U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION V

Report No. 50-275/81-20
50-323/81-14

Docket No. 50-275/50-323 License No. CPPR-39/CPPR-69 Safeguards Group _____

Licensee: Pacific Gas and Electric Company

P. O. Box 7442

San Francisco, California 94106

Facility Name: Diablo Canyon Units 1 and 2

Inspection at: Diablo Canyon Site, San Luis Obispo County, California & Corporate Office

Inspection conducted: August 10-14 and 26-27, 1981

Inspectors: J. F. Burdoin 9/29/81
J. F. Burdoin, Reactor Inspector Date Signed

G. Hernandez 10/2/81
G. Hernandez, Reactor Inspector Date Signed

Approved by: T. W. Bishop 10/9/81
T. W. Bishop, Chief, Projects Section 1 Date Signed
Reactor Construction Projects Branch

Summary:

Inspection during period of August 10-14 and 26-27, 1981 (Report Nos. 50-275/81-20 and 50-323/81-14).

Areas Inspected: Routine unannounced inspection by regional based inspectors of construction and modification activities including: licensee actions on task action plan items, 50.55(e) items, IE Bulletins and Circulars, and investigation of an allegation of falsification of weld records of crane rail filler plate welds. The inspection involved 49 inspector hours by two NRC inspectors.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Individuals Contacted

a. Pacific Gas and Electric Company (PG&E)

+*R. D. Etzler, Project Superintendent
*M. N. Norem, Resident Startup Engineer
+*D. A. Rockwell, Resident Electrical Engineer
*J. A. Ammon, Resident Mechanical Engineer
+F. M. Russell, Acting Resident Civil Engineer
+*J. J. Foat, Lead QC Engineer
K. A. Klee, QC Engineer
W. V. Gragg, QC Group Supervisor
P. Palomo, QC Inspector
R. P. Gilbreath, Instrumentation and Control Supervisor
J. S. Diamonon, QC Supervisor
W. B. Scott, Power Production Engineer
*C. L. Markum, Instrumentation Technician Sub-Foreman
*T. C. Aclan, Instrumentation Field Engineer
*R. C. Washington, Instrumentation Field Engineer

Various other Engineering and QC personnel.

b. H. P. Foley Company (Foley)

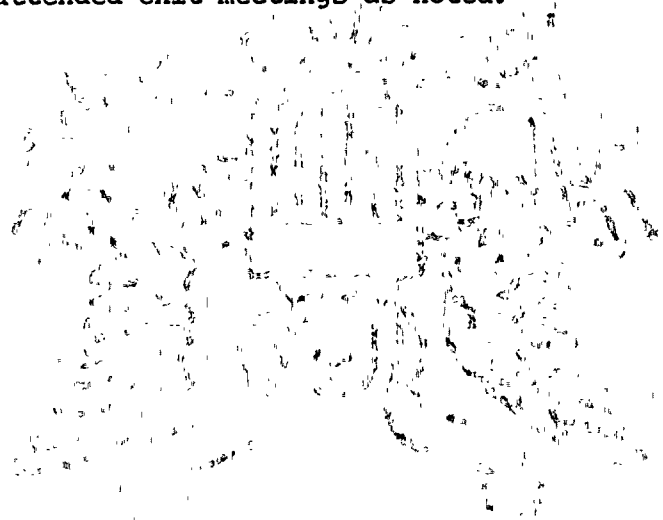
A. E. Moses, Project Manager
V. H. Tennyson, QA Manager
J. L. Thompson, QA Engineering Group Supervisor
B. J. Anderson, QA Engineer
H. Arnold, Mechanical Field Engineer
W. F. Price, QC Supervisor

c. Pullman Power Products (Kellogg)

J. A. Brasher, QA Supervisor

*Denotes attendees at August 14, 1981 exit meeting.
+Denotes attendees at August 27, 1981 exit meeting.

NRC Resident Inspectors, Mssrs. J. D. Carlson (+) and M. M. Mendonca (*/+) attended exit meetings as noted.



