

C. J. [Signature]

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

AUG 21 1975

Iowa Electric Light and Power Company. Docket No. 50-331
ATTN: Mr. Charles W. Sandford
Executive Vice President
Engineering
Security Building
P. O. Box 351
Cedar Rapids, Iowa 52405

Gentlemen:

This letter refers to the inspection of your activities at the Duane Arnold Nuclear Power Station, authorized by NRC Operating License No. DPR-49, conducted by Messrs. Dance, Shafer, Maura and Feierabend of this office on May 13 - 16, 1975, for site related activities and on June 2 - 3, 1975 for corporate related activities

A copy of our report of this inspection is enclosed and identifies the areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspectors.

During this inspection, it was found that certain of your activities appeared to be in noncompliance with NRC requirements. These matters which were discussed with you, Messrs. Cook, Liu and Wallace by myself, Messrs. Fiorelli and Knop on July 25, 1975, at the Iowa Electric Light and Power Company Corporate offices and by Messrs. Feierabend and Knop with Messrs. Hunt and Hammond at the Duane Arnold site on July 16, 1975, are identified under "Enforcement Action" in the Summary of Findings section of the enclosed inspection report.

This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, code Federal Regulations. Section 2.201 requires you to submit to this office within twenty days of your receipt of this notice, a written statement or explanation in

[Signature]

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reply, including: (1) corrective steps which have been taken by you, and the results achieved; (2) corrective steps which will be taken to avoid further items of noncompliance; and (3) the date when full compliance will be achieved. Such a statement or explanation should be provided for each of the items listed.

An infraction identified through your management control program which was corrected in a timely manner, is identified under Section D of "Other Significant Findings" in the Summary of Findings section of the enclosed inspection report. No additional information is needed for this item at this time.

An item identified during this inspection appears to be a deviation from a commitment which you have made in previous correspondence with the Commission. This item is identified under Section E of "Other Significant Findings" in the Summary of Findings section of the enclosed inspection report. Please advise us in writing within 20 days of the corrective action you have taken or plan to take (showing the estimated date of completion) with regard to this deviation.

As discussed during our July 15, 1975 meeting, there are several areas, in addition to the items of noncompliance, requiring further management attention. These are:

1. Completion of the approval and implementation of Administrative control procedures.
2. Improvement in the commitments followup system at the site and the corporate office.
3. Improvements in the systems used to identify, evaluate and document events other than abnormal occurrences.
4. Improvements in the timeliness of procedure reviews; design change implementation and completion.

In your reply to this letter, please provide us with your comments or the actions taken or planned to increase your effectiveness in these areas.

AUG 21 1975

Iowa Electric Light
and Power Company

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In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this notice, the enclosed inspection report and your response to this notice will be placed in the NRC's Public Document Room. If this report contains any information that you or your contractors believe to be proprietary, it is necessary that you make a written application to this office, within twenty days of your receipt of this notice, to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so the proprietary information identified in the application is contained in a separate part of the document. Unless we receive an application to withhold information or are otherwise contacted within the specified time period, the written material identified in this paragraph will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

James G. Keppler
Regional Director

Enclosure:
IE Inspection Report
No. 050-331/75-11

bcc w/encl:
PDR
Local PDR
NSIC
TIC

UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Operations Inspection

IE Inspection Report No. 050-331/75-11

Licensee: Iowa Electric Light and Power Company
Security Building
P. O. Box 351
Cedar Rapids, Iowa 52405

Duane Arnold Energy Center
Palo, Iowa

License No. DPR-49
Category: C

Type of Licensee: BWR - (GE) 538 MWe

Type of Inspection: Routine, Management Inspection

Dates of Inspection: May 13-16, June 2-3, July 16 and
25, 1975

Principal Inspector:

C. D. Feierabend
C. D. Feierabend

8/19/75
(Date)

Accompanying Inspectors: W. D. Shafer

W. D. Shafer

8-19-75
(Date)

F. A. Maura

F. A. Maura

8/14/75
(Date)

H. C. Dance

R. C. Knop for

8/20/75
(Date)

Accompanying Personnel: None

Reviewed By:

R. C. Knop

Senior Inspector
Reactor Operation Branch

R. C. Knop

8/20/75
(Date)

SUMMARY OF FINDINGS

Inspection Summary

An inspection was conducted at the plant site on May 13-16 and at the Corporate Office on June 2-3 to review the administrative controls exercised in conjunction with plant operation. Eleven items of non-compliance were identified. A subsequent meeting with plant management representatives was held on July 16, 1975 and with corporate management on July 25, 1975.

