed in in Section 2.03, and did not identify any concerns.

Overall, the inspectors determined that CENG's evaluation of the issue adequately documented the plant specific risk consequences, as applicable, and compliance concerns associated with the issue.

d. Findings

No findings were identified.

2.02 Root Cause, Extent of Condition, and Extent of Cause Evaluation

- a. As directed by IP 95001, determine that the licensee evaluated the issue using a systematic methodology to identify the root and contributing causes.

The inspectors verified that CENG staff implemented CNG-CA-1.01-1004, "Root Cause Analysis," in the conduct of the station's cause analysis to identify the root and contributing causes. The station utilized a variety of causal analysis methods listed in CNG-CA-1.01-GL002, "Causal Analysis Handbook," to analyze the four scrams; which included a common cause analysis matrix, a Management Oversight and Risk Tree, a "WHY" Staircase, a Cause Road Map, Event and Causal Factor Chart, and Comparative Timeline to identify and analyze causal factors. The inspectors noted these techniques were supported by data gathering via interviews and document reviews. The inspectors also noted each of the root cause evaluations referenced the validation and verification of a failure modes and effects analysis (FMEA) to help identify deficient equipment. Although this is a valuable tool for evaluating and understanding potential equipment or hardware deficiencies, it is not listed as a causal analysis tool in CNG-CA-1.01-GL002 to help understand potential organizational or programmatic contributors that a causal analysis tool is intended to identify. The inspector's observed that the root cause procedure lacks specificity with regard to the root cause team's roles and responsibilities and the use of the FMEA. Section 5.2.A.1.a, Collection of Data, in the RCA procedure only specifies the FMEA as a source of information to gather. The RCA procedure does not direct the root cause team to take action, validate, or revise the FMEA. Root cause teams are susceptible to being out of process and potentially continuing work on the FMEA. This can be a human error trap and result in the team focusing too narrowly on a specific technical aspect and risk an inaccurate or incomplete determination of root and contributing causes for an event. CENG generated CR-2013-009775 to address this concern.

The root causes for the five root cause evaluations performed by CENG reviewed for this supplemental inspection are summarized below.

Electronic Pressure Regulator Failure (Condition Report 2012-006792)

The root cause was that the Operational Decision Making Issue plan for monitoring components in the main turbine control pressure regulation system was deficient in that

roles and responsibilities were unclear. This resulted in less than adequate communication between the responsible parties, oversight of the plan's implementation, and assessment of the monitoring plan's data.

Automatic Voltage Regulator Failure (Condition Report 2012-010039)

The root cause was a failure to perform a cross disciplinary engineering review of a procedure change of N1-OP-32, "Generator," which changed the amplidyne setting of the automatic voltage regulator (AVR) from null to 10-20 volts boost (under excited). This condition resulted in voltage oscillations that operators were not able to mitigate in manual when the AVR failed.

Lightning Arrestor Collapse (Condition Report 2012-009820)

The root cause was determined to be less than adequate oversight by CENG personnel of transformer XF-TB01 testing with respect to unclear specificity of requirements for vendor performed testing and inadequate methods of verification for ensuring vendor compliance with engineering specifications.

Feedwater Level Control Failure (Condition Report 2012-010039)

Two root causes were identified.

- Inappropriate preventative maintenance (PM) strategies for 11 flow control valve (FCV) led to a degraded material condition of the 11 FCV.
- The PM program failed to include testing for transistor degradation as a new end-of-life failure mechanism for single point vulnerable (SPV) electronic components resulting in the PAM-ID23G transistor failing in the feedwater level control circuit.

Common Root Cause Evaluation (Condition Report 2012-010049)

Some single point vulnerable (SPV) component life cycle management strategies developed for electronic/electrical equipment have not been updated to address increased risks as the equipment ages and modification priorities have changed.

Overall, the inspectors determined that CENG had evaluated the issues using a systematic methodology consistent with station procedures to identify root and contributing causes.

- b. As directed by IP 95001, determine that the licensee's root cause evaluation was conducted to a level of detail commensurate with the significance of the issue.

Consistent with CNG-CA-1.01-1004, "Root Cause Analysis," and other applicable standards including CNG-CA-1.01-1000, "Corrective Action Program," CENG completed individual root cause evaluations for each of the four reactor scrams. Additionally, CENG performed a common root cause evaluation that considered the common causes of the four reactor scrams that occurred from July 2012 to November 2012. CENG also conducted a programmatic and organizational review to identify latent organization weaknesses as well as potential programmatic and organizational contributors which identified weaknesses in the SPV program as the common root cause for the four scrams.