1. Individuals Contacted

a. Pacific Gas and Electric Company (PG&E)

+**R. C. [illegible], Project Superintendent
**[illegible], Resident Startup Engineer
**[illegible], Resident Electrical Engineer
**[illegible], Resident Mechanical Engineer
*[illegible] Russell, Resident Civil Engineer
*[illegible], [illegible] Engineer
[illegible]
[illegible]
[illegible], [illegible] Supervisor
[illegible], Instrumentation and Control Supervisor
[illegible], QC Supervisor
[illegible], Power Production Engineer
*[illegible], [illegible] Technician
*[illegible], Instrumentation [illegible]
*[illegible], Instrumentation [illegible] Engineer

Various other Engineers and QC personnel.

b. [illegible] (Bechtel)

A. H. [illegible], Project [illegible]
[illegible], [illegible] Manager
[illegible], QA [illegible] Group Supervisor
[illegible], QA Engineer
[illegible], Mechanical [illegible]
[illegible], QC Supervisor

c. Pullman Power Products (Pullman)

[illegible], QA Supervisor

*Denotes attendance at August 14, 1981 exit meeting.
+Denotes attendance at August 27, 1981 exit meeting.

**Resident Inspectors, [illegible] Carlson (4) and [illegible] (?/4) attended exit meetings [illegible].

2. Plant Tour

Upon arrival at the site on August 10, 1981 the inspector toured Unit 1 auxiliary building. Specific areas examined included: CVCS holdup tanks (elev. 56'); charging pumps and containment spray pumps (elev. 73'); component cooling water pumps (elev. 70'); RHR pumps (elev. 60'); waste gas compressors and gas decay tanks (elev. 65'); and safety injection pump (elev. 85'). Work in progress included: pouring of two small foundations for boric acid distillate pumps; reflective insulation of piping systems; electrical work in auxiliary building control console; and modification to seismic bracing for RHR pump no. 1-1. A deficiency was noted in that three hold-down clamps were missing for a vertical run of quarter inch stainless steel tubing located behind motor control center 12N & M at elev. 73' in the auxiliary building. A work order was written to correct this deficiency. No deviations or items of noncompliance were identified.

3. Licensee Action on 50.55(e) Items

a. (Closed for Unit 1) Modification to Reactor Protection System Cabinet Doors

The licensee submitted a final 50.55(e) report, dated August 27, 1981, regarding a modification made to doors on equipment cabinets to allow easy removal for maintenance. The modification involved replacing the existing hinges with hooks that will allow the door, once they are opened, to be removed. After the modification was made it was determined that it had the potential to affect the seismic qualification of the enclosed equipment. Accordingly, the doors have been returned to their original condition.

In order to prevent a recurrence of this type of problem, additional instructions have been given to plant personnel concerning requirements for proper authorization of work and the need for an Engineering Department review of any work which might affect seismic qualification of equipment. These requirements are now clearly stated in the Nuclear Plant Administrative Procedure NPAP C-1 "Design Changes".

This inspector examined the cabinet doors and verified that they have been returned to their original condition.

This item is closed.

b. (Closed for Units 1 and 2) Item (81-17/81-11): Deficiency in Containment Spray Pump Starting

The licensee submitted a final 50.55(e) report dated July 31, 1981

2. Plant Tour

Upon arrival at the site on August 10, 1981 the inspector toured the facility buildings. Specific areas examined included: CVCS holdup tanks (elev. 76'); charging pumps and containment spray pumps (elev. 77'); component cooling water pumps (elev. 70'); RHR rooms (elev. 43'); waste gas compressor and gas decay tanks (elev. 65'); and safety injection pumps (elev. 25'). Work in progress included: removal of [illegible] for boric acid [illegible] modification; installation of piping systems; electrical work in auxiliary building control consoles; and modification to [illegible] for [illegible]. [illegible] was noted in that three [illegible] were [illegible] stainless steel [illegible] located behind the control room [illegible] elev. 73' in the auxiliary building. [illegible] to correct this deficiency. [illegible].

