



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

December 28, 2009

EA-09-283

Mr. Barry Allen
Site Vice President
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2, Mail Stop A-DB-3080
Oak Harbor, OH 43449-9760

**SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION
NRC INSPECTION REPORT 05000346/2009503(DRS)
PRELIMINARY WHITE FINDING**

Dear Mr. Allen:

On November 23, 2009, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection conducted onsite August 4 through 6, 2009, of an event that occurred at your Davis-Besse Nuclear Power Station on June 25, 2009. The purpose of the inspection was to review the events, circumstances, and licensee actions associated with an explosion in the switchyard and subsequent Alert declaration. The enclosed report documents the inspection findings which were discussed on November 23, 2009, with you and other members of your staff.

The inspection examined 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. The inspectors reviewed selected procedures, records, audio tapes, and interviewed personnel.

The enclosed report presents the results of the inspection including a finding that preliminarily has been determined to be White, a finding with low to moderate increased safety significance that may require additional NRC inspections. As described in Section 4OA3 of this report, the finding involves the failure to implement the emergency classification and action level scheme during an actual event for an explosion in the switchyard. The operators failed to verify, assess, and classify the situation in conjunction with the Davis-Besse Emergency Plan "Table of Emergency Action Level Conditions." Specifically, immediately following an electrical fault and catastrophic failure of a voltage transformer in the switchyard resulting in an explosion, fires, and damage to several switchyard components which affected plant operations, the operators failed to recognize the hazard to the station's operations met the emergency action level conditions for declaring an Alert. After the finding was identified, your staff implemented corrective actions to ensure the finding did not present an immediate safety concern. The finding was assessed based on the best available information using the Emergency Preparedness Significance Determination Process (SDP).

The finding is also an apparent violation of NRC requirements and is being considered for escalated enforcement action in accordance with the Enforcement Policy, which can be found on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

In accordance with NRC Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," we intend to complete our evaluation using the best available information and issue our final determination of safety significance within 90 days of the date of this letter. The significance determination process encourages an open dialogue between the NRC staff and the licensee; however, the dialogue should not impact the timeliness of the staff's final determination.

Before we make a final decision on this matter, we are providing you with an opportunity: (1) to attend a Regulatory Conference where you can present to the NRC your perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance, or (2) submit your position on the finding to the NRC in writing. If you request a Regulatory Conference, it should be held within 30 days of the receipt of this letter and we encourage you to submit supporting documentation at least one week prior to the conference in an effort to make the conference more efficient and effective. If a Regulatory Conference is held, it will be open for public observation. If you decide to submit only a written response, such submittal should be sent to the NRC within 30 days of your receipt of this letter. If you decline to request a Regulatory Conference or submit a written response, you relinquish your right to appeal the final SDP determination, in that by not doing either, you fail to meet the appeal requirements stated in the Prerequisite and Limitation sections of Attachment 2 of IMC 0609.

Please contact Mr. Hironori Peterson at (630) 829-9707 within ten days from the issue date of this letter to notify the NRC of your intentions. If we have not heard from you within ten days, we will continue with our significance determination and enforcement decision. The final resolution of this matter will be conveyed in separate correspondence.

Because the NRC has not made a final determination in this matter, no Notice of Violation is being issued for this inspection finding at this time. In addition, please be advised that the characterization of the apparent violation described in the enclosed inspection report may change as a result of further NRC review.

Based on the results of this inspection, two additional findings of very low safety significance were also identified, one NRC identified and one licensee identified. The findings involved violations of NRC requirements; however, because of the very low safety significance and because the issues were entered into your corrective action program, the NRC is treating the issues as Non-Cited Violations (NCVs) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest the subject or severity of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a

copy to the Regional Administrator, U. S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Davis-Besse Nuclear Power Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Davis-Besse Nuclear Power Station. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305, "Operating Reactor Assessment Program."

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures and your response (if any) will be made 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/

Anne T. Boland, Director
Division of Reactor Safety

Docket No. 50-346
License No. NPF-3

Enclosures:

1. Inspection Report 05000346/2009-503
w/Attachment: Supplemental Information
2. Sequence of Events

cc w/encls: Distribution via ListServ

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-346

License No: NPF-3

Report No: 05000346/2009-503

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Davis-Besse Nuclear Power Station

Location: Oak Harbor, OH

Dates: August 4, 2009 through November 23, 2009

Inspector: Regina Russell, Emergency Preparedness Inspector

Approved by: Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

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SUMMARY OF FINDINGS

IR 05000346/2009-503(DRS); 08/04/2009 – 11/23/2009; Davis-Besse Nuclear Power Station; Event Follow-up Inspection

