



Illinois Power Company  
Clinton Power Station  
P.O. Box 678  
Clinton, IL 61727  
Tel 217 935-6220  
Fax 217 935-4632

Wayne D. Romberg  
Assistant Vice President - Nuclear  
U-602760  
4F.190

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Docket No. 50-461

Document Control Desk  
Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Reply to a Notice of Violation Contained  
in Inspection Report 50-461/97006 (DRP)

Dear Sir:

The attachments to this letter contain the Illinois Power (IP) response to the violations of Nuclear Regulatory Commission (NRC) requirements documented in NRC inspection report 50-461/97006 (DRP). In general, IP admits that the violations occurred as described in the NRC inspection report.

Attachment A responds to a violation concerning deficiencies in Maintenance Work Request documentation for Feedwater check valve 1B21-F032A. Attachment B responds to a violation concerning the inappropriate test pressure in the procedure for the reactor coolant system leak test. Attachment C responds to a violation concerning an inadequate procedure for leak testing Containment and Drywell gaseous effluent ventilation system charcoal adsorbers. Attachment D responds to a violation concerning the use of an inadequate procedure for freeze seals. Attachment E responds to a violation concerning the failure to perform a written safety evaluation prior to changing the seismic design of the control room by storing binders on top of a control room panel. Attachment F responds to a violation concerning an inappropriate procedure requirement to precondition the emergency diesel generator by priming the fuel oil system prior to testing. Attachment G responds to a violation concerning an inappropriate procedure requirement to precondition the emergency diesel generator by "barring over" the diesel prior to testing. Attachment H responds to a violation concerning a procedure that failed to require the Division 3 diesel generator to be declared inoperable while the governor speed control was set to 50 percent during testing. Attachment I responds to a violation concerning a procedure that failed to provide the steps necessary to bypass and restore an isolation signal during leak rate testing.

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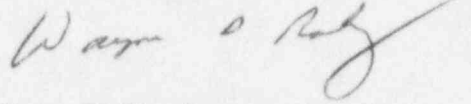


The attachments to this letter contain the following commitments:

- Administrative Procedures CPS 1029.01 "Preparation and Routing of Maintenance Work Requests," and CPS 1401.01, "Conduct of Operations," will be revised by July 30, 1997, to include direction for handling "risk basis" deviations from design.
- Surveillance test CPS 9059.01, "Reactor Coolant System Leak Test," will be re-performed using the revised test pressure. The entire Class 1 boundary and any Class 2 or 3 components requiring pressure testing as a result of ASME repairs or replacements will be re-examined using the revised test pressure. Modifications which include ASME Code repairs/replacements will be released for operation after completion of pressure testing at the revised test pressure. These actions will be completed by July 5, 1997.
- Test procedures CPS 2104.01, "VQ/RA Charcoal Adsorber Leak Test," and CPS 2104.02, "Ventilation Filter Train Testing," will be revised, by September 15, 1997, to add double verification steps for proper labeling and connecting of sample lines to test equipment.
- Maintenance procedure CPS 8208.01, "Freeze Seals," will be reviewed against industry guidelines for freeze seals and revised by July 30, 1997, to include guidance and limitations on use of more than one freeze seal plug in a line.
- Training on freeze seals will be revised to include practical and classroom training. The training will include information on industry events, including the freeze seal event at CPS discussed in the attachment to this letter. Personnel performing freeze seal activities will be required to receive this training prior to beginning such work. The training plan revision and training for appropriate personnel will be completed by September 30, 1997.
- Clinton Power Station (CPS) is reviewing surveillance procedures for pre-conditioning in accordance with the CPS Long Term Improvement Plan. These reviews will be completed by March 31, 1998.
- LLRT procedures scheduled to be performed after the sixth refueling outage will be reviewed and revised as necessary prior to performance to ensure proper guidance is given for operation of plant equipment. This action will be completed by December 15, 1997.

IP believes that the actions discussed in the attached responses address the concerns identified in the Notice of Violation.

Sincerely yours,



Wayne D. Romberg  
Assistant Vice President

RSF/krk

Attachments

cc: Regional Administrator, Region III, USNRC  
NRC Clinton Licensing Project Manager  
NRC Resident Inspector Office, V-690  
Illinois Department of Nuclear Safety

**Response to Notice of Violation 50-461/97006-03**

The Notice of Violation states in part:

"Technical Specification (TS) 5.4.1 requires, in part, that written procedures shall be established, implemented, and maintained covering the activities recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

- a. Regulatory Guide 1.33, Revision 2, Appendix A, Paragraph 9.e, recommends General Procedures for the control of maintenance, repair, replacement, and modification work.
  - (1) CPS Procedure 1501.02, "Conduct of Maintenance," revision 18 (a General Procedure for the control of maintenance, repair, replacement, and modification work), Step 8.1.4.8, required that Maintenance Work Request (MWR) Job Steps (J/Ss) be signed for as work was performed.
  - (2) CPS 1501.02, revision 18, Step 2.1.3, required that late entry sign-offs in MWRs be supported by objective evidence that an activity had been completed.
  - (3) CPS 1501.02, revision 18, Step 8.1.4.8, required that J/Ss which were performed more than once be documented on a copy of CPS 1029.01F003, "Maintenance Work Request Continuation Sheet."
  - (4) CPS 1501.02, revision 18, Step 8.9.1.2, required that engineering approval to continue with "Risk Basis" design deviations be documented on a copy of CPS 1029.01F010, "MWR Discrepancy List."
  - (5) CPS 1501.02, revision 18, Step 8.9.1.5, required that "Risk Basis" design deviations be resolved prior to declaring the effected equipment operable.
- b. Regulatory Guide 1.33, Revision 2, Appendix A, Paragraph 9.a, recommends in part, procedures for maintenance that can affect the performance of safety-related equipment.
  - (1) CPS Procedure 8120.04, "Maintenance of Anchor/Darling Tilting Disc Check Valves," revision 12 (a procedure for maintenance that could affect the performance of safety-related equipment), Step 2.1.5, required that performance of work be documented on CPS 8120.04 "Maintenance of Anchor/Darling Tilting Disc Check Valves Checklist."