3. Licensee Action on 50.55(e) Items

a. (Closed for Units 1 and 2) Modification to [illegible] Protection System Cabinet Doors

The licensee submitted a final 50.55(e) report, dated August 27, 1981, regarding a modification made to doors on certain cabinets to allow easy access for maintenance. The modification involved relocating the existing hinges to the doors that will allow the doors, once they are opened, to be removed. When the modification was made it was determined that it had the potential to affect the seismic qualification of the enclosed equipment. Accordingly, the doors have been returned to their original condition.

In order to prevent a recurrence of this type of problem, additional instructions have been given to plant personnel concerning requirements for proper authorization of work and the need for an Engineering Department review of any work which might affect seismic qualification of equipment. These requirements are now clearly stated in the nuclear Plant Administrative Procedure [illegible].

This inspector examined the cabinet doors and verified that they have been returned to their original condition.

This item is closed.

b. (Closed for Units 1 and 2) Item ([illegible]); Deficiency in Containment Spray Pump Casting

The licensee submitted a final 50.55(e) report dated July [illegible], 1981

regarding spray pump start timing. A series of diesel loading tests were performed to demonstrate that coincident starting of the containment spray pump with the starting of other ESF equipment can be accommodated by the emergency diesel generators without creating an unacceptable underfrequency or undervoltage condition. This test data was forwarded to NRR for review and evaluation. The test results were found acceptable in NRR letter of September 14, 1981. Therefore, this item is closed.

4. Task Action Plan Items for Unit 1

The following task action plan items described in NUREG-0737 were inspected to verify that the installation is completed in accordance with acceptable criteria, that applicable drawings were changed and that the components and system have been tested and placed in service or are ready to be placed in service.

a. II.F.1, Accident Monitoring Instrumentation

(1) Containment Pressure Monitor - This modification requires the installation of two (redundant) instrument systems from the pressure sensing bellows inside containment, through the penetrations to the wide range pressure transmitters (0-200 PSIG), to two continuous indicating instruments on the PAM panel in the control room.

(2) Containment Water Level Monitor - This modification requires the installation of a continuous indication in the control room of containment water level. A narrow range instrument is required to cover a range from the bottom to the top of the containment sump. A wide range instrument is required to cover the range from the bottom of the containment to the elevation equivalent to 600,000 gallon capacity.

The narrow range instrumentation for the containment sump was included in the initial plant construction. The wide range instrumentation includes high and low redundant sensors and redundant level transmitters located in the reactor cavity and electrical transmission of the level signals to two continuous indicating instruments on the PAM panel in the control room.

(3) Containment Hydrogen Monitor - This modification requires a continuous indication of hydrogen concentration in the containment atmosphere on two instruments on the PAM panel in the control room.

These three instrument systems were inspected for:

These three instrument systems were inspected for:

In the control room:

(2) Containment Hydrogen Monitor - This modification requires a continuous indication of hydrogen concentration in the containment atmosphere on two instruments on the PAM panel in the control room.

In the control room:

To remove range limitation for the containment sump was included in the initial plant construction. The wide range monitoring includes high and low redundant sensors and redundant level transmitters located in the reactor cavity and electrical transmission of the level signals to two continuous indicating instruments on the PAM panel in the control room.

(3) Containment Pressure Monitor - This modification requires a continuous indication of pressure conversion in the containment atmosphere on two instruments on the PAM panel in the control room.

The range was increased to 600,000 gallon capacity.

To cover the range from the bottom of the containment to the containment sump. A wide range instrument is required to cover a range from the bottom to the top of the containment vessel. A narrow range instrument is required to cover a continuous indication in the control room of containment water level. A narrow range instrument.

(2) Containment Wide Range Pressure Monitor - This modification requires the installation of two (redundant) instruments each to measure pressure between design containment, through the penetrations to the wide range recorders transmitters on the PAM panel in the control room.

(3) Containment Pressure Monitor - This modification requires the installation of two (redundant) instruments systems from the pressure sensing bellows design containment, through the penetrations to the wide range recorders transmitters on the PAM panel in the control room.

a. II.F.1, Accident Monitoring Instrumentation

The following task action plan items described in NUREG-0737 were inspected to verify that the installation is completed in accordance with acceptable criteria, that applicable drawings were changed and that the components have been tested and placed in service or are ready to be placed in service.