The report covers an event follow-up inspection by a regional emergency preparedness inspector. The inspection identified one preliminary White finding with an associated Apparent Violation (AV), one Green finding with an associated Non-Cited Violation (NCV), and one Severity Level IV finding with an associated NCV of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP), and the cross-cutting aspect was determined using IMC 0305, "Operating Reactor Assessment Program." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. 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: Emergency Preparedness

- Preliminary White. A licensee identified finding and associated Apparent Violation (AV) of 10 CFR 50.54(q) and 10 CFR 50.47(b)(4) was identified for the failure to implement the emergency classification and action level scheme during an actual event to declare an Alert after an explosion in the switchyard. The operators failed to verify, assess, and classify the situation in conjunction with the Davis-Besse Emergency Plan "Table of Emergency Action Level Conditions." Specifically, immediately following an electrical fault and catastrophic failure of a voltage transformer in the switchyard resulting in an explosion, fires, and damage to several switchyard components which affected plant operations, the operators failed to recognize the hazard to the station's operations met the emergency action level conditions for declaring an Alert. The station entered a Limiting Condition for Operation per Technical Specifications.

The finding was screened to be more than minor because the failure to declare an Alert adversely affected the Reactor Safety - Emergency Preparedness Cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public during a radiological emergency. The performance deficiency has the attribute of Emergency Response Organization Performance associated with Actual Event Response. The performance deficiency involving the failure to properly utilize the emergency classification and action level scheme during an actual Alert meets the criteria of the Emergency Preparedness SDP for a failure to implement a risk significant planning standard of event classification. The failure to classify was a result of the licensee's errors in recognition, was not due to competing safety-related activities, and denied offsite authorities the opportunity to make decisions regarding protecting public health and safety. The finding was screened to be a failure to implement the risk significant planning standard associated with classification at the Alert level and was screened to be preliminarily White. Additionally, the cause of the deficiency had a cross-cutting component in the area of Human Performance. Specifically, the licensee failed to make safety-significant decisions using a systematic process and failed to obtain adequate reviews on the decisions (H.1(a)). (Section 40A3)

- Green. The inspector identified a finding and an associated NCV of 10 CFR 50.54(q) and 10 CFR 50.47 (b)(5) for the licensee's failure to maintain adequate emergency procedures to comply with emergency planning requirements to ensure timely notifications to State and local governmental agencies. Although the licensee's emergency classification procedure implied that State and local notifications should be made promptly, the procedure did not prescribe the notification time frame in which a missed classification should be made; as a result, the required notifications were not completed for over four hours.

The finding was screened to be more than minor because the deficiency adversely affected the Reactor Safety - Emergency Preparedness Cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public during a radiologic emergency. The deficiency has the attribute of Procedure Quality associated with procedure use in an actual event. The Failure to Comply branch of the Emergency Preparedness SDP flowchart was used because the program element for offsite notification was not adequate as designed for all types of events, such as in the case of an after-the-fact or missed event declaration. Because the emergency conditions no longer existed at the time of the event classification and notification recognition, the compliance with emergency plan requirements for notification was evaluated as non-risk significant for the switchyard event. The performance deficiency was evaluated to be a planning standard degraded function and to be Green. State and local offsite governmental officials were not able to assess conditions at the time of the late event declaration and make informed decisions concerning the offsite response. Additionally, the finding had a cross cutting component in the Human Performance area of Resources. Specifically, the licensee's procedures for notification to offsite agencies were not complete (H.2(c)). (Section 4OA3)

Licensee-Identified Violation

A violation of very low safety significance that was identified by the licensee has been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking number is listed in Section 4OA7 of this report.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA3 Follow-Up of Events (71153)

.1 Explosion of the 'J' Bus Transformer

a. Inspection Scope

The inspector reviewed the circumstances including the sequence of events and licensee actions associated with the Alert declaration on June 25, 2009, following the switchyard explosion of the 'J' bus transformer. The inspector interviewed fourteen personnel and reviewed selected procedures, records, audio tapes, and written statements. The inspection was conducted onsite August 4 through 6, 2009, and continued with in-office reviews until November 23, 2009. The purpose of the inspection was to evaluate the licensee's event response actions for compliance with applicable regulatory and Davis-Besse Emergency Plan requirements. A detailed event timeline has been included in the Enclosure 2. Documents reviewed in this inspection are listed in the Attachment – Supplemental Information.