- (2) CPS Procedure 8120.34, "Check Valve Inspection," revision 1 (a procedure for maintenance that could affect the performance of safety-related equipment), Step 2.1.1, required that performance of work be documented on CPS 8120.34C001, "Check Valve Inspection Checklist."

Contrary to the above,

- a(1) On March 31, 1997, the inspectors identified that J/Ss 77 through 87 and J/S 93 of MWR D60080 had not been signed for as the work was performed.
- a(2) On March 31, 1997, the inspectors identified that a late entry sign-off of J/S 46 of MWR D60080 had been made without objective evidence that the subject activity had been completed.
- a(3) On March 31, 1997, the inspectors identified that J/S 54 of MWR D60080 had been performed more than once, but the additional performance had not been documented on a copy of CPS 1029.01F003.
- a(4) On March 31, 1997, the inspectors identified that work on MWR D60080 had proceeded with a "Risk Basis" design deviation, but the required engineering approval was not documented on a copy of CPS 1029.01F010.
- a(5) On March 14, 1997, the licensee considered 1B21F032A operable as a flow path for shutdown cooling prior to resolving a "Risk Basis" design deviation associated with MWR D60080.
- b(1) On March 31, 1997, the inspectors identified that work which MWR D60080 had directed be performed in accordance with CPS 8120.04 was not documented on CPS 8120.04C001.
- b(2) On March 31, 1997, the inspectors identified that work which MWR D60080 had directed be performed in accordance with CPS 8120.34 was not documented on CPS 8120.34C001."

#### Background and Reason for the Violation

Feedwater check valve 1B21-F032A is 20-inch, non-slam type tilting disc check valve, model number 15204, manufactured by the Anchor Darling Valve Company. During the sixth refueling outage (RF-6) at the end of fuel cycle 6, local leak rate testing of feedwater check valve 1B21-F032A identified an unacceptable leakage rate.



The corrective action taken during RF-6 required redesign of the valve and actuating mechanism. Maintenance Work Request (MWR) D60080 was the work document for the check valve work and it contains the job steps used to facilitate the modification of the valve internals and actuating mechanism. Procedural violations occurred while implementing the design changes. In addition, the valve was incorrectly called operable and considered available to be returned to service prior to engineering issuing the approved Engineering Change Notices (ECNs).

Response to Violation Example a(1) (97006-03a)

Completion of the work identified in Job Steps 77 through 87 and 93 was documented in the MWR Continuation Sheets (form CPS 1029.01F003), however, the repairmen did not keep up with signing-off completed job steps during performance of the work. Numerous job steps were signed as late entries. Supervisory oversight was not adequate in identifying and correcting documentation deficiencies.

Response to Violation Example a(2) (97006-03d)

Job Step 46 required notification of Operations upon removal of supports for line IIS01A which were planned to be removed under previous Job Step 45. Job Step 46 was signed on March 26, 1997, as a late entry, although Job Step 45 had not been performed or signed. Job Step 46 was signed in error due to inattention to detail.

Response to Violation Example a(3) (97006-03e)

Job Step 54 addressed fabricating actuator shafts. The initial machining of the shafts was completed on February 7, 1997, with some dimensions documented as unacceptable on the MWR Discrepancy List (form CPS 1029.01F010). Also on February 7, 1997, Quality Verification (QV) placed an additional sign-off (one QV sign-off for fabricating shafts already existed) under Job Step 54 to require verification of a specific dimension, shaft diameter.

Additional machining of the shafts was performed on February 26, 1997, and QV signed-off the "shaft diameter" portion of Job Step 54 and noted on the MWR Discrepancy List the acceptability of the previously unacceptable dimensions. QV also inadvertently signed the other QV sign-off under Job Step 54 in error on February 26, 1997, then corrected the inadvertent sign-off by lining through and initialing and dating on February 28, 1997. The last machining was completed on the shaft (machining of the keyways) on February 28, 1997, and Job Step 54 was signed-off by Mechanical Maintenance. On March 26, 1997, QV signed Job Step 54 where they previously signed in error. Shaft machining was performed on several dates by Mechanical Maintenance, but Job Step 54 was not signed by Maintenance until all machining had been completed. Since Job Step 54 was not "reperformed," no documentation was required on the MWR Continuation Sheet. Job Step 54 was completed appropriately and no violation of administrative procedure CPS 1501.02, "Conduct of Maintenance," occurred.

Response to Violation Example a(4) (97006-3f)

Machining errors were identified on the MWR Discrepancy List on February 7 and 29, 1997 for several internal parts worked under Job Steps 54, 55, 56, 57 and 59. On February 28 and March 1, 1997, the valve was reassembled. This "risk basis" reassembly work was not identified on the MWR Discrepancy List and engineering concurrence was not documented as required. Failure to document the engineering authorization for the "risk basis" reassembly on the MWR Discrepancy List is attributable to a lack of attention to detail in maintaining the documentation.