Enforcement Action

Violation

None.

A. Infraction

The following items of noncompliance were found during the inspection:

1. Contrary to Technical Specifications 6.5.1.4:
 - a. The Operations Committee had not investigated reported violations of Technical Specifications identified by the NRC and transmitted to Iowa Electric in letters dated March 10, 1975, January 13, 1975 and December 23, 1974. (Paragraph 2.b.(1)(b), Report Details)
 - b. The Operations Committee did not review the safety/relief valve blowdown line event found on February 15, 1975. (Paragraph 2.c.(1)(c), Report Details)
 - c. Test equipment to monitor nuclear instrumentation signals was installed and in use on May 12, 1975 without prior review by the Operations Committee to assure that the activity did not constitute an unreviewed safety question. (Paragraph 2.g, Report Details)

These infractions had the potential for causing or contributing to an occurrence related to safety.

2. Contrary to Technical Specification 6.5.2, the Safety Committee had not:
 - a. Reviewed proposed plant changes initiated under the provisions of Paragraph (b) 10 CFR 50.59. Specifically Design Change Requests 169a (MSIV-RPS Switch) and 368 (replacement of Cleanup System Flow Elements) were not reviewed. Furthermore, the Safety Committee charter also requires review of evaluations of proposed changes. (Paragraph 3.c.(2)(a), Report Details)
 - b. Initiated Audits of identified subjects, even though fifteen months had elapsed since issuance of the fuel loading license, contrary to the applicable sections of ANSI 18.7 - 1972 specified by Technical Specifications Section 6.5.2 requiring periodic audits. (Paragraph 3.c.(2)(b), Report Details)

These infractions had the potential for causing or contributing to an occurrence related to safety.

3. Contrary to Paragraph 3.7.A.1.C of the Technical Specifications the licensee permitted the torus water level to decrease below the minimum limit of 58,900 cu. ft. while the reactor water temperature was above 212°F with fuel in the reactor vessel on January 30, 1975. (Paragraph 2.c.(1).(c), Report Details)

This infraction had the potential for causing or contributing to an occurrence related to safety.

4. Contrary to Paragraph 3.7.A.1.d of the Technical Specifications the licensee permitted the torus water level to increase above the maximum limit 61,500 cu. ft. while the reactor water temperature was above 212°F with fuel in the reactor vessel on January 30, 1975 and again on February 8, 1975. (Paragraph 2.c.(c), Report Details)

These infractions had the potential for causing or contributing to an occurrence related to safety.

5. Contrary to Paragraph 6.11.2.A of the Technical Specifications the licensee failed to report the following events to the commission:
 - a. Torus water level in excess of LCO 3.7.A.1.d experienced on January 30, 1975 and February 8, 1975.
 - b. Torus water level less than that required by LCO 3.7.A.1.c experienced on January 30, 1975.

- c. Failure of three primary safety relief valve discharge line vacuum breakers and the damage to one of the lines and its support which occurred as a result of a defective vacuum breaker on February 15, 1975. (Paragraph 2.C.(c), Report Details)

This infraction had the potential for causing or contributing to an occurrence related to safety.

6. Contrary to 10 CFR Part 50, Appendix B, Criterion XV a replacement microswitch used in the HPCI system was obtained from a defective Δ P switch without establishing that the microswitch was acceptable (Paragraph 2.c.(4), Report Details)

This infraction had the potential for causing or contributing to an occurrence related to safety.

7. Contrary to Paragraph 6.6.3 of the Technical Specifications the Vice President Generation (formerly General Production Manager) has failed to review and approve the Operations Committee recommendations regarding abnormal occurrences. (Paragraph 2.a, Report Details)

This infraction had the potential for causing or contributing to an occurrence related to safety.