This event follow-up review constituted 1 sample as defined in IP 71153-05.

b. Event Description

On June 25, 2009, at 12:49 a.m., the control room operators received annunciator alarms in the control room indicating the de-energization of the 'J' bus in the switchyard. The loss of the 'J' bus was caused by an electrical fault and catastrophic failure of the Coupling Capacitor Voltage Transformer (CCVT) in the Coupling Capacitor Potential Device (CCPD) used for voltage monitoring on the 'B' phase of the bus. Two air circuit breakers opened and the 345 kV breaker tripped resulting in loss of the 'J' bus and unavailability of one of two start-up transformers used to tie in offsite power. The station entered Technical Specifications (TS) for a single point vulnerable configuration for offsite alternating current (AC) power and a Limiting Condition for Operation (LCO) with a 72-hour action statement.

At the onset of the event, reports of an explosion in the switchyard were immediately called into the Secondary Alarm Station (SAS) by various security officers. The roving officers and those at the posts reported the explosion, a white flash, a loud noise, flames, and building vibrations. The SAS operator then called the control room and reported fires throughout the switchyard, debris spread throughout the area, and a breaker on fire. Security called for offsite fire and emergency medical services per the control room's request. Ottawa County responded with police, fire, and emergency medical services.

The control room dispatched operations personnel to investigate the occurrence in the switchyard and provide an assessment of magnitude of the fire, the need for offsite assistance, and the extent of component damage. The control room also dispatched fire brigade personnel to the switchyard. The fire brigade extinguished the flames using hand held fire extinguishers and allowing other smaller fires to extinguish themselves. The licensee did not use the offsite fire assistance and released the offsite responders.

The control room alerted the assigned duty team of the events in the switchyard and the need for their response to the site. The outage control center was manned in order to provide support and assistance to the transmission and distribution company that responded for repair and restoration of the bus.

After receiving reports of the fire and considering the request which had been made for offsite fire assistance, the Shift Manager referred to the emergency plan and classification scheme and noted the criteria for an Unusual Event classification under the "Hazards to Station Operations" category of "Fire" would be met if the offsite fire company was used in extinguishing the fires. When the offsite assistance was not used, the Shift Manager again noted that no emergency criteria were met for the emergency plan. The Shift Technical Advisor performed a peer review and arrived at the same conclusions as the Shift Manager for no need of event classification. The conditions for an Alert were met under "Onsite explosion affecting plant operations" because: (1) the control room was informed by station personnel who made a visual sighting of the explosion; and (2) instrumentation readings in the control room indicating equipment problems which required entry into a 72-hour TS LCO.

When the oncoming Shift Manager reviewed the events with the assistance of the Emergency Preparedness Manager, the oncoming Shift Manager realized the entry criteria for a classification at the Alert level were met.

The Shift Manager notified the NRC Headquarters Operations Officer of a transitory Alert at 11:44 hours on June 25, 2009, pursuant to 10 CFR 50.72 (a)(1)(i) and based on Emergency Action Level 7.D.2, "Onsite explosion affecting plant operations." The Emergency Preparedness Manager along with plant management notified Ottawa County, Lucas County, and the State of Ohio by a phone conference call.

c. Findings

The inspector identified two findings.

- Emergency Classification

Introduction: A licensee-identified preliminarily White finding with low to moderate safety significance and associated Apparent Violation (AV) of 10 CFR 50.54(q) and 10 CFR 50.47(b)(4) was identified for the failure to implement the emergency classification and action level scheme during an actual event for an explosion in the switchyard. The operators failed to verify, assess, and classify the situation and recognize the event met the emergency action level conditions for declaring an Alert.

Description: On June 25, 2009, during an actual explosion event, the Shift Manager failed to verify indications of the off-normal event and reported sightings and failed to perform an extensive assessment as necessary to determine the applicable emergency classification level. The Shift Manager failed to recognize the fire and debris throughout the switchyard and areas outside the switchyard were a result of a transformer explosion; therefore, he failed to consider the emergency actions levels for "Explosion" under the "Hazards to Station Operations" category. The conditions for the Alert were met under "Onsite explosion affecting plant operations" because: (1) the control room was informed by station personnel who made a visual sighting of the explosion; and (2) instrumentation readings in the control room indicating equipment problems.

An electrical fault and catastrophic failure of the transformer for voltage monitoring on the 'B' phase of the 'J' bus resulted in an explosion and fires. The event resulted in two breakers opening, damage to several switchyard components, one of two switchyard buses used to tie in offsite power becoming de-energized, and the required entry into a 72-hour TS LCO.