4. Task Action Plan Items for Unit 2

The following task action plan items described in NUREG-0737 were inspected to verify that the installation is completed in accordance with acceptable criteria, that applicable drawings were changed and that the components have been tested and placed in service or are ready to be placed in service.

a. II.F.1, Accident Monitoring Instrumentation

(1) Containment Pressure Monitor - This modification requires the installation of two (redundant) instruments systems from the pressure sensing bellows design containment, through the penetrations to the wide range recorders transmitters on the PAM panel in the control room.

(2) Containment Wide Range Pressure Monitor - This modification requires the installation of a continuous indication in the control room of containment water level. A narrow range instrument is required to cover a range from the bottom of the containment to the containment sump. A wide range instrument is required to cover the range from the bottom of the containment to the elevation required to 600,000 gallon capacity.

To remove range limitation for the containment sump was included in the initial plant construction. The wide range monitoring includes high and low redundant sensors and redundant level transmitters located in the reactor cavity and electrical transmission of the level signals to two continuous indicating instruments on the PAM panel in the control room.

(3) Containment Hydrogen Monitor - This modification requires a continuous indication of hydrogen concentration in the containment atmosphere on two instruments on the PAM panel in the control room.

These three instrument systems were inspected for:

xenon/delay spray pump start timing. A series of diesel loading tests were performed to demonstrate that containment start-up of the containment spray pump will be starting of other ESF equipment can be accomplished by the emergency diesel generators without creating an unacceptable undervoltage or undervoltage condition. This test data was forwarded to PPL for review and evaluation. The test results were found acceptable in PPL letter of September 14, 1983. Therefore, this item is closed.

4. Task Action Plan Items for Unit 2

The following task action plan items described in NUREG-0737 were inspected to verify that the installation is completed in accordance with acceptable criteria, that applicable drawings were changed and that the components have been tested and placed in service or are ready to be placed in service.

a. II.F.1, Accident Monitoring Instrumentation

(1) Containment Pressure Monitor - This modification requires the installation of two (redundant) instruments systems from the pressure sensing bellows design containment, through the penetrations to the wide range recorders transmitters on the PAM panel in the control room.

(2) Containment Wide Range Pressure Monitor - This modification requires the installation of a continuous indication in the control room of containment water level. A narrow range instrument is required to cover a range from the bottom of the containment to the containment sump. A wide range instrument is required to cover the range from the bottom of the containment to the elevation required to 600,000 gallon capacity.

To remove range limitation for the containment sump was included in the initial plant construction. The wide range monitoring includes high and low redundant sensors and redundant level transmitters located in the reactor cavity and electrical transmission of the level signals to two continuous indicating instruments on the PAM panel in the control room.

(3) Containment Hydrogen Monitor - This modification requires a continuous indication of hydrogen concentration in the containment atmosphere on two instruments on the PAM panel in the control room.

These three instrument systems were inspected for:

(1) Identification and location - proper type of instrument component with proper range, rating and proper location.

(2) Supports and protection - physical protection from missiles and high energy line breaks.

(3) Independence - physical separation between redundant instrument components at sensors and actuating device in control panels.

(4) Testing - calibration of indicating instruments in the control room, and pressure of level transmitters (sensors).

(5) QC inspection - including generation of inspection records during inspection activities by QC personnel.

(6) Records Inspection - Modification package and drawings changed.

It was noted by the inspector and brought to the attention of licensee that the hydrogen sampling return lines to the containment terminated approximately 9 inches below the maximum flood level (96'-1"). The licensee has issued instructions to raise the sampling return line ends to an elevation above maximum flood level. This system will be released for operation upon completion of change to sampling return line. The containment pressure and level monitoring systems have been released for operation.

The installations of these three instrument systems are acceptable.

b. <u>II.D.3, Direct Indication of Pressurizer Relief and Safety-Valve Position</u>

This modification involved the installation of valve position indication systems. For the three power-operated relief valves (PORVs), valve mounted limit-switches indicate valve position and operate an annunciator alarm in the control room. The three code safety valves are equipped with acoustical monitors to indicate valve position and operate an annunciator alarm in the control room.

These valve position indication systems were inspected for:

(1) Identification and location - proper type of instrument component with proper range, rating and proper location.