8. Contrary to 10 CFR Part 50, Appendix B, Criterion V the licensee had failed to comply with its Administrative Control Procedures as noted below:

- a. Failure to maintain and review the log book as required by ACP 1404.4. (Paragraph 2.C.b, Report Details)
- b. Failure to enter all required information in the maintenance Action Request forms as per ACP 1401.4. (Paragraph 2.h.(3).(b), Report Details)
- c. Failure to perform the post modification testing required by ACP 1401.4. (Paragraph 3.e, Report Details)
- d. Safety related systems were returned to service after corrective maintenance without testing required by ACP 1401.4. (Paragraph 3.e, Report Details)
- e. Maintenance work was performed on safety related systems without maintenance procedures required by ACP 1401.4. (Paragraph 2.h.(3).(b), Report Details)

- f. Work was performed on six Main Steam Isolation valves without approved MARS as required by ACP 1401.4. (Paragraph 3.e, Report Details)
- g. Failure to control weld material as required by ACP 3.9. (Paragraph 2.h.(2), Report Details)

These infractions had the potential for causing or contributing to an occurrence related to safety.

B. Deficiencies

1. Contrary to 10 CFR Part 50, Appendix B, Criterion V, The licensee's procurement program is functioning without the use of approved procedures. (Paragraph 2.h.(1), Report Details)

This item is a deficiency.

2. Contrary to Technical Specifications 6.8.2, preventative maintenance procedures are being used prior to proper review and approval. (Paragraph 2.h.(3), Report Details)

This item is a deficiency.

3. Contrary to 10 CFR Part 50, Appendix B, Criterion XI the licensee failed to document acceptance criteria completion such as the pressure, length of test, and gauge used to monitor pressure of hydro test performed following a modification in the scram discharge tank. (Paragraph 2.i.(2), Report Details)

This item is a deficiency.

Licensee Action on Previously Identified Enforcement Matters

Not reviewed during this inspection.

Other Significant Items

A. Systems and Components

1. The safety/relief valve blowdown line water hammer event which was discovered on February 15, 1975 will be the subject of a stress analysis to be performed by Nuteck, Inc. for the licensee.

2. The licensee appears to be having problems with oil leakage at the turbo charger inlet lines to both diesel generators. When the generators are started heavy smoke has been reported as oil is "burned off".

B. Facility Items

None.

C. Managerial Items

1. Station Management's documentation of off normal events is informal. Detailed problem discussion, evaluation and followup is seldom documented. Based on documentation, the evaluations when done appear to be shallow. This item is considered to be unresolved.
2. Generation Department management does not have a system to be aware of the commitments generated by other corporate officers regarding DAEC and of their completion status. In general, corporate and site personnel do not have an adequate system to followup on commitments made to NRC.

D. Noncompliance Identified and Corrected by Licensee

The licensee's letter to IE:III dated March 25, 1975 identified the failure of the Operations and Safety Committees to review a proposed Technical Specification change prior to being transmitted to Licensing on February 25, 1975. This review is required by TS 6.5.1 and 6.5.2. The licensee was confirmed to now have a mechanism to cover such reviews. (Paragraph 2.b.(1), Report Details)

E. Deviations

Contrary to the commitments made to NRC in response to Enforcement letters dated December 3, 1974 and January 16, 1975, as of June 3, 1975 the licensee had not completed installing the new locks. (Paragraph 3.b, Report Details)

F. Status of Previously Reported Unresolved Matters

A previous inspection report identified a concern that the licensee was not keeping the "hold off" log up to date. The inspector reviewed the "hold off" log and verified that an inventory is conducted monthly to keep the log current.

Management Interview

Following the inspections conducted at the site on May 16, 1975 and at the corporate offices on June 3, 1975, the inspectors met with Iowa Electric representatives to relate preliminary findings.

On July 16, 1975, Messrs. Knop and Feierabend met with Messrs. Hunt and Hammond to relate specific items of noncompliance found during the inspection including general items of concern.

Subsequently on July 25, 1975, Messrs. Keppler, Fiorelli and Knop met with Messrs. Sanford, Wallace, Cook and Liu to relate the significant findings of the inspection including the following matters:

- A. Items of noncompliance identified in the Enforcement Action section of the report.
- B. Lack of complete implementation and approval of Administrative control procedures.
- C. Lack of an adequate commitment followup system at the site and the corporate office.
- D. Lack of a formal system to identify, evaluate and document other than abnormal occurrences.
- E. Lack of timeliness in review of procedure, revisions, design changes implementation and completion; and housekeeping efforts.