The Shift Manager and Shift Technical Advisor considered the emergency classification related to the switchyard fires but failed to recognize the explosion. They determined the conditions requiring emergency classification for fire were not met because offsite fire assistance was not used. The Shift Manager failed to verify the indications, assess the overall impact to the facility, and evaluate other entry criteria in the "Hazards to Station Operations" category of the emergency classification scheme. The Shift Technical Advisor performed a peer review and arrived at the same conclusions as the Shift Manager that no event classification was warranted. Essentially, the Shift Technical Advisor performed a peer check on the use of the classification table focusing on a "Fire" hazard and did not perform an independent assessment. He did not re-evaluate the initiating conditions and information received from the field to make an emergency classification evaluation.

The control room crew had an opportunity to realize an explosion had occurred at 00:50 hours when the SAS operator informed the control room of the explosion and fires in the switchyard and subsequently requested offsite fire assistance. The determination was based on the site protection incident report, emergency phone call report which indicated the Shift Manager was notified, and interviews conducted by the inspector. Based on interviews with the inspector, the SAS operator said he told the control room an explosion had occurred, as well as, the Shift Security Supervisor reported he told the Shift Manager. The Shift Security Supervisor also reported to the Duty Team Director, who represented senior management for emergency response, an explosion had occurred (recorded phone call). The Duty Team Director had subsequent calls to the control room.

The operating crew had numerous opportunities to gain and assess information to properly classify the explosion. On the initial call and subsequent calls to the control room from Security, the reactor operator in the control room on the phone to Security reported he was not concerned with what had caused the wide spread fires but was focused on what to do to put out the fires and actions to ensure plant stability. When Operations personnel and the Fire Captain, a Senior Reactor Operator (SRO), were sent to the switchyard and reported back their assessment at 01:47 hours, the control room was provided enough information to conclude an explosion had occurred. Based on interviews with the inspector, the Fire Captain stated he knew a transformer had an electrical fault that catastrophically failed, caused damage to many components, and spread debris and fire in a large area, but in his mind, he did not consider this an explosion. He was unaware of the definition of explosion in the licensee's procedure. The licensee's procedure for explosions, RA-EP-02840, defines "Explosion: A rapid, violent, unconfined combustion, or catastrophic failure of pressurized/energized equipment that imparts sufficient force to potentially damage permanent structures, systems, or components."

Analysis: The inspector concluded the failure to use the emergency action level scheme to classify an Alert when conditions warranted due to an explosion during an actual event was a performance deficiency. Even though indications were available to the

control room at 00:50 hours, the event was not recognized as meeting the Alert criteria until 07:50 hours. The performance deficiency was screened using the Emergency Preparedness SDP. The performance deficiency was screened to be more than minor because the performance deficiency adversely affected the Reactor Safety - Emergency Preparedness Cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public during a radiologic emergency. The performance deficiency has the attribute of Emergency Response Organization Performance associated with Actual Event Response.

The performance deficiency involving the failure to properly utilize the emergency classification and action level scheme during an actual Alert meets the SDP criteria for a failure to implement a risk significant planning standard of event classification. The failure to classify was a result of the licensee's errors in recognition, was not due to competing safety-related activities, and denied offsite authorities the opportunity to make decisions regarding protecting public health and safety, therefore, was assessed as a failure to implement the emergency plan classification scheme. The Program Element of the emergency classification scheme was adequate as designed and met the planning standard function.

IMC 0609, Appendix B – The Actual Event Implementation Problem branch of the SDP was used because failure to comply with a regulatory requirement occurred during an actual event. Using the SDP, Appendix B, Sheet 2, Actual Event Implementation Problem flowchart, the performance deficiency screened to be an actual event implementation problem associated with classification at the Alert level and a failure to implement a risk significant planning standard, therefore, was screened as a preliminary White finding. As a result of not declaring an Alert, Davis-Besse failed to activate their full emergency response organization to assist in mitigating the event. Additionally, State and local offsite agencies were not able to take initial offsite measures to assess conditions, staff their facilities, and make informed decisions for protecting public safety. The cause of the deficiency had a cross-cutting component in the area of Human Performance. Specifically, the licensee failed to make safety-significant decisions using a systematic process and failed to obtain adequate reviews on the decisions (H.1(a)).