Response to Violation Example a(5) (97006-03g)

Administrative procedures CPS 1501.02 and CPS 1029.01, "Preparation and Routing of Maintenance Work Documents," do not allow equipment to be declared operable or returned to service when a deviation from the approved design configuration has been made on a "risk basis;" the design documentation and the actual configuration must agree. Inspection report details for the violation identify that a process does not exist for ensuring that components with design deviations are not returned to service prior to resolution of the deviation. The inspectors concluded that Residual Heat Removal (RHR) train A had been considered as operational with flow via the Feedwater A line and valve 1B21F032A prior to the issuance of ECN 30099. Returning 1B21F032A to service as an operable flow path for RHR prior to resolving "risk basis" deviations from design was identified as a violation.

A review of the Main Control Room Log for this time frame identified that RHR A had not been returned to service prior to issuance of ECN 30099, but RHR A may have been called operable and considered available for service. Procedures CPS 1029.01 and 1401.01 contain inadequate procedural guidance for controlling "risk basis" deviations.

Response to Violation Example b(1) (97006-03b)

Job Step 93 directs reassembly of valve 1B21F032A as required in accordance with applicable sections of maintenance procedure CPS 8120.04, "Maintenance of Anchor/Darling Tilting Disc Check Valves." When MWR D60080 was reviewed on March 31, 1997, Job Steps 8.9.8, 8.11.1.12, 8.11.2.15, 8.12.5, 8.12.7, and 8.15.11 were neither marked as not-applicable nor initialed and dated as acceptable on checklist CPS 8120.04C001. This condition is a failure to perform procedure steps as directed. Job Step 93 was signed on April 17, 1997, as a "late entry." This condition was caused by inattention to detail and lack of supervisory attention.

Response to Violation Example b(2) (97006-03c)

Job Step 42 required inspection of valve 1B21F032A in accordance with the applicable sections of maintenance procedure CPS 8120.34, "Check Valve Inspection," and documentation of that inspection on the checklist CPS 8120.34C001. Job Step 42 had been initiated and dated on February 28, 1997. The details in the inspection report identify that on March 31, 1997, the checklist had not been completely filled in and was not signed by the individual who performed the work. The checklist is required to be completed as the work is performed; however, it is not required to be signed in the "performed by" space. The job step sign off in the MWR work package documents completion of the checklist and the initials in the checklist identify the individual who performed the checklist. The individual completing the checklist is required to print his/her name, sign and initial the "Work Performers" section in the MWR package. The cause of this condition is inattention to detail and lack of supervisory attention.

The cause of the failure to comply with procedures by not maintaining MWR documentation up to date and not documenting "risk basis" deviations from design on the MWR Discrepancy List is attributed to a lack of attention to detail. The cause for incorrectly calling the valve operable and considering it available for return to service is attributed to inadequate procedural guidance.

Corrective Steps Taken and Results Achieved

The MWR D60080 work package has been corrected and completed, and the Mechanical Maintenance Group Leader has reviewed it to ensure that it is complete and that all "risk basis" deviations from design documents have been resolved with an Engineering Change Notice.

Corrective Steps to Avoid Further Violations

Maintenance shop personnel have completed training on new administrative procedure CPS 1005.15, "Procedure Use and Adherence. This training emphasized procedure compliance and actions to take when the procedure adherence cannot be achieved.

A Maintenance Department self-assessment was completed in May 1997. One of the action items completed as a result of this review was for Maintenance shop supervisors to provide expectations to Group Leaders and Maintenance shop personnel regarding documentation requirements for MWR and Preventive Maintenance (PM) work packages.

A letter on "Performance Improvement Initiative" was issued to Maintenance Department personnel emphasizing goals and expectations in the areas of pre-job briefs and documentation of activities. This letter stressed procedural compliance regarding documentation of work.



Maintenance supervision has increased emphasis on verifying documentation and procedure compliance when completing the Maintenance department's "Task Performance Checklist," administrative procedure CPS 1502.03C001.

Administrative procedure CPS 1005.16, "Self Assessment," has been issued to establish guidance for the performance of formal self-assessment activities. The Maintenance Department will be using this procedure to identify performance aspects of its programs, processes, and activities requiring improvement. A schedule for formal self-assessments has been developed.

Administrative procedure CPS 1029.01 will be revised in the section for Work Authority review for MWR closure to include direction for handling "risk basis" deviations from design. This action will be complete by July 30, 1997.

Administrative procedure CPS 1401.01 will be revised to provide direction on "risk basis" deviations from design when determining the operability of equipment/systems being returned to service. This action will be complete by July 30, 1997.

#### Date When Full Compliance Will Be Achieved

The work package for MWR D60080 has been corrected and ECNs have been issued for design deviations. Clinton Power Station is in full compliance with Technical Specification 5.4.1 and Regulatory Guide 1.33 requirements regarding this issue.

## Response to Notice of Violation 50-461/97006-06

The Notice of Violation states in part:

"10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances.

Procedure 2800.03, "Reactor Coolant System Leak Test," revision 14, and procedure 9059.01, "Reactor Coolant System Leak Test," revision 2, were documented procedures which prescribed system leakage tests at pressures which were specified as being not less than the nominal operating pressure associated with 100 percent rated reactor power.

Contrary to the above, on April 20, 1995 a leak test was performed using procedure 2800.03, revision 14, and on March 23, 1997 a leak test was performed using procedure 9059.01, revision 2, procedures which were inappropriate to the circumstances because they specified leak test pressures which were less than the actual nominal operating pressure associated with 100 percent rated reactor power."