CENG issued corrective actions to address organizational aspects of the issue, most notably a revision to life-cycle management strategies for both Unit 1 and Unit 2 SPVs. The strategies include the incorporation of risk of deferral information for long term equipment issues and providing a structured approach for reviewing all SPVs through a Life-Cycle Management Review/Development Plan.

The inspectors concluded that CENG's root cause team appropriately implemented their procedures and processes to determine appropriate causal factors. Overall, the inspectors determined that CENG's root cause evaluations were conducted to a level of detail commensurate with the significance of the issue.

- c. As directed by IP 95001, determine that the licensee's root cause evaluation included a consideration of prior occurrences of the issue and knowledge of operating experience (OE).

As required by CENG procedures, the CENG's RCA team reviewed OE from multiple sources including the Institute of Nuclear Power Operations, CENG fleet corrective action program, and site corrective action process as well as relevant NRC generic information and communication items. CENG's root cause team identified several internal and external OE items that were relevant to the station's experience. CENG used that information to inform the root cause process and corrective actions.

The inspectors reviewed the internal and external OE items that CENG identified as prior occurrences and missed opportunities. The inspectors determined that CENG's root cause team appropriately considered relevant OE to inform their investigation and causal determination process. Additionally, the inspectors determined that CENG used applicable experience to inform corrective actions, including extent of condition and cause actions.

Overall, the inspectors determined that CENG's RCA included a consideration of prior occurrences of the issue and knowledge of OE.

- d. As directed by IP 95001, determine that the licensee's root cause evaluation addresses the extent of condition and extent of cause of the issue.

CENG completed individual RCA for each of the four reactor scrams. Additionally, CENG performed a common root cause evaluation that considered the collective impact of the four reactor scrams that occurred from July 2012 to November 2012.

The team concluded that adequate extent of cause and extent of condition were conducted for each individual reactor scram event as part of their RCAs. Additionally, CENG also conducted a programmatic and organizational review to identify latent organization weaknesses as well as potential programmatic and organizational contributors which identified weaknesses in the SPV program as the common root cause for the four scrams. CENG issued corrective actions to address organizational aspects of the issue, most notably a revision to life-cycle management strategies for both NMP Unit 1 and NMP Unit 2 SPVs. The strategies include the incorporation of risk of deferral information for long term equipment issues and providing a structured approach for reviewing all SPVs through a Life-Cycle Management Review/Development Plan. The inspectors felt this demonstrated an appropriate extent of cause and extent of condition review for the White PI.

Overall, the inspectors determined that CENG's root cause evaluations addressed the extent of condition and extent of cause of the issue.

- e. As directed by IP 95001, determine that the licensee's root cause, extent of condition, and extent of cause evaluations appropriately considered the safety culture components as described in IMC 0305.

CENG conducted a safety culture component assessment in accordance with CNG-CA-1.01-1004, "Root Cause Analysis," CENG evaluated the 13 safety culture components as described in IMC 0310, "Components Within the Cross-Cutting Areas." CENG's root cause team did not conclude any cross-cutting component was a stand-alone contributing causal factor. However, the root cause team, in its evaluation, appropriately identified station performance gaps with respect to aspects of human performance, decision-making, and corrective action program prior opportunities for identification during its review. CENG developed corrective actions commensurate to the identified performance gaps to prevent recurrence.

Overall, the inspectors determined that CENG's root cause report included a proper consideration of whether the root cause, extent of condition, and extent of cause evaluations appropriately considered the safety culture components.

- f. Findings

No findings were identified.

### 2.03 Corrective Actions

- a. As directed by IP 95001, determine that (1) the licensee specified appropriate corrective actions for each root and/or contributing cause, or (2) an evaluation that states no actions are necessary is adequate.

The root cause and common root cause reports identified appropriate corrective actions to address the root, contributing, and common causes for the individual reactor scrams and collective performance issues. The inspectors determined that most corrective actions for the reactor scrams and common cause evaluation were reasonable, with specific actions to address the personnel, procedural, and equipment issues associated with the White PI and its associated individual reactor scram inputs. See Section 2.03.c for additional details.