Enforcement: Title 10 CFR 50.47(q) requires, in part, a licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b). Title 10 CFR 50.47(b)(4) requires, in part, a standard emergency classification and action level scheme be used by the licensee. "Davis-Besse Nuclear Power Station Emergency Plan" section 2.6 states, in part, detailed actions to be taken by individuals in response to onsite emergency conditions are described in the emergency plan implementing procedures. "Davis-Besse Nuclear Power Station Emergency Plan Implementing Procedure, RA-EP-01500, Emergency Classification" requires, in part, that when indications of abnormal occurrences are received by the control room staff, the Shift Manager shall verify the indications of the off-normal event or reported sighting, assess the information available from valid indications or reports, and classify the situation. The Emergency Plan "Table of Emergency Action Level Conditions" for "Explosion" under the "Hazards to Station Operations" category requires, in part, the declaration of an Alert for an onsite explosion affecting plant operations in all modes with the: (1) control room being informed by station personnel who have made a visual sighting; and (2) instrumentation readings on plant systems indicating equipment problems.

Contrary to the above, from the time period of 00:50 to 01:47 hours on June 25, 2009, the Shift Manager failed to verify the indications of the off-normal event or reported sighting, assess the information available from valid indications or reports of an explosion, and classify the situation as an Alert in accordance with the Davis-Besse Emergency Plan "Table of Emergency Action Level Conditions" during an actual event. Specifically, the valid indications and reports included: (1) the control room being informed by Security personnel of a visual sighting of an explosion in the switchyard; (2) instrumentation readings and annunciators in the control room that indicated the loss of the 'J' bus; and (3) onsite field reports from the equipment operator and from the Fire Brigade Captain of catastrophic failure of a transformer and debris. As a consequence, Davis-Besse failed to activate their full emergency response organization to assist in mitigating the event. Additionally, State and local offsite agencies which rely on information provided by the facility licensee were not able to take initial offsite measures. The finding is identified as an apparent violation of low to moderate safety significance. (AV 05000346/ 2009503-01)

- Notification of State and Local Agencies

Introduction: An NRC- identified finding of very low safety significance (Green) with an associated NCV was identified for the licensee's failure to comply with emergency planning requirements to ensure timely notifications to State and local governmental agencies. Following the licensee's after-the-fact recognition of the Alert, the licensee recognized notifications needed to be made to State and local response organizations; however, the procedures failed to provide clear and consistent guidance for the notification timeliness. As such, the notifications were not completed for more than four hours.

Description: At 07:50 hours on June 25, 2009, approximately eight hours after the switchyard explosion had occurred and mitigating actions were completed by the operating crew, the licensee realized they had failed to classify and declare an Alert. By this time, the licensee had many managers and responder personnel onsite reviewing the events and circumstances of the explosion. At 07:50 hours, the Shift Manager noted in the control room unit log, information for notification to the State of Ohio, Ottawa County, and Lucas County were to be collected and the after-the-fact notifications were to be made by the Emergency Offsite Manager who was designated for the event to be Emergency Preparedness Manager for the site.

The Davis-Besse Emergency Plan and emergency plan implementing procedures designate the responsible individual for offsite notification. The Emergency Plan states, in part, the Shift Manager, acting as the Emergency Director, will implement the plan and ensure that required notifications to the counties and State are made. However, the "Emergency Classification" procedure in the section for "Transitory Events" states, in part, if through an event review an emergency classification was discovered as missed, the Shift Manager, or designee, will contact the Emergency Offsite Manager (EOM). The EOM will perform the required notifications to the offsite agencies. The EOM as described in the Emergency Plan was a position associated with activation of the Emergency Response Organization. For the after-the-fact Alert declaration for the switchyard explosion event on June 25, 2009, the Emergency Response Organization was not activated.

The Emergency Plan and emergency plan implementing procedures did not provide clear consistent guidance for required notification timeliness. In the Emergency Plan, the specific agencies to notify are listed along with the time requirement of 15 minutes. The emergency plan implementing procedure "Emergency Notification" states, in part, the initial notification of the State and Counties is required within 15 minutes of the declaration of an emergency. The "Emergency Classification" procedure has a caution that states, in part, if a transitory event has occurred a notification to the offsite agencies is still required. In contrast, the "Emergency Classification" procedure in the "Transitory Event" section discusses the notification to the offsite organizations will be made by phone or if the agency cannot be contacted, the notification will be faxed with a follow-up phone call the following morning. The procedure implies the notification will be made promptly following the gathering of the notification information, but does not clearly state the time requirement. Even though the licensee defined the after-the-fact classification as a transitory Alert, the declaration had the 15-minute notification time requirement as noted in the "Emergency Notification" procedure and the Emergency Plan. The Emergency Preparedness Manager acting as the EOM reported he did not have the sense of timeliness for the required notification and lost track of time. The notification of the after-the-fact Alert declaration was made at 12:30 hours to the State and local governmental agencies through a conference call. The notification was not made using the Initial Notification form, DBEP-010, as required by the licensee's procedure.