### Background and Reason for the Violation

In 1992, the Inservice Inspection (ISI) Group was requested to define a pressure range for "nominal operating pressure" for performing system leakage tests as a result of replacing ASME Class 1 items (without welding). The purpose of the request was to obtain a pressure range that would provide a pressure test in compliance with the ASME Code and at the same time permit visual examinations (VT-2) to be conducted at low power levels to minimize personnel radiation exposure. A review was performed and the ISI Group recommended a test pressure range of 900 to 1045 psig.

On April 17, 1995, the ISI group recommended test pressure range was incorporated into a revision of test procedure CPS 2800.03, "Reactor Coolant System Leak Test," by the Plant Technical Department. The 10CFR50.59 safety evaluation screening for the test procedure revision failed to recognize and address that the Updated Safety Analysis Report (USAR) described the nominal operating pressure in the reactor vessel at rated power as 1040 psia (1025 psig). The reactor coolant system leakage test was performed on April 20, 1995, during the fifth refueling outage (RF-5) using a test pressure of 964 psig.

During the sixth refueling outage (RF-6), test procedure CPS 2800.03 was replaced by surveillance procedure CPS 9059.01, "Reactor Coolant System Leak Test." Surveillance procedure CPS 9059.01 contained the same test pressure range as test procedure CPS 2800.03. On March 23, 1997, surveillance procedure CPS 9059.01 was used to perform a reactor coolant system leakage test. The March 23, 1997 test was not accepted due to observed leakage requiring repair.

The cause of this violation is attributed to personnel error. The ISI Group of the Nuclear Station Engineering Department (NSED) used a non-conservative approach in answering a request for definition of nominal operating pressure for a Class 1 System Leakage Test at Low Power for post maintenance testing. The non-conservative decision contributed to the inadequate 10CFR50.59 safety evaluation screening performed for revision 14 of procedure CPS 2800.03.

#### Corrective Steps Taken and Results Achieved

Surveillance procedure CPS 9059.01 has been revised to identify a more accurate normal operating pressure based on operating history to be used as the test pressure.

Surveillance test CPS 9059.01 will be re-performed using the revised surveillance procedure prior to startup from the sixth refueling outage.

The test pressure of 950 psig used in the March 1997 performance of surveillance procedure CPS 9059.01 has been determined to be sufficient as an adequate pressure to locate leaks associated with any post modification testing. Therefore, there is no system operability impact to modifications that were released for operations based in part on the 950 psig pressure test. The 950 psig test pressure was also sufficient for discovering any leakage for post maintenance testing that required an operational leak check to be performed. The entire Class 1 boundary and any Class 2 or 3 components requiring pressure testing as a result of ASME repairs or replacements will be reexamined using the revised test pressure prior to startup from the sixth refueling outage. Modifications which include ASME Code repairs/replacements will be released for operation after completion of pressure testing at the revised test pressure.

#### Corrective Steps to Avoid Further Violations

CPS Procedure 1005.06 "Conduct of Safety Reviews," has been revised to require all safety screenings to be reviewed by a member of a core review group to strengthen the safety evaluation process. All personnel responsible for performing safety screenings have received enhanced training in the safety evaluation process. Also applicable personnel in the Plant Engineering Department have received a briefing on this violation to heighten their awareness of this matter and the need for conservative decision-making while making changes under the safety evaluation process.

#### Date When Full Compliance Will Be Achieved

Clinton Power Station will be in full compliance with 10CFR50, Appendix B Criterion V regarding this issue following completion of the reactor coolant system leak test with satisfactory results using the new value for normal operating pressure. The test will be completed by July 5, 1997.

## Response to Notice of Violation 50-461/97006-01

The Notice of Violation states in part:

"Technical Specification (TS) 5.4.1 requires, in part, that written procedures shall be established, implemented, and maintained covering the activities recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A, Paragraph 7.d(5), recommends, in part, procedures for Control of Radioactivity to limit materials released to the environment from gaseous effluent ventilation systems.

Contrary to the above, on February 27, 1997, the inspectors and plant staff jointly identified that CPS Procedure 2104.02 "VQ/RA Charcoal Absorber Leak Test," Revision 3, a procedure required by technical specification 5.4.1, was not adequate assure the Containment and Drywell gaseous effluent ventilation system charcoal absorbers functioned properly."

### Background and Reason for the Violation

Test procedures CPS 2104.02, "VQ/RA Charcoal Adsorber Leak Test," and CPS 2104.02, "Ventilation Filter Train Testing," were being performed consecutively. Test procedure CPS 2104.02 measures the penetration and bypass leakage of the charcoal adsorber banks in the Drywell Purge (VQ) and Breathing Air (RA) Systems. Test procedure CPS 2104.01 measures High Efficiency Particulate Air (HEPA) filter leakage. Test procedure CPS 2104.01 requires installation of four sample lines, however, test procedure CPS 2104.02 uses two of these same sample lines. The four sample lines were coiled and taped to the filter housing. During performance of test procedure 2104.02, one halide detector was found to be incorrectly connected to the sample lines. The correct upstream sample line was connected to one halide detector but the incorrect downstream sample line, the sample line staged for the HEPA filter test, was connected to the other halide detector. The incorrect sample line configuration caused unreasonable test results which were immediately recognized. The test director concluded that the sample lines were not properly installed. Following discovery of the error, the correct sample line was connected to the halide detector and the test was successfully completed. A condition report was initiated to document this failure to follow procedures.