REPORT DETAILS

1. Persons Contacted

a. Site

G. Hunt, Chief Engineer
E. Hammond, Assistant Chief Engineer
R. Surls, Administrative Supervisor
B. York, Operations Supervisor
J. Gebert, Maintenance Superintendent
R. Rockhill, Mechanical Maintenance Supervisor
J. Vindquist, Electrical Maintenance Supervisor
R. Rinderman, Quality Supervisor
C. Vondra, Shift Supervising Engineer
D. Johnson, Storekeeper
D. Moen, Reactor and Plant Performance Engineer
J. Weeda, Technical Staff Surveillance Program Coordinator
M. Kappl, Shift Supervising Engineer
C. Vondra, Shift Supervising Engineer
D. Kalavitinos, Shift Supervising Engineer
D. Wilson, Results Engineer
R. Nieme, General Electric Company Test Engineer

b. Corporate Office

J. Wallace, Vice President Generation
L. Liu, Vice President Engineering
L. Root, Manager, Mechanical/Nuclear Engineering
G. Cook, Manager, Quality Assurance
H. Rehrauer, Project Engineer
H. Shearer, Group Leader, Mechanical Nuclear Design
R. Lessly, Group Leader, Mechanical Nuclear Design
P. Ward, Mechanical Nuclear Design Engineer

2. Inspection Conducted at the Site

a. Organization and Administration

The inspector's review of the licensee's organization and administration established the following, as determined from discussions with plant personnel and review of records:

- (1) The onsite organization, including required licensed personnel, meets the minimum described in Technical Specification 6.2. TS Figure 6.2-1 was noted to have a footnote which should have referenced section 6.11.1 instead of 6.12.1. This was brought to the licensees attention.
- (2) Qualifications of the plant staff are in conformance with Technical Specification 6.3.
- (3) Authorities and responsibilities of licensee personnel are specified in individual plant procedures, as required by ANSI N18.7-1972, Revision 1. However, many of these assignments are included in Administrative Control Procedures which are in varying degrees of approval
- (4) Operations Committee (onsite) staffing and qualifications met requirements of Technical Specification 6.5.1.
- (5) Changes in plant supervisory personnel were reported in the July-December 1974 Semiannual report as required by Technical Specification 6.11.1.A.3.
- (6) The site engineering staff, under the direction of the Reactor Plant Performance engineer, includes four engineers and a part time assistant. This group has responsibility for core monitoring, computer programming, surveillance scheduling, rod analysis, special tests, and balance of plant systems. No specific assignments have been made to routinely follow plant performance in this latter area.
- (7) One engineer, serving as assistant to the Chief Engineer performs abnormal occurrence investigations and assists with Operations Committee activities and Regulatory Guide 1.16 report requirements, has been temporarily assigned to the plant during the past two years from the Corporate staff.
- (8) During the site inspection, the inspector was informed that authorizations for two additional engineers and one engineering assistant had been approved and would be added to the staff as soon as possible.
- (9) Staff training was reviewed previously,^{1/} and was not reviewed during this inspection.

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(10) Site management indicated that site use of consultants would be pursued through the corporate production and engineering groups.

(11) Operating orders

(a) Review of Operations Supervisor Operating Orders Index indicated that of 23 orders issued, 10 had expired according to indicated expiration date and one was listed as an "indefinite" expiration date. No entries were entered under the cancelled column. Thus it appeared that the index was not current. The control room copy was not checked.

(b) Operating order 2-18 defined control room manning and boundaries. The order required the line of sight concept during operation. However, the inspector noted that all adjacent areas, such as the kitchen and possibly the computer room and Shift Supervisory Engineers office, defined as the control room were not within audible range of the panel annunciator. This becomes pertinent when Technical Specification require two operators in the Control Room during transient operation or during periods of Cold Shutdown. The licensee indicated the order would be revised to satisfy this concern.