(1) Identification and location - correct type of instrument components with proper ranges, rating and proper location.

(2) Supports and protection - physical protection from vibration and high energy line breaks.

(3) Workmanship - physical protection of the installed instrument components of sensors and indicating device in control room.

(4) Testing - calibration of indicating instruments in the control room, and pressure of level transmitter (sensors).

(5) QC inspection - QC inspection performed of inspection records during inspection activities by QC personnel.

(6) Records inspection - Verification package and drawings changed.

It was noted by the inspector and brought to the attention of licensee that the previous sampling return lines to the containment were installed approximately 3 feet below the maximum flood level. The licensee has issued instruction to raise the sampling return line ends to an elevation above the maximum flood level. This system will be checked for operation upon completion of change to sampling return lines. The containment pressure and level monitoring systems have been released for operation.

The installations of these three instrument systems are acceptable.

b. II.D.3, Direct Indication of Relief and Safety Valve Position

This modification involved the installation of valve position indication on the power operated relief valves (PORV), valve position indication which indicate valve position and operate an annunciator alarm in the control room. The three code safety valves are equipped with acoustical monitors to indicate valve position and operate an annunciator alarm in the control room.

Relief valve position indication was inspected as follows:

(1) Identification and location - correct type of instrument components with proper ranges, rating and proper location.

(2) Supports and protection - physical protection from missiles and high energy line breaks.

(3) Independence - physical separation between redundant instrument components at sensors and actuating device in control panels.

(4) Testing - calibration of indicating instruments in the control room, and pressure and level transmitters (sensors).

(5) QC Inspection - including generation of inspection records during inspection activities by QC personnel.

(6) Records Inspection - modification package and drawings changed.

The position indication systems for the pressurizer PORVs and safety valves have been released for operation.

The installations of these position indication systems are acceptable.

c. II.K.1. Sub-Item 17, Delete Pressurizer Level as an Input to Safety Injection Actuation

Low pressurizer level coincident with low pressurizer pressure initiated safety injection in the original design of the reactor engineered safety system for Diablo Canyon Unit 1. Under task action plan item II.K.1. Sub Item 17, this logic was modified to remove the coincident logic and initiate safety injection on a two-out-of-four low pressurizer pressure only.

This system was inspected for:

(1) Records Inspection - modification package for changes to safety injection actuation circuitry on two-out-of-four low pressurizer pressure only.

(2) Independence - physical separation between redundant instrument components at sensors and actuating device in control panels.

(3) Testing - calibration of indicating instruments in the control room, and pressure and level transmitters (sensors).

(4) QC Inspection - including generation of inspection records during inspection activities by QC personnel.

(5) Drawing changes.

The modifications to safety injection logic to delete the low pressurizer water level coincident with low pressurizer pressure actuation logic, and to convert the protection system to a two-out-of-four low pressurizer pressure actuation only, are completed. These changes are acceptable.

(2) Supports and protection - physical protection from radiation and high energy fire hazards.

(3) Independence - physical separation between redundant instruments or control circuits and actuating device in control panels.

(4) Testing - calibration of indicating instruments in the control room, a d pressure and level transmitters (sensors).

(5) Inspection - including operation of inspection records during inspection activities by QC personnel.

(6) Records Tracking - modification package and drawings changed.

The position indication systems for the pressurizer PORVs and safety valves have been retained for operation.

The installations of these position indication systems are accomplished.

c. IV.K.1, Sub-Item 17, Delete Pressurizer Level as an Input to Safety Injection Actuation

Low pressurizer level coincident with low pressurizer pressure initiated safety injection in the original design of the reactor engineered safety system for Diablo Canyon Unit 1. Under task action plan item II.K.3. sub item 17, this logic was modified to remove the coincident logic and initiate safety injection on a two-out-of-four low pressurizer pressure only.

This system was inspected for:

(1) Records Inspection - modification package for changes to safety injection actuation circuitry or two-out-of-four low pressurizer pressure only.

(2) Independence - physical separation between redundant instrument components of racks and actuating device in control panels.