The cause of this violation is attributed to lack of attention to detail by the test engineer and a procedure that was not sufficiently descriptive for an infrequent test performer. The test engineer had not performed this test recently and did not place sufficient attention to proper completion of the sample line connections. In addition, a step exists for installing upstream and downstream sample lines; however, the procedure lacks a step to verify that the proper sample lines are connected to the test equipment. Contributing to the cause of this violation was the lack of a label on the sample line and the lack of a procedural requirement to label the sample lines according to their source. A second contributor to the cause was performing the two tests consecutively. The HEPA filter test requires installation of four sample lines and the charcoal test uses two of these sample lines, none are required to be labeled for their use.

#### Corrective Steps Taken and Results Achieved

The involved test engineers have been instructed about attention to detail. Test procedures CPS 2104.01 and CPS 2104.02 will be revised to add double verification steps for proper labeling and connecting of sample lines to the test equipment. These revisions will be complete by September 15, 1997.

#### Corrective Steps to Avoid Further Violations

An evaluation identified that the Standby Gas Treatment Filtration System and the Control Room Ventilation System are potentially susceptible to a similar error. Therefore, surveillance procedures CPS 9866.01, "VG/VC HEPA Filter Leak Test," and CPS 9866.02, "VG/VC Charcoal Adsorber Leak Test," have been revised to include double-verification steps for proper labeling and connecting of sample lines to the test equipment.

#### Date When Full Compliance Will Be Achieved

CPS will be in full compliance with Technical Specification 5.4.1 and Regulatory Guide 1.33 regarding this issue following the revisions of test procedures CPS 2104.01 and CPS 2104.02. These actions will be completed by September 15, 1997.



### **Response to Notice of Violation 50-461/97006-05**

The Notice of Violation states in part:

"10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances.

Contrary to the above, on November 11, 1996 freeze seals were installed on a portion of the reactor coolant system boundary, an activity affecting quality, using CPS Procedure 8208.01, "Freeze Seals," revision 9, a procedure which was not appropriate to the circumstances."

#### Background and Reason for the Violation

Maintenance Work Request (MWR) D60031 was initiated on April 20, 1995, to resolve seat leakage on valves 1B33F051A and 1B33F052A on the B Reactor Recirculation (RR) loop drain line. The resolution for the leaking valves was replacement. A freeze seal was required to isolate these valves on the drain line in order to remove them. The process for the freeze seal task was provided in the MWR and maintenance procedure CPS 8208.01, "Freeze Seals." Prior to installation of the freeze seal, an engineering analysis and a 10CFR50.59 safety evaluation screening was completed as required by the MWR, and a pre-job brief was held with the Radiation Protection Shift Supervisor, Shift Resource Manager, Operations Shift Supervisor, repairmen and the drywell coordinator to discuss the specifics of the job and a contingency plan if the seal failed.

The initial freeze plug did not completely form in the pipe due to the elevated temperature of the RR drain line and did not stop flow through the line. After discussion with the Group Leader, Mechanical Maintenance repairmen decided to install a second freeze seal jacket next to the first jacket to help achieve the seal. The MWR identified only one freeze seal to be installed. The second freeze seal completely froze the water in the line allowing the valves to be replaced.

When the decision was made to apply a second freeze seal jacket, engineering was not contacted to evaluate the use of a second freeze seal; the engineering analysis and safety evaluation screening had evaluated installation of a single freeze plug. Mechanical Maintenance did initiate a second checklist, CPS 8208.01C001, "Freeze Seal Checklist," for the second freeze seal jacket. The first freeze seal checklist was referenced on the second freeze seal checklist. Maintenance procedure CPS 8208.01 does not address the use of a second freeze seal jacket in this situation, but does identify the minimum distance from a closed valve or blinded pipe section and does identify that multiple freeze seals may be applied at different areas to isolate the component.

On February 24, 1997, a copy of a Licensee Event Report (LER) was received on the Nuclear Network describing an event of pipe deformation that occurred during a freeze seal application at the Diablo Canyon Power Plant. The LER identified that bulging of the pipe resulted from three freeze seal jackets being applied next to each other on the pipe. The bulging occurred at the spaces between the freeze seal jackets due to water being trapped there as the ice plugs formed. This information prompted Mechanical Maintenance to initiate a condition report and an inspection of the piping on the "B" RR loop drain line where the two freeze seals had been located.

The inspection identified that applying the two freeze seal jackets resulted in piping deformation (bulging) of approximately 0.040 inch where the freeze seal was applied. The deformation was not noticed at the time of the freeze seal work.

The cause of this violation is attributed to a lack of procedure guidance and inadequate training on freeze seal application. Maintenance procedure CPS 8208.01 does not address the use of multiple freeze seals in a series.

Personnel applying the freeze seal felt that the application of two freeze seal jackets constituted one seal. They felt that this application would create a single ice plug. Maintenance procedure CPS 8208.01 does not restrict the application of more than one freeze seal jacket.

#### Corrective Steps Taken and Results Achieved

The deformed piping on the "B" RR loop drain line was replaced.

A review was performed to determine if similar freeze seal incidents had taken place in the past. The review did not identify any other instances where two freeze seal jackets were attached adjacent to each other to form a freeze seal.

Since this incident, all Mechanical Maintenance personnel previously qualified to perform freeze seals have been removed from the Task Certification Matrix. The freeze seal activity is currently contracted to a freeze seal vendor with Mechanical Maintenance assisting the activity.

#### Corrective Steps to Avoid Further Violations

Maintenance procedure CPS 8208.01 will be reviewed against industry guidelines for freeze seals and revised to include guidance and limitations on use of more than one freeze seal plug in a line. This revision will be complete by July 30, 1997.