(12) All security guards report individually through the Assistant Chief Engineer. The latter is also doubling with the Operations Supervisor as the training coordinator.

b. Review and Audits

(1) Operations Committee

Review of Operations Committee minutes from October 9, 1974 (No. 309) to May 9, 1975 (No. 424) determined meetings were being convened at the required frequency and that quorum requirements established by Technical Specifications 6.5.1 and the approved written charter were being met. The inspectors review indicates that the matter reviewed by the Operations Committee met those designated in the technical specification with two exceptions:

(a) The technical specification change to Section 3.7.A.6.b (Containment Atmosphere Dilution System) submitted to NRC on February 24, 1975 had not been

reviewed by the Operations Committee (nor by the Safety Committee) prior to submittal. This event was subsequently detected by the licensee and reported to NRC in a letter dated March 25, 1975. The Mechanism to formally document such reviews was noted to be in use at the corporate office.

This item of noncompliance is considered resolved.

- (b) Technical Specification 6.5.1.4.g requires that the Operations Committee investigate reported or suspected violations of Technical Specifications and forward recommendations to prevent recurrence to plant and corporate management.

Contrary to this, the inspector's review of the Operations Committee minutes and discussion with site personnel determined that the items of non-compliance identified by the NRC and transmitted to the licensee in letters dated March 10, 1975, January 13, 1975 and December 23, 1974 had not been reviewed nor had they been forwarded to the chairman of the DAEC safety committee.

- (c) The Operations Committee did not have a system to keep track of commitments made during the 115 meetings conducted during the last seven months. One such action items log was issued on October 15, 1974 but had not been maintained nor had the open items, (which dated back to 1973) been confirmed to be closed. Similarly no list of IELP commitments made to the NRC was in existence. There did exist an Abnormal Occurrence Status Report, latest issue May 13, 1975, which maintained status of corrective action required on abnormal occurrences.

(2) Quality Assurance Audits

The onsite Quality Department consisted of a Quality Supervisor and a Quality Technician. Primary functions are to assure that material received by the plant is of desired quality and to perform audits of plant operation. Quality Department is not responsible, for assuring welding is being performed by procedure or of monitoring hold points unless this is an item chosen for audit. The Quality Department supervisor is a member of the Operations Committee and reports directly to the Chief Engineer.

The inspector's review of the Quality Department procedure, a review of 19 audits performed between January 3, 1975 and February 9, 1975, and discussion with personnel determined that:

- (a) The mechanism established for conducting audits included a followup system.
- (b) Audits had been principally oriented toward procurement (physical warehouse) and general work area. However, several audits were performed in August and September 1974 covering work in progress on relief valves. As of January 1975, several audits had examined administrative control procedures (1404 series)

In general, audits were limited in scope nor does the program include confirmation that work in progress was being conducted in accordance with approved procedures.

- (c) Four audits were performed during March and April 1975 - all associated with the warehouse.
- (d) Areas to be audited nor their frequency were not designated so that it was not possible to determine the total scope of the program.
- (e) One Quality Technician is presently assigned. His duties are primarily associated following procurement activities. According to plant management, authorization was received for a second Technician while the inspection was in progress.

c. Problem Identification in Review of Plant Operations

(1) Shift Supervising Engineers Log

(a) Procedure

In accordance with Administrative Control Procedure (ACP) No. 1404.4 minimum requirements for Shift Supervising Engineers log include:

1. Major changes in plant status and major operations which occur at the plant.

2. Shutdown including: Cause, method, duration of outage, plant status during outage, and corrective action taken to preclude recurrence.
3. All plant maintenance including: system or component, cause, results and effect on safe operations, corrective action taken to preclude recurrence, and precautions taken to provide for reactor safety.
4. Results from plant testing.

These ACP requirements for logging do not include problems which result in a limiting condition for operation (LCO) being exceeded.

ACP 1404.4 also requires the Shift Supervising Engineers and the Operations Supervisor to review and initial the log books.