Analysis: The inspector concluded the failure to comply with emergency planning requirements to have adequate procedures to ensure timely notifications to State and local governmental agencies was a performance deficiency. The deficiency did not meet the criteria for traditional enforcement, therefore, was screened using the Emergency Preparedness SDP. The deficiency was screened to be more than minor because the deficiency adversely affected the Reactor Safety - Emergency Preparedness Cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public during a radiologic emergency. The deficiency has the attribute of Procedure Quality associated with procedure use in an actual event. The delay to notify the offsite agencies was not a result of the licensee's errors in recognition and was not due to competing safety-related activities. Even after the licensee recognized State and local notifications needed to be made, offsite notifications were delayed for over four hours.

IMC 0609, Appendix B – The Failure to Comply branch of the SDP was used because the program element for offsite notification was not adequate as designed for all types of events, such as in the case of an after-the-fact or missed event declaration. The licensee did not comply with a regulatory requirement to have adequate procedures to ensure timely notifications to State and local governmental agencies for all event types. Because the emergency conditions no longer existed at the time of the event classification and notification recognition, the compliance with emergency plan requirements for notification was evaluated as non-risk significant for the switchyard event. Using the SDP, Appendix B, Sheet 1, Failure to Comply flowchart, the performance deficiency was evaluated to be a planning standard degraded function, therefore, was screened to be of very low safety significance (Green). State and local offsite governmental officials were not able to assess conditions at the time of the late event declaration and make informed decisions concerning the offsite response.

The performance deficiency involving the licensee's failure to have adequate procedures to ensure timely notifications to State and local governmental agencies for all declared

events had a cross cutting component in the Human Performance area of Resources. Specifically, the licensee's procedures for notification to offsite agencies were not complete. (H.2(c))

Enforcement: Title 10 CFR 50.47(q) requires, in part, a licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b). In accordance with 10CFR 50.47(b)(5), procedures have been established for notification of State and local response organizations. Also 10 CFR Part 50, Appendix E.D.3., requires the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency.

Contrary to the above, the licensee did not maintain adequate procedures to ensure timely notifications to State and local governmental agencies for all declared events. For the after-the-fact Alert declaration for the switchyard explosion event on June 25, 2009, the notifications to State of Ohio, Ottawa County, and Lucas County were delayed for over four hours after the Shift Manager noted the requirement. Because the finding was of very low safety significance and has been entered into the licensee's corrective action program (CR 09-62918), the violation is being treated as a Green NCV (NCV 05000346/ 2009503-02, Failure to Have Adequate Procedures for Offsite Notifications), in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

4OA6 Management Meetings

.2 Exit Meeting Summary

On August 6, 2009, the inspector provided an interim debrief to the licensee staff for the onsite interview portion of the inspection. On November 23, 2009, the inspector presented the inspection results to the Site Vice President, Mr. B. Allen, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector confirmed that none of the potential report inputs which were discussed was considered proprietary.

4OA7 Licensee-Identified Violation: A violation of very low safety significance (Severity Level IV) was identified by the licensee and was a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy. A violation of 10 CFR 50.72 was identified for failure to provide timely notification to the NRC. On June 25, 2009, Davis-Besse failed to provide timely notification to the NRC of the after-the-fact Alert classification resulting from an explosion in the switchyard. The delayed notification was not a result of competing safety-related activities, plant stabilization activities, or equipment failures. The delayed notification was not a result of the licensee's initial failure to classify the event. At 07:50 hours the licensee recognized that conditions warranted the classification of an Alert and they had missed the Alert declaration; however, the licensee did not notify the NRC of the missed Alert until 11:44 hours, a period exceeding one hour notification requirement.

The finding was evaluated using the traditional enforcement process because the deficiency had the potential to impact the NRC's ability to perform its regulatory function. Since the emergency condition no longer existed at the time the report was required and the report was untimely versus not reported at all, the issue was characterized as a

violation of very low safety significance (SL IV) and as a NCV. The licensee entered the issue into their corrective action program (CR 09-61112).