(3) Testing - calibration of indicating instruments in the control room, and pressure and level transmitters (sensors).

(4) QC Inspection - including operation of inspection records during inspection activities by QC personnel.

(5) Drawing changes.

The modifications to safety injection logic to delete the low pressurizer level coincident with low pressurizer pressure actuation only, are complete. These changes are acceptable.

d. Other Task Action Plan Items

The inspector examined a sample of the quality records for the following task action plan items:

(1) II.B.1, Reactor Coolant System Vents

(2) II.E.1.2, Auxiliary Feedwater Initiation and Indication

(3) II.F.2, Saturation Meter and Reactor Vessel Level Indication

The inspection of these items was not completed and will be continued during a subsequent inspection (50-275/81-20-1).

No items of noncompliance or deviations were identified for those modifications or records which were examined.

5. Licensee Action on IE Bulletins and Circulars

The following IE Bulletins and Circulars were reviewed by the inspector to determine the thoroughness of licensee actions to correct or avoid those known or potential deficiencies:

a. (Closed for Units 1 and 2) IE Bulletin 78-12: Atypical Weld Material in Reactor Pressure Vessel Welds

This bulletin described the use of weld wire that failed to meet all specified chemical properties in welds of twelve identified reactor pressure vessels.

The inspector examined records that demonstrate the licensee satisfied the requirements of the bulletin in submitting to NRR documentation identifying the weld material used in the reactor pressure vessel weldments at Diablo Canyon. The inspector also examined documentation that verified that the submitted material had been received, reviewed and favorably ruled-on by NRC (IE HDQTS). Therefore, this issue is closed.

b. (Closed for Unit 1) IE Bulletin 79-01A: Deficiencies in the Environmental Qualifications of Asco Solenoid Valves.

The inspector examined documentation on-site for replacement of gaskets and acetal plastic parts, verification of solenoid coil materials, and retesting of solenoid valves. The licensee

4. Other Action Plan Items:

The inspector examined a sample of the quality records for the following task action plan items:

(1) II.B.1, Reactor Coolant System Vents

(2) II.E.1.2, Auxiliary Feedwater Initiation and Indication

(3) II.F.2, Saturation Meter and Reactor Vessel Level Indication

The inspection of these items was not completed and will be continued during a subsequent inspection (50-275/83-20-01).

No items of noncompliance or deviations were identified for those modifications or records which were examined.

5. Licensee Action on IE Bulletins and Circulars

The following IE Bulletins and Circulars were reviewed by the inspector to determine the adequacy of licensee actions to correct or avoid the problems or potential deficiencies:

a. (Closed for Units 1 and 2) IE Bulletin 78-12, Atypical Weld Material in Reactor Pressure Vessel Welds

This bulletin discussed the use of weld wire that failed to meet all specified chemical properties in welds of twelve identified reactor pressure vessels.

The inspector examined records that documented the licensee [illegible] the [illegible] of the bulletin [illegible] to [illegible] documentation [illegible] the weld material used in the reactor pressure vessels [illegible]. The inspector also [illegible] that [illegible] been reviewed and forwarded by [illegible] (? [illegible]). This item is closed.

b. (Closed Units 1 and 2) IE Bulletin 79-01B, [illegible] Verification of ASCO Solenoid Valves.

The inspector examined documentation [illegible] for [illegible] of [illegible] verification of [illegible] and protecting of solenoid valves. The licensee

has demonstrated to the inspector's satisfaction that the required modifications to the Asco solenoid valves have been accomplished for Unit 1.

c. (Closed for Unit 2) IE Bulletin 80-09: Hydra-Motor Actuator Deficiencies

ITT General Controls (ITT-GC) reported the use of springs, having incorrect material, installed in some Models AH-90 and NH-90 series hydra-motor actuators. The licensee has determined that Unit 2 has four Model AH-90/NH-90 actuators. These units were purchased in mid-1979 and were delivered in March 1980. Prior to delivery, ITT-GC assured the licensee that the actuators did not have any defective springs and that the sizing was adequate. This item is closed.

d. (Closed for Unit 1 and 2) IE Bulletin 81-03: Flow Blockage of Cooling Water Safety System Components by Corbicula SP. (Asiatic Clam) and Mytilus SP. (Mussel)