(b) Observations

The inspector reviewed the Shift Supervising Engineers Log from January 1, 1975 to April 1, 1975 and found that the requirements of ACP No. 1404.4 were not always maintained, this was not in conformance with the requirements of 10 CFR Part 50, Appendix B, Criterion V. Specifically:

1. On February 4, 1975, during the performance of surveillance test procedure 42A013 the cleanup isolation valve MOV2700 failed to close. Contrary to ACP 1404.4 Paragraphs 6.3.4.2 the log failed to state the "results and effect on safe operations" caused by the event and the "precautions taken to provide for reactor safety during repair."
2. Similar log omissions were noted as a result of abnormal occurrence 75-09 which took place on February 20, 1975 during the performance of surveillance test 42B020.
3. While it was noted that required station management reviews the log as signified by their initials, they could not explain the entries of January 30, 1975 concerning torus level nor of February 15, 1975

concerning the damage to the reactor relief valve discharge line in the torus. (see subsequent sections) In addition, the inspector noted incorrect reactor thermal power and generator output entries on February 3, 4, and 7, 1975, which had gone unnoticed by plant management.

(c) Log Entries

The inspector also noted that the entries in the log do not provide enough detail regarding the problems identified. In addition, the short term resolution to identified problems are not always entered in the log making it difficult to determine whether the plant was being operated in accordance with its license. Specifically:

1. A log entry @ 1750 hrs. on January 30, 1975 stated that the torus level had been pumped too low. No further entries could be found defining "too low" or stating what corrective action was taken. The inspector reviewed the wide range and narrow range torus level charts and verified that the torus water level had been pumped approximately 1.15 inches below the minimum level specified in Paragraph 3.7.A.1.C of the Technical Specifications. The unit was in shutdown and the licensee was controlling reactor temperature using the RCIC system and discharging the excess torus water to radwaste at the time of the occurrence.

The chart review also revealed that just prior to the pumping of the torus level the upper limit has been exceeded by approximately 0.25 inch and that on February 8, 1975 at approximately 0500 hrs. the upper limit was again exceeded reaching a peak of 0.8 inches above the limit at 0600 hrs. The licensee was totally unaware of the last two instances of exceeding Technical Specification LCO 3.7.A.1.d. The logs were silent on both counts.

Neither of these abnormal occurrences were reported to the NRC as required by Technical Specification 6.11.A.1.

2. A log entry at 1800 hrs. on February 15, 1975, stated that a broken support to one of the reactor relief valve blowdown pipes had been found. At 1915 hrs. the log states that the relief valve (PSV 4406) discharge line was severely damaged with one hanger and one restraint broken and the vacuum valve broken. Also 2 other vacuum relief valves were stuck open. At 2125 hrs. the log stated the inspection of PSV 4406 discharge piping had been completed, that the hanger had been repaired, and the vacuum relief on the line was free to operate.

The log book failed to describe the damage in more specific terms and to indicate what repair was performed. No additional documentation concerning the "severe damage" to the piping or components could be produced by the licensee at the site. License management personnel either indicated a lack of knowledge of the event or indicated that the event was much less serious than the log indicated. A Maintenance Official, in particular, stated that the restraint had not broken, but that a nut had worked loose and fallen off. He also stated to the inspector no damage had occurred to the pipe. An Operations official stated that the event has been reviewed by the Operation Committee and considered not to meet any reporting requirement, but could not describe the extent of the damage. He also stated that IE Engineering was conducting additional studies. The inspector could not verify that the Operations Committee had reviewed the event as the minutes of meetings conducted during February 1975 failed to state any details of the problem and some members of management were uninformed of the event. This is considered to be an infraction of TS Paragraph 6.5.1.4.f.

On May 16, 1975, an official of Mechanical & Engineering contradicted the previous site statement by noting that Engineering had not and was not presently conducting any further

studies beyond what was done on February 15, 1975 to correct the damage. He had visually inspected the damage and was then informed by the inspector that the matter would be reviewed at our forthcoming visit to the corporate offices.