Training on freeze seals will be revised to include practical and classroom training. The training will include information on industry events, including the event at CPS discussed above. Personnel performing freeze seal activities will be required to receive this training prior to beginning such work. The training plan revision and training for appropriate personnel will be completed by September 30, 1997.

Date When Full Compliance Will Be Achieved

CPS will be in full compliance with 10CFR50, Appendix B, Criterion V with regard to this issue when maintenance procedure CPS 8208.01 is revised. The revision will be completed by July 30, 1997.

### **Response to Notice of Violation 50-461/96011-05c**

The Notice of Violation states in part:

"10 CFR 50.59(a)(1)(I), "Changes, Tests and Experiments," states, in part, the holder of a license authorizing operation of a utilization facility may make changes in the facility as described in the safety analysis report without prior Commission approval, unless the proposed change involves a change in the technical specifications incorporated in the license or an unreviewed safety question.

10 CFR 50.59(b)(1) requires, in part, that the licensee maintain records of changes in the facility made pursuant to this section to the extent that these changes constitute changes in the facility as described in the safety analysis report. These records must include a written safety evaluation which provides the bases for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, on September 17, 1996, the inspectors observed annunciator response books on top of the P-680 main control room panel. USAR section 3.1.2.2.1.0.1 states that the control room had been designed to meet seismic Category I requirements. The change was made [sic] without performing a written safety evaluation to determine that the change did not involve an unreviewed safety question."

#### Background and Reason for the Violation

Frequently used data was collected in binders for ready reference by the A reactor operator and those binders were stored on top of the P680 panel in the main control room for easy access. The binders were stacked in 2 plastic letter trays taped to the panel top. The potential impact of the binders on the seismic qualification of the panel was not recognized, and a 10CFR50.59 safety evaluation had not been performed.

The cause of this violation is attributed to inattention to detail. Placing the binders on the panel was not recognized as a change to the facility. Following the initial placement of the binders, the condition remained unidentified due to a lack of questioning attitude that affected personnel working or observing in the main control room. Since the potential impact was not questioned, there was never an opportunity to perform an evaluation to determine if the binders presented a challenge to the panel's qualification.

#### Corrective Steps Taken and Results Achieved

The binders were immediately removed from the panel top and placed in appropriate storage when the concern was identified. A safety evaluation will not be performed since the binders will not be replaced on top of the panel.

Corrective Action to Avoid Further Violations

Management expectations have been established and published for conservative decision-making, emphasizing safety of operation, and seminars to emphasize the expectations were held for site personnel. By establishing and training site personnel on management expectations for conservative decision-making, site personnel are encouraged to have a questioning attitude and to question things they are unsure about.

Corporate Nuclear Procedure (CNP) 3.08, "Self Assessment," has been issued to establish policy for performance of internal and formal self-assessment efforts for evaluation of programs, processes and activities to identify and correct deficiencies to achieve continuous improvements. Administrative procedure CPS 1005.16, "Self Assessment," has been issued to implement the policy in CNP 3.08.

Date When Full Compliance Will Be Achieved

Clinton Power Station is in full compliance with 10CFR50.59 with regard to storage of binders on main control room panel tops.



### Response to Notice of Violation 59-461/96011-03e

The Notice of Violation states in part:

"10 CFR 50 Appendix B, Criterion V requires activities affecting quality shall be prescribed by documented instructions or procedures of a type appropriate to the circumstances.

Contrary to the above:

As of September 1996 procedures CPS 9080.01, Rev. 40, "Diesel Generator 1A (1B) Operability - Manual and Quick Start Operability" and CPS 9080.02, Rev 37, "Diesel Generator 1C Operability - Manual and Quick Start Operability," activities affecting quality, were not appropriate to the circumstances. Specifically, Step 5.11 in both procedures prescribed preconditioning of the emergency diesel generators, by priming the fuel oil system prior to diesel generator starting, thereby negating the test's validity in demonstrating the emergency diesel generators' ability to perform satisfactorily in service."

#### Background and Reason for the Violation

Priming the emergency diesel generator fuel system could mask a problem that would affect the time that the emergency diesel generator takes to reach the required voltage and frequency. Because a degraded condition could be masked by priming the emergency diesel generator fuel system, the surveillance procedure did not satisfy the intent of the requirements of Technical Specifications during the period that the "quick-start" surveillance test was conducted with the prerequisite to prime the fuel system.

The cause of priming the emergency diesel generators using the fuel oil priming pump is attributed to the failure to adequately evaluate the effect of priming the emergency diesel generators as part of the corrective action to condition report (CR) 1-89-10-069 which was initiated to investigate a slow start on the Division 1 emergency diesel generator. In addition, at the time the emergency diesel generator "quick-start" surveillance test procedures were combined with the monthly operability surveillances, the individual preparing and reviewing the surveillance procedures failed to realize that only the monthly manual start portion of the procedures was to be preceded by priming the fuel system. Additional details about this issue are contained in Licensee Event Report (LER) 96-011, submitted to the NRC in Illinois Power letter U-602652 dated October 30, 1996.

Corrective Steps Taken and Results Achieved

Surveillance procedures that operate the emergency diesel generators were reviewed and no other instances of prerequisites or other procedure steps that may mask a potential problem or precondition the emergency diesel generators were discovered.

Surveillance procedures CPS 9080.01, "Diesel Generator 1A(B) Operability - Manual and Quick Start Operability," and CPS 9080.02, "Diesel Generator 1C Operability - Manual and Quick Start Operability," have been revised to remove the prerequisite to prime the emergency diesel generator fuel system.