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

B. Allen, Site Vice President
R. Patrick, Operations Superintendent
G. Wolf, Regulatory Compliance Supervisor
D. Wuokko, Regulatory Compliance Supervisor
V. Kaminskas, Engineering Director
J. Vetter, Emergency Preparedness Manager
M. Parker, Security Manger
B. Boles, Site Operations Director
C. Price, Performance Improvement director
G. Halnon, Regulatory Affairs Director
T. Schneider, Public Affairs
D. Dewitz, Senior Nuclear Specialist

Nuclear Regulatory Commission

H. Peterson, Chief Operations Branch
J. Rutkowski, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000346/ 2009503-01	AV	Failure to Use Classification Scheme for an Alert
05000346/ 2009503-02	NCV	Inadequate Procedures for State and Local Notifications

Closed, and Discussed

05000346/ 2009503-02	NCV	Inadequate Procedures for State and Local Notifications
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LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

4OA3 Follow-Up of Events

Davis-Besse Nuclear Power Station Emergency Plan; Revision 26
RA-EP-01500; Emergency Classification; Revision 10
RA-EP-02110; Emergency Notification; Revision 9
RA-EP-02840; Emergency Plan Off Normal Procedure; Explosion; Revision 3
NOP-LP-5003; Communicating Events of Potential Public Interest; Revision 1
Integrated On-Call Report; Responder Team C/Blue; dated June 25, 2009
Control Room Unit Log; June 25, 2009, through June 26, 2009
June 25, 2009 Alert Timeline; dated July 27, 2009
DB-0095-01; Reactor Plant Event Notification Worksheet; dated June 25, 2009
FENOC Site Protection Incident Reports and Statements from Security Personnel
DB-0700-0; Emergency Phone Call Report; dated June 25, 2009
CR 09-61025; Loss of 'J' Bus, Catastrophic Failure of 'J' Bus Phase Potential Device; dated June 25, 2009
CR 09-61038, Davis-Besse Site Protection to Critique Opportunities for Improvement on Response to Switchyard Event; dated June 25, 2009
CR 09-61115; Transitory Alert Emergency Classification Following Loss of J Bus; dated June 26, 2009
CR 09-62916; Lessons Learned: Switchyard Event NRC Follow-up Inspection; Improvements to Relate Explosions to Emergency Action Levels; dated August 6, 2009
CR 09-62918, Lessons Learned - Switchyard Event NRC Follow-up Inspection; Observation Concerning Notification Timeliness of State and Locals; dated August 6, 2009
CR09-62919, Lesson Learned: Switchyard Event Follow-up – NRC Inspection; Review Security Operations Strategies and Communications; dated August 6, 2009
CR09-63249; Re-evaluate June 25 Event on NRC Performance Indicator; dated August 14, 2009

4OA7 Licensee-Identified Violation

DB-OP-00002; Operations Section Event/Incident Notifications and Actions; Revision 19
DBRM-RC-001; Regulatory Reporting Requirements; Revision 3

NRC Event Notification Report for June 26, 2009

CR 09-61112; RA-EP-01500 Procedure Requires Additional Guidance; dated
June 26, 2009

CR 09-61200; NRC Notification Time for the 6/25/09 Alert Was Exceeded; dated
June 8, 2009

CA 09-61200; Human Performance Success Clock Evaluation Results; dated
July 1, 2009

CA 09-61200; Revise RA-EP-01500 to Strengthen Wording for NRC Notification; dated
July 24, 2009

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
CA	Corrective Action
CAP	Corrective Action Program
CCPD	Coupling Capacitor Potential Device
CCVT	Coupling Capacitor Voltage Transformer
CFR	Code of Federal Regulations
CR	Condition Report
DRP	Division of Reactor Projects
IMC	Inspection Manual Chapter
IR	Inspection Report
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U. S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
SDP	Significance Determination Process
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item

SEQUENCE OF EVENTS

June 24, 2009

Late on June 24, 2009, approximately two-and-a-half hours prior to midnight, a computer point in the control room (E100) began to act erratically, first the computer point read off scale high and later indicated a low voltage even though the actual voltage in the 'J' bus did not change. The operators assumed the computer point was bad because the bus voltage appeared unchanged.

June 25, 2009

At **00:48 hours**, the control room lights flickered and a static noise was heard on the plant address system. The Coupling Capacitor Potential Device (CCPD) catastrophically failed causing a loss of the 'J' bus and damage to switchyard components.

Within seconds, the Secondary Alarm Station (SAS) received reports of an explosion, a white flash, a loud noise, flames, and building vibrations and flames in the switchyard.

At **00:49 hours**, annunciator alarms were received indicating breaker openings, trips, and the 'J' bus (one of the two switchyard buses for offsite AC power) was de-energized. The station entered a Limiting Condition for Operation per Technical Specifications for a single point vulnerable configuration.