(d) Relief Valve Blowdown Line to Torus Event (Reviewed at Corporate Offices)

During the visit to the Corporate Office on June 3, 1975 the event was reviewed with Engineering personnel. No pictures were available, but the licensee had made some sketches of the damage. The inspector's findings based on this information are that:

1. Contrary to the statements made by site personnel the line broke the U-bolt clamp at the restraint. The broken rod was estimated to be $\frac{1}{2}$ " in diameter. The 4" x 4" x $\frac{3}{8}$ " angle channel to which the clamp was attached was straightened by the event and required cold bending so the pipe could be re-attached. The pipe, which is 10", schedule 40, was indented at the position of impact against a $\frac{1}{2}$ " x 14 $\frac{1}{8}$ " support plate. The indentation was $\sqrt{3/8}$ " deep which is $\sqrt{}$ the same as the pipe wall thickness. The pipe also had impacted several times against structural steel attached to the drywell shell. These other indentations were approximately $\frac{1}{4}$ " deep by 14" long.
2. An official of Mechanical & Nuclear Engineering had recommended that a stress analysis of the event be preformed but was overruled by upper Corporate Management.
3. Following NRC's discussion of the event with the licensee on May 16, 1975 corporate management reversed their earlier decision, and on May 20, 1975 Nuteck, Inc. was awarded a contract to perform a stress analysis on the blowdown line. Nuteck had performed the original piping analysis and is presently performing a torus analysis for the licensee.

4. The licensee suspects the event was caused by the surge of torus water into the line when the line vacuum breaker failed to operate following relief valve operation. It is possible the event actually occurred when the relief valve operated with the blowdown line partially filled with water.
5. The piping analysis to be performed does not include the effect of the water slug, being discharged by the relief valve operation, on the torus structure. The inspector recommended to the licensee that such a study be included, and in addition the effect of the impact of the line on any other structures.

The event was not reported to NRC as required by Technical Specification Paragraph 6.11.2.A.2.b.

(2) Surveillance Test Problem

The Surveillance Test Problem form is used to identify problems experienced during the performance of any surveillance test required by the Technical Specifications and is the mechanism used to determine whether or not such problems constitute an abnormal occurrence.

(3) Maintenance Action Request

The Maintenance Action Request form provides the formal means for anyone at the site to identify a problem which requires correction by maintenance personnel. During the initial review of each MAR those that are deemed to constitute design changes are translated into Design Change Request for processing. The MAR form was not intended to document problems which do not require work on structures or components. Several infractions in the use of the MAR form were identified during the inspection and are discussed in other sections of this report.

(4) Abnormal Occurrences

No formal system exists for the identification, prompt review and evaluation of off-normal operating events, to assure identification of abnormal occurrences, other than those which occur during the performance of surveillance testing.

As problems are identified in day-to-day operations the Shift Supervising Engineer makes the first judgement as to whether the event constitutes an abnormal occurrence or not. If his decision is affirmative he then communicates verbally with the Operations Supervisor who then repeats the decision process. Again, if the decision is positive the Assistant Chief Engineer is informed. The Technical Engineer is assigned to write the AO report and the Operations Committee reviews the event. The system did not provide for subsequent review by upper management of any problem not deemed to be an abnormal occurrence by this review process.

During this inspector's review of abnormal occurrences it was noted that a microswitch on HPCI PDIS-2244 was replaced during October 1974. The replacement component was taken from a defective Barton D/P switch instead of the store-room safety related inventory and no documentation existed to show it qualified as a like-for like replacement. This was an infraction of 10 CFR 50, Appendix B, Criterion XV.

(5) Communications Between Members of Plant Staff

The licensee conducts informal meetings every morning to discuss problems experienced, schedules, suggestions, etc. A representative from IE Engineering is always present.

(6) Trend Program

The licensee does not have a formal trend program covering all phases of plant operation. A limited program covering instrument drift experienced during surveillance tests or instruments for which periodic testing is required by technical specification had been in effect since 1974. Station management was not aware the program was still active as they had planned to discontinue it due to manpower shortage.

d. Problem Review and Followup

(1) Review and Evaluation

The licensee does not have a formal system to ensure the review and evaluation of day-to-day problems. Only two forms exist to identify problems, the MAR and the Surveillance Test Problem, but neither form is geared to

document the results of a review or evaluation. No single individual or group has been formally assigned the responsibility for the prompt review and evaluation of off normal operating events. Many problems appear to receive only a verbal discussion. The lack of a system to document problems, other than in the log book, appears to be the reason that some occurrences have not been recognized to require reporting to the NRC. The failure to have an off normal event review system appears to be contrary to Corporate Directive No. 1316.1. This item is considered to be unresolved.