- b. As directed by IP 95001, determine that the licensee prioritized corrective actions with consideration of risk significance and regulatory compliance.

The inspectors noted that immediate corrective actions for each of the reactor scrams were performed in a timely manner to support plant restart. Longer term actions were scheduled in an appropriate time frame to support major improvements to strengthen the life cycle management strategies for SPV components. Many of these outstanding corrective actions planned will be implemented during the upcoming plant refueling outages.

Overall, based on CENG's causal evaluation corrective actions the inspectors determined that the corrective actions were prioritized commensurate with their significance.

- c. As directed by IP 95001, determine that the licensee established a schedule for implementing and completing the corrective actions.

At the time of the supplemental inspection, a significant portion of CENG's corrective actions had been implemented with the remainder appropriately scheduled in the corrective action system. Corrective actions to prevent recurrence, as well as a significant number of lower-tier corrective and preventive actions, identified in the root cause reports had been completed or were in-progress by the time of this inspection. The status of corrective actions for each of the root cause evaluations and the common cause evaluation is summarized below.

Electronic Pressure Regulator Failure (Condition Report 2012-006792) - A total of 10 corrective actions were developed. There were two corrective actions to prevent recurrence (CAPR). The first was to revise CNG-OP-1.01-1001, "Operational Decision Making," to delineate how changes in conditions are communicated to decision makers. The second was to revise CNG-OP-1.01.1009, "Monitoring and Contingency Planning for Abnormal Conditions," to require detailed action statements and to notify the issue manager and operations manager of any parameter outside the alert criteria. All corrective actions have been completed.

AVR Failure (Condition Report 2012-010039) - A total of 31 corrective actions were developed. There were three CAPRs associated with this event. The first was to revise N1-OP-32, "Generator," was revised to ensure that the voltage regulating system is set appropriately. The second was to implement new/revised life-cycle management strategies for the SPV components of the NMP1 turbine system. The third was to reinforce expectations on the required engineering reviews for future procedure change recommendations. All of these actions have been completed

Lightning Arrestor Collapse (Condition Report 2012-009820) - A total of 14 corrective actions were developed. There is one CAPR associated with this event. This corrective action required revising engineering specification NEP-DES-09 to require the listing of critical attributes for equipment and components and to define testing criteria and verification methods to be performed when factory acceptance testing or modification functional testing when conventional methods cannot be performed to verify functionality. This action has been completed.

Feedwater Level Control Failure (Condition Report 2012-010039) - A total of 25 corrective actions were developed. Two CAPRs were determined from this event. The first CAPR is to review the time directed PM strategies for SPV components that deviate from the PM templates and verify the selected alternative PMs are adequate to prevent component failure, are well documented, meet the intent of the PM template and have been appropriately reviewed and improved. The completion date for this corrective action is June 30, 2014. The second CAPR is to update the Procurement Requirements Evaluation Form for refurbishment of safety-related and augmented quality electronic modules to include a check for transistor degradation, including a ramp test for transistor response, and replacement of degraded transistors, as necessary. This corrective action is to be completed by July 10, 2014.

Common Root Cause Evaluation (Condition Report 2012-010049) - 13 corrective actions were developed. There was one CAPR and it is to review and develop and gain Plant Health Committee approval of the new and revised life-cycle management strategies for both NMP Unit 1 and NMP Unit 2 SPV components. The scheduled completion date is March 15, 2014.

- d. As directed by IP 95001, determine that the licensee developed quantitative and/or qualitative measures of success for determining the effectiveness of the corrective actions to prevent recurrence.

CENG completed effectiveness reviews for two of the individual reactor scram causal evaluations and corrective actions. The remainder will be completed at an appropriate time after the associated corrective actions are complete. The inspectors determined that CENG's planned effectiveness reviews and review criteria contained sufficient methods for determining the effectiveness of the corrective actions associated with the individual reactor scrams and collective review for the White PI.

- e. Findings

No findings of significance were identified.

#### 2.04 Evaluation of IMC 0305 Criteria for Treatment of Old Design Issues

The inspectors determined this issue did not meet the IMC 0305 criteria for treatment as an old design issue.

#### 4OA6 Exit Meeting

On November 22, 2013, the inspectors presented the inspection results to Mr. Christopher Costanzo, Site Vice President, and other members of his staff. The inspectors asked CENG if any of the material examined during the inspection should be considered proprietary. CENG did not identify any proprietary information.