It has been determined that Mytilus SP larvae are found in the sea water at Diablo Canyon site. The licensee has been aware of these larvae from years of operation of several coastal power plants. As a result, Diablo Canyon Power Plant has been designed to facilitate demusseling on a monthly basis using rejected condenser heat. Warmed saltwater is circulated through the various heat exchangers for a sufficient period to ensure mussel mortality. An evaluation of the effectiveness of the system was conducted on June 9, 1981, when the inlet water box of the component cooling water heat exchangers for Unit 1 was dewatered and inspected. No evidence of Mytilus SP was discovered during the inspection. This item is closed.

e. (Closed for Unit 2) IE Circular 80-09: Problems with Plant Internal Communications Systems

The inspector reviewed records and determined the internal communications systems are powered from vital buses at the Diablo Station and are assured to be operable during the loss of offsite power. Also a survey was performed to determine if false signals could be introduced into electronic equipment from portable radio transmitter used inside the plant. Communications have been published instructing employees in the use of radio transmitters in areas susceptible to electro-magnetic interference. This issue is closed.

has demonstrated to the Inspector's satisfaction that the required modifications to the Aspo solenoid valves have been accomplished for Unit 1.

c. (Closed for Unit 2) IN Bulletin 80-20: Westinghouse Potential Deficiencies

ITT General Controls (ITT-GC) discovered the use of surplus, having incorrect material, installed in some Velcia ZT-20 and MH-90 series hydra-motor actuators. The licensee has determined that Unit 2 has four model MH-90/P-90 actuators. These units were purchased in mid-1978 and were delivered in March 1980. Prior to delivery, ITT-GC assured the licensee that the actuators did not have any defective sealing and that the expiry was deferred. This item is closed.

d. (Closed for Unit 1 and 2) IN Bulletin 81-03: Flow Blockage of Cooling Water Safety System Components by Corbicula sp. (Asiatic Clam) and Mytilus sp. (Mussel)

It has been determined that Mytilus sp larvae are found in the sea water at Diablo Canyon site. The licensee has been aware of this case larvae from years of operation of several coastal power plants. As a result, Diablo Canyon Power Plant has been designed to facilitate dechlorination on a monthly basis during the various boat. Thermal mixwater is circulated through the various heat exchangers for a sufficient period to ensure mussel mortality. An evaluation of the effectiveness of the system was conducted on June 9, 1981, when the inlet water box of the component cooling water heat exchangers for Unit 1 was drained and inspected. No evidence of Mytilus sp was discovered during the inspection. This item is closed.

e. (Closed for Unit 2) IN Circular 80-08: Problems with Plant Internal Communication Systems

The inspector reviewed records and determined the internal communication systems are covered from vital buses at the Diablo Station and are assured to be operable during the loss of offsite power. Also a survey was performed to determine if false signals could be introduced into electronic equipment from portable radio transmitter use inside the plant. Communications have been published instructing employees in the use of radio transmitters in areas susceptible to electro-magnetic interference. This issue is closed.

f. (Closed for Units 1 and 2) IE Circular 81-05: Self-Aligning Rod End Bushings for Pipe Supports

This circular identifies generic deficiencies in pipe support sway struts which involve the clamp end of the sway strut becoming loose and possibly being disengaged from the bushing. This could result in a large gap in the support system not accounted for in the original analysis.

The inspector examined records that demonstrate that the licensee has reviewed the snubbers at Diablo Canyon and determined the concerns of the circular does not exist for Units 1 and 2.

g. (Closed for Unit 2) IE Circular 81-06: Potential Deficiency Affecting Certain Foxboro 10 to 50 Milliampere Transmitters

Two deficiencies have been identified in certain E-10 series Foxboro transmitters which could adversely affect their operation during accident conditions. The deficiencies involve the improper use of teflon insulation and an unsealed capacitor in the amplifier section of these transmitters. The transmitters in question operate at an output signal level of 10 to 50 milliamperes (mA). Similar model number units operating in the range of 4 to 20 mA are not a concern in these matters. The licensee has reviewed his records and determined that the 10-50 mA transmitters are not used at Diablo Canyon.

h. (Closed for Units 1 and 2) Item (81-17/81-11) IE Circular 81-08: Foundation Materials

Insufficient compaction of foundation and backfill materials during the construction of nuclear plants has resulted in excessive settlement of plant structures at a number of sites.