At **00:50 hours**, as documented in the FENOC site protection incident report and per interviews with the inspector, the SAS called to the Control Room and reported explosion and flames throughout the switchyard. The Central Alarm Station (CAS) communicated with security posts concerning an explosion.

Security requested offsite assistance from Ottawa County to dispatch Carroll Township fire and Emergency Medical Services (EMS). The Control Room dispatched an equipment operator to the switchyard to investigate the extent of the fire and equipment damage.

At **00:54 hours**, the equipment operator reported fire, smoke, and debris spread throughout whole end of the switchyard by the 'J' Bus. The Shift Manager referred to the emergency plan for Hazards (Fire) and noted conditions for an Unusual Event would be met if offsite fire assistance (Carroll Township) is used to help extinguish the fires.

Following the initial report to the Control Room by SAS, per the interview with the inspector, the Shift Security Supervisor indicated he communicated to the Shift Manager that the explosion was apparently from equipment malfunction and was not from suspicious activity.

At **01:11 hours**, Carroll Township Police Department was onsite.

At **01:19 hours**, Carroll Township Fire Department was onsite.

At **01:20 hours**, Carroll Township EMS was onsite.

The Duty Team Director responded to a page from the Shift Security Supervisor. The Duty Team Director was the management representative on call. During the recorded telephone conversation, the Shift Security Supervisor told the Director of the explosion in the switchyard and the debris spread throughout the area. The explosion was apparently from

equipment malfunction and was not from suspicious activity. Carroll Township police, fire, and EMS were onsite but not allowed into the switchyard and the fires were allowed to burn out. Between 00:50 and 01:20 hours, the onsite Fire Captain, a Senior Reactor Operator (SRO), arrived with the fire brigade to assess the damage and extinguish the fires.

At **01:23 hours**, the Fire Captain reported all ground fires were extinguished.

At **01:24 hours**, the Shift Manager noted no entry criteria met for event classification because offsite fire assistance was not used. After his review, the Shift Manager asked the Shift Technical Advisor to do a peer check. The Shift Technical Advisor peer check confirmed no classification for the event due to fires.

At **01:26 hours**, the CAS and SAS were advised offsite assistance was not needed.

At **01:27 hours**, SAS called Ottawa County to cancel further response.

At **01:32 hours**, the Carroll Township police, fire, and EMS left the site.

At **01:47 hours**, the Fire Captain reported visible damage to 'J' Bus 'A' phase (oil leak), 'C' phase (damaged insulator), 'B' phase (destroyed and debris throughout the property), and 'C' phase disconnect breaker (damaged insulator).

At **01:55 hours**, the Shift Manager conducted a duty team phone call to provide updated status of the plant. The Outage Control Center became manned with the Duty Plant Manager, maintenance, and engineering to support the transmission and distribution company's response to the switchyard explosion.

At **02:15 hours**, the Shift Manager called on the phone to the Operations Manager and discussed damage to switchyard components.

The control room continued to receive information from the field concerning the damage and communicated with the duty team and proceeded to switch over to the remaining available start-up transformer.

At **07:50 hours**, further review of the events and the classification by the oncoming Shift Manager in conjunction with the EP Manager, the licensee determined they met the conditions for an emergency classification of an Alert for criteria 7.D.2 – Onsite explosion affecting plant operations. Per the licensee's procedures, the missed Alert was called a transitory Alert. The Shift Manager noted the EP Manager would notify the State of Ohio, Ottawa County, and Lucas County.

At **11:44 hours**, the Shift Manager notified the NRC Headquarters Operations Officer pursuant to 10 CFR 50.72 (a)(1)(i) of a transitory Alert based on Emergency Action Level 7.D.2- onsite explosion affecting plant operations.

At **12:30 hours**, the EP Manager along with plant management, notified Ottawa County, Lucas County, and the State of Ohio by a phone conference call.

Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Davis-Besse Nuclear Power Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Davis-Besse Nuclear Power Station. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305, "Operating Reactor Assessment Program".

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures and your response (if any) will be made 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/

Anne T. Boland, Director
Division of Reactor Safety

Docket No. 50-346
License No. NPF-3

Enclosures:

- 1. Inspection Report 05000346/2009-503
w/Attachment: Supplemental Information
- 2. Sequence of Events

cc w/encls: Distribution via ListServ

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See next page

SEE PREVIOUS CONCURRENCES

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OFFICIAL RECORD COPY

Letter to Mr. Barry Allen from Ms. Anne Boland dated December 28, 2009

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION
SPECIAL INSPECTION REPORT 05000346/2009-503 PRELIMINARY
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