#### Regulatory Performance Meeting

Following the November 22, 2013, exit meeting, the NRC discussed with CENG its performance at NMP Unit 1 in accordance with IMC 0305, Section 10.01.a. The meeting was attended by the Region I Division of Reactor Projects, Projects Branch 1, Branch Chief, and other NRC staff and the NMP Site Vice President and other CENG staff. During this meeting, the NRC and CENG discussed the issues related to the White PI for Unplanned Scrams that resulted in NMP Unit 1 being placed in the Regulatory Response Column of the Action Matrix. This discussion included the causes, corrective actions, extent of condition and extent of cause for the issues identified as a result of the White PI.

### **ATTACHMENT: SUPPLEMENTARY INFORMATION**

## SUPPLEMENTARY INFORMATION

### KEY POINTS OF CONTACT

#### Licensee Personnel

C. Costanzo, Site Vice President  
J. Stanley, Plant General Manager  
T. Shippee, Principal Engineer  
J. Orr, Senior Engineer  
K. Hiep Huynh, Senior Engineer  
D. Pokon, Engineer  
B. Scaglione, Supervisor - Engineering  
L. Ottman, Programs Administrator  
K. Johnson, Senior Engineer  
A. Deane, System Engineer  
F. Gerardine, System Engineer  
D. Perilli, Design Engineering  
K. Kristensen, Licensing  
G. Inch, Principal Engineer  
B. Scaglione, Supervisor Engineering  
D. Wolniak, Performance Improvement  
M. Busch, General Supervisor, Unit 1 Operations  
J. Bouck, Operations Manager  
T. Syrell, Manager Nuclear Safety and Security  
E. Perkins, Supervisor Licensing  
B. Knowlton, System Engineer

### LIST OF DOCUMENTS REVIEWED

#### Condition Reports

CR-2012-009820  
CR-2012-010039  
CR-2012-006792  
CR-2012-010049  
CR-2012-008673  
CR-2012-010141  
CR-2012-010211  
\*CR-2013-009774  
\*CR-2013-009775  
\*CR-2013-009776

*\*Issued as a result of NRC inspection.*

#### Procedures

CNG-CA-1.01-1004 Root Cause Analysis, Revision 00804  
CNG-CA-1.01-1000, Corrective Action Program, Revision 00902  
CNG-CA-1.01-1005, Apparent Cause Evaluation, Revision 00603  
CNG-CA-1.01-GL002, Causal Analysis Handbook, Revision 00600  
CNG-AM-1.01-1002, Technical Review Board, Revision 00700

CNG-OP-1.01-1009, Monitoring and Contingency Planning for Abnormal Conditions, Revision 00000  
 CNG-AM-1.01-2000, Scoping and Identification of Critical Components, Revision 00202  
 CNG-PF-1.01-1000, Project Review Committee and Financial Approval Process, Revision 00500  
 N1-ARP-F2, Control Room Panel F2, Revision 00902  
 CNG-MN-1.01-1002, Troubleshooting, Revision 00100  
 N1-ARP-F1, Control Rom Panel F1, Revision 00602  
 S-ODP-OPS-0112, Off-site Power Operations and Interface, Revision 01600  
 CNG-OP-1.01-1001, Operational Decision Making, Revision 00400  
 N1-SOP-16.1, Feedwater System Failures, Revision 00701

Miscellaneous

Root Cause of Failure Analysis for TOSMAC 563052AAAC3GEA 5 Input Summer Serial Number 855630574, Revision 1, November 19, 2012

**LIST OF ACRONYMS USED**

ADAMS	Agencywide Document Access Management System
AVR	Automatic Voltage Regulator
CAPR	Corrective Action to Prevent Recurrence
CENG	Constellation Energy Nuclear Group, LLC
CFR	Code of Federal Regulations
FCV	Flow Control Valve
FMEA	Failure Modes and Effects Analysis
IMC	Inspection Manual Chapter
IR	Inspection Report
IP	Inspection Procedure
NMP	Nine Mile Point
NRC	U. S. Nuclear Regulatory Commission
OE	Operating Experience
PARS	Publicly Available Records System
PI	Performance Indicator
PM	Preventive Maintenance
RCA	Root Cause Analysis
SPV	Single Point Vulnerability