The inspector reported on this item in detail in Inspection Report 81-17/81-11. During the August 10-14, 1981 inspection, the inspector examined additional documentation which demonstrates that the licensee satisfied the requirements of this circular.

6. Allegation: On August 21, 1981, the NRC Region V office was contacted by an individual who alleged that: (1) "Lugs" (filler plates) welded to the Unit 1 Fuel Handling Building east crane rail did not meet AWS D1.1 requirements and; (2) that records for these welds are falsified. The alleger further stated that welding of the crane rail lugs (filler plates) was performed by the Guy F. Atkinson Company as part of the Hosgri modifications in 1979.

e. (Closed for Units 1 and 2) IE Circular 81-05: Self-Alerting 2nd Mud Bushings for Type Buncxte.

This circular identifies sporadic deficiencies in pipe support sway struts which involve the clamp end of the sway strut becoming loose and possibly being disengaged from the bushing. This could result in a large gap in the support system not accounted for in the original analysis.

The inspector examined records that demonstrate that the licensee has reviewed the numbers at Diablo Canyon and determined the concerns of the circular does not exist for Units 1 and 2.

d. (Closed for Unit 2) IE Circular 81-06: Potential Deficiency Affecting Certain Rockwell 10 to 50 Milliampere Transmitters

Two deficiencies have been identified in certain V-10 series Rosemount transmitters which could adversely affect their operation during accident conditions. The deficiencies involve the improper use of teflon insulation and an unsealed capacitor in the amplifier section of those transmitters. The transmitters in question operate at an output signal level of 10 to 50 milliamperes (mA). Similar model number units operating in the range of 4 to 20 mA are not a concern in these matters. The licensee has reviewed his records and determined that the 10-50 mA transmitters are not used at Diablo Canyon.

b. (Closed for Units 1 and 2) Item (81-17/81-11) IE Circular 81-08: Foundation Materials

Insufficient compaction of foundation and backfill materials during the construction of nuclear plants has resulted in excessive settlement of plant structures at a number of sites.

The inspector reported on this item in detail in Inspection Reports 81-17/81-11. During the August 10-14, 1981 inspection, the inspector examined additional documentation which do substantiate that the licensee satisfied the requirements of this circular.

a. Allegation: On August 21, 1981, the NRC Region V Office was contacted by an individual who alleged that: (1) "mud" (filler plates) welded to the Unit 1 Feed Handling Building east crane rail did not meet AWS D1.1 requirements and; (2) that records for these welds are falsified. The allegor further stated that welding of the crane rail lugs (filler plates) was performed by the (my F. Atkinson Company as part of the recent modifications in 1979.

NRC Finding: The allegation was not substantiated.

Licensee Minor Variation Report (MWR) No. C- 1124, dated August 21, 1979 describes a discrepancy where filler plates (3½" x 6" x ¼") welded by the Guy F. Atkinson Company on the Fuel Handling Building crane rails were found to have a number of weld discrepancies including fitup, undercut, insufficient and undersized welds. The filler plate welds were subsequently reinspected and repaired by the H. P. Foley Company in accordance with the MVR disposition and these actions confirmed by licensee Quality Control personnel on February 12, 1980.

On August 27, 1981 the NRC inspector examined all of the east crane rail filler plate welds and reviewed the associated documentation. The inspector found that all of the welds and the documentation conformed to the requirements of the licensee's drawings, instructions, and AWS D1.1 requirements.

No items of noncompliance or deviations were identified.

7. Management Interview

The inspectors met with licensee representatives, denoted in section 1 on August 14 and 27, 1981 to discuss the scope and findings of the site inspections.

7. Enforcement Overview

No items of noncompliance or deviations were identified.

The inspectors met with licensee representatives, denoted in section 1 on January 26 and 27, 1993 to discuss the scope and findings of the onsite inspections.