Corrective Steps to Avoid Further Violations

Appropriate Plant Engineering personnel and procedure writers have been briefed on the event discussed in LER 96-011.

CPS is reviewing surveillance procedures for pre-conditioning in accordance with the CPS Long Term Improvement Plan. These reviews will be complete by March 31, 1998.

Date When Full Compliance Will Be Achieved

Clinton Power Station is currently in full compliance with 10CFR50, Appendix B, Criterion V regarding this issue.

### **Response to Notice of Violation 50-461/96011-03f**

The Notice of Violation states in part:

"10 CFR 50 Appendix B, Criterion V requires activities affecting quality shall be prescribed by documented instructions or procedures of a type appropriate to the circumstances.

Contrary to the above:

As of September 1996 procedures CPS 9080.01, Rev. 40, "Diesel generator 1A (1B) Operability - Manual and Quick Start Operability" and CPS 9080.02, Rev. 37, "Diesel Generator 1C Operability - Manual and Quick Start Operability," activities affecting quality, were not appropriate to the circumstances. Specifically, Step 5.5.4 in both procedures prescribed preconditioning of the emergency diesel generators, by "barring over" the diesel prior to starting, thereby negating the test's validity in demonstrating the emergency diesel generators' ability to perform satisfactorily in service."

#### Background and Reason for the Violation

The emergency diesel generators are barred over at least one revolution each time they are started by plant operators. The practice of barring over an emergency diesel engine at least one revolution is an industry accepted practice. The engine is barred over with the drains to each engine cylinder open to detect any leakage of fluid into the engine cylinders. If the engine were started with fluid in the cylinders, significant damage could occur to the engine. The surveillance procedures require that the engines be barred over at least one revolution, but do not specify the maximum amount of barring that is allowed during the performance of the procedure. In the last six to seven years, on many occasions, an air-driven barring tool was used to bar over the emergency diesel generators. When the air-driven tool is used, the operators routinely rotate the engine more than one revolution, but the exact amount for each test performance varies. Barring over the engine turns the engine shaft driven fuel oil pump which may prime the emergency diesel generator fuel system. Prior to the practice of barring over the emergency diesel generators with the air-driven tool, they were manually barred over only one to two revolutions.

Priming the emergency diesel generator fuel system could mask a problem that would affect the time that the emergency diesel generator takes to reach the required voltage and frequency. Because a degraded condition could be masked by priming the emergency diesel generator fuel system, the surveillance procedure did not satisfy the intent of the requirements of Technical Specifications during the period that the "quick-start" surveillance test was conducted with the prerequisite to prime the fuel system.

The cause of the excessive barring of the emergency diesel generators was a lack of guidance in the surveillance procedures on the maximum amount of barring that should be allowed. Additional details about this issue are contained in Licensee Event Report (LER) 96-011, submitted to the NRC in Illinois Power letter U-602652 dated October 30, 1996.

#### Corrective Steps Taken and Results Achieved

Surveillance procedures that operate the emergency diesel generators were reviewed and no other instances of prerequisites or other procedure steps that may mask a potential problem or precondition the emergency diesel generators were discovered.

Surveillance procedures CPS 9080.01, "Diesel Generator 1A(B) Operability - Manual and Quick Start Operability," and CPS 9080.02, "Diesel Generator 1C Operability - Manual and Quick Start Operability," have been revised to limit the barring over of the emergency diesel generators to a maximum of two revolutions.

Other surveillance procedures that bar over the emergency diesel generator have been revised to limit the barring over to a maximum of two revolutions.

#### Corrective Steps to Avoid Further Violations

Appropriate Plant Engineering personnel and procedure writers have been briefed on the event discussed in LER 96-011.

CPS is reviewing surveillance procedures for pre-conditioning in accordance with the CPS Long Term Improvement Plan. These reviews will be completed by March 31, 1998.

#### Date When Full Compliance Will Be Achieved

Clinton Power Station is currently in full compliance with 10CFR50, Appendix B, Criterion V regarding this issue.

## Response to Notice of Violation 50-461/96011-03g

The Notice of Violation states in part:

"10 CFR 50 Appendix B, Criterion V requires activities affecting quality shall be prescribed by documented instructions or procedures of a type appropriate to the circumstances.

Contrary to the above:

As of October 1996, procedure CPS 9080.02, Rev. 37, "Diesel Generator 1C Operability - Manual and Quick Start Operability," an activity affecting quality was inappropriate to the circumstances in that it failed to require the high pressure core spray (HPCS) emergency diesel generator to be declared inoperable during testing."

### Background and Reason for the Violation

During performance of CPS 9080.02, "Diesel Generator 1C Operability-Manual and Quick Start Operability," the engine governor speed droop control is set to 50 percent which reduces the generator frequency response by about 3 percent to approximately 58.2 hertz. The generator frequency required during a Loss of Coolant Accident (LOCA) is 60 hertz. Since the Division 3 emergency diesel generator (EDG) will not provide the frequency required for proper operation of its loads during the surveillance if a Loss of Offsite Power (LOOP) were to occur concurrent with a LOCA, the Division 3 DG is inoperable during performance of the surveillance. However, surveillance procedure CPS 9080.02 does not inform the surveillance performer that the DG is inoperable when the governor speed droop control is set to 50 percent.

A review identified that surveillance procedures CPS 9080.10, "DG Operability-Independence Verification," CPS 9080.14, "Diesel Generator 1C 24 Hour Run and Hot Restart-Operability," and CPS 9080.23, "Diesel Generator 1C-ECCS Integrated," also do not inform the user that the Division 3 EDG is inoperable when the governor speed droop control is set to 50 percent.

The cause of this violation is attributed to inadequate procedures due to an oversight during the initial development of surveillance procedures CPS 9080.02, CPS 9080.10, CPS 9080.14, and CPS 9080.23 which did not indicate that the Division 3 EDG is inoperable when the governor speed droop control is set at 50 percent.



All three emergency diesel generators are operated in the speed droop mode only for performance of surveillance test runs. However, this issue is not applicable to the Divisions 1 and 2 EDGs. The Divisions 1 and 2 EDGs have electronic control governors. Therefore, if a LOOP was to occur concurrent with a LOCA during performance of a surveillance test while the speed droop control is set at 50 percent, the electronic circuit will automatically shift from the speed droop mode to the isochronous mode. During the design basis operational requirements, that is, to provide electrical power to the Class 1E loads under LOOP/LOCA conditions, the EDGs are operated in the isochronous mode.

The Division 3 EDG has a mechanical-hydraulic governor which requires operator action to reset the speed droop setting to zero percent in order to operate the EDG in the isochronous mode to power the Division 3 Class 1E bus [BU]. Therefore the Division 3 EDG will not perform its design basis functions and is considered to be inoperable while the governor speed droop control is set at 50 percent during performance of the surveillance tests.

Additional details about this issue are contained in Licensee Event Report (LER) 96-012-01, submitted to the NRC in Illinois Power letter U-602692 dated February 18, 1997.

#### Corrective Steps Taken and Results Achieved

Division 3 EDG procedures have been revised to note that the EDG is inoperable when the governor speed droop control is set at 50 percent.

#### Corrective Steps to Avoid Further Violations

Identifying and revising the applicable Division 3 EDG procedures prevents further occurrences.

#### Date When Full Compliance Will Be Achieved

Clinton Power Station is currently in full compliance with 10CFR50, Appendix B, Criterion V regarding this issue.

## Response to Notice of Violation 50-461/96011-03d

The Notice of Violation states in part:

"10 CFR 50 Appendix B, Criterion V requires activities affecting quality shall be prescribed by documented instructions or procedures of a type appropriate to the circumstances.

Contrary to the above:

On September 18, 1996, procedure CPS 9861.02D019, Rev. 26, "LLRT for 1M045" (LLRT for portions of the main steam system), an activity affecting quality, was not appropriate to the circumstances in that it failed to provide necessary steps to bypass and restore a group I containment isolation signal."

### Background and Reason for the Violation

Revision 26 of surveillance procedure CPS 9861.02D019, Local Leak Rate Test (LLRT) data sheet for containment penetration 1MC045 (S-MC045), was issued in January, 1994. The revision did not contain guidance for bypassing and resetting the Group 1 isolation signal. This action is necessary to open valve 1B21-F019, Main Steam Drain & Main Steam Isolation Valve Bypass Outboard Isolation Valve.

In April 1995, surveillance procedure CPS 9861.02D019, revision 26 was performed successfully. A review of the Comment Control Form (CCF) database did not identify any CCFs submitted concerning the April 1995 performance of surveillance CPS 9861.02D019.

During the September 1996 performance of surveillance CPS 9861.02D019, it was determined that guidance for bypassing and resetting the Group 1 isolation signal should be included in this procedure.

The cause of this violation is attributed to the procedure use and adherence culture that existed prior to September, 1996. That culture allowed the use of operator system knowledge to perform certain "presumed known tasks" such as resetting isolations.

### Corrective Steps Taken and Results Achieved

Surveillance procedure CPS No. 9861.02D019 has been revised to address bypassing and resetting the Group 1 isolation signal and operation of valve 1B21-F019.

Corrective Steps to Avoid Further Violations

LLRT procedures to be performed in the sixth refueling outage (RF-6) were reviewed and revised as necessary prior to performance to ensure proper guidance was given for operation of plant equipment.

LLRT procedures scheduled to be performed after RF-6 will be reviewed and revised as necessary prior to performance to ensure proper guidance is given for operation of plant equipment. This action will be completed by December 15, 1997.

Illinois Power has taken several actions as documented in the Clinton Power Station Startup Readiness Action Plan submitted to the NRC by IP letter U-602670 dated December 9, 1996. These actions include:

- Item I.1        The adequacy of policy statements and general procedures regarding conduct of operations and procedure compliance were reviewed, and changes were made as necessary to ensure that expectations and requirements regarding conservative decision-making and procedure compliance are clearly set forth.
  
- Item I.3        Procedures used in the following activities were reviewed to ensure clarity, consistency, and ease of use, and changes were made as warranted: plant startup, single loop operation, leak detection, reactor coolant leakage, procedure adherence, long cycle lineup and operations, conservative decision making, management oversight, and RR seal problems.
  
- Item I.6        Site personnel participated in a seminar on procedure compliance.
  
- Item I.10       Operating procedures were reviewed and revised to address procedure inadequacies that prohibit successful completion of an operational evolution.
  
- Item I.11       Operating crew personnel have reviewed scheduled surveillances prior to their performance to identify and correct inadequacies that prohibit successful completion of the surveillance activities. This review was conducted in accordance with Operations Standing Order-92, "Performance of Outage and Operational Activity Reviews."
  
- Item I.12       Electrical, Control and Instrumentation (E,C&I) senior maintenance personnel who have experience with the performance of surveillances have reviewed a random sample of the procedures, including at least 25% of all RF-6 surveillances to identify problems with methods or criteria.

Date When Full Compliance Will Be Achieved

CPS is currently in full compliance with 10CFR50, Appendix B, Criterion V regarding this issue.