The inspector reviewed a job description dated November 20, 1974 in which the Technical Engineer was identified as the person responsible to write the AO report.

(2) Followup Action for Identified Problems

The licensee has no formal system to assign responsibility for assuring that completion of corrective actions relating to identified problems are done in a prompt and efficient manner. The licensee stated that responsibility for the completion of corrective actions was normally assigned in the minutes of the Operations Committee. However, a review of minutes from December 18, 1974 to February 8, 1975 failed to show any assignments had been made for the AO's discussed during that period.

The licensee maintains a status of corrective actions identified in abnormal occurrence or unusual event reports. A review of the status log showed that it does keep track of item completion, but it does not assign responsibility nor list a target date for item completion.

The lack of a formal system to keep track of followup action contributed to the following:

- (a) The site personnel understood that IE Engineering was working on a study of the relief valve blow-down event, while actually nothing was in progress.
- (b) A review of MAR 9232 and 9233 generated March 21, 1975 and which had been given a priority "Urgent" showed no resolution. The MAR's had been generated as a result of heavy smoke coming from oil soaked lagging at both turbo chargers inlet, on both diesel generators.

The reason given that the MAR's had not been closed was that a Maintenance official had looked at the problem, considers it not serious, just an operational nuisance and wants to watch it for some time.

- (c) Design changes appear to take considerable more time to be processed than required (Refer to Section 3.f.(1)).

e. Administrative Control Procedures

The licensee established a system of administrative control procedures (ACP's) to govern implementation of quality assurance directives. The ACP's were completed in draft form and were reviewed by the Operations Committee prior to implementation on a "trial use and comment" basis. The licensee had revised and approved approximately 75% of the ACP's however, at the time of the inspection 12 ACP's had not been formally approved.

Discussions with licensee personnel and review of QA audit records showed that the licensee had identified the problem of numerous procedures out for trial use and comment for an excessive period of time. QA records for May, 1975 identified the status of each of the ACP's. At that time there were 17 ACP's that had not been formally approved.

Some of the ACP's were reviewed in detail and indicated that the ACP's are not followed in all cases. (See Sections 2 h).

The inspector questioned the status of the ACP's that had not been formally approved in that they had been evaluated by the operations committee, as recorded in minutes of meetings, but were not signed. The licensee stated that it was the intent that the procedure be used but that changes could be made during the trial periods. Most of the ACP's that had not been approved were in the areas of maintenance and storekeeping.

The inspectors took the position that the procedures that were issued for trial use should have been so identified (the licensee indicated that lack of the signature provided this identification) and that

deviations or changes should have been documented during the trial use to assure that the procedures actually being used had been reviewed in accordance with technical specification requirements.

The licensee did not have a firm schedule for completing revisions and approval of the procedures that remain in the "trial use and comment" status. Discussions with cognizant personnel indicated that a higher priority was currently placed on the store-keeping function in order to have physical control of all supplies for assurance of compliance with quality assurance requirements.

Administrative control procedures referred to the existence of a Safety Related List for components and procedures. Such a list was found not to exist. The basis for establishing safety related status must consequently be decided on a case by case basis.

f. Control of Station Records

The licensee's ACP for plant control documents assigns responsibilities for maintaining the various lists that identify the plant control documents. The lists had been computerized to provide faster updating of revisions. Review of a sample of the drawing lists and verification of a sample of drawings did not identify any discrepancies.

The licensee ACP for records management identifies the Administrative Supervisor to be custodian of the central file record and to have overall responsibility for storage facilities for records. The ACP designates "cognizant plant supervisors" to be custodians for department records for their own departments. The licensee ACP does provide for control of records that are placed in storage and for identification of records that will be destroyed after expiration of the required retention time. The licensee indicated that no records had yet been destroyed at the time of the inspection.

Review of records controls included the provisions for receipt and storage of permanent records, such as log books, correspondence, procedures and recorder charts.

The licensee's controlled central file includes record copies of logs, procedure, blueprints and vendors literature. The licensee has recognized that the volume of records being generated will require an improved method of handling and storage, and is currently investigating methods of microfilm recordkeeping and controls.

The inspector randomly selected samples of logs, computer logs, drawings, vendor literature and recorder charts. All records were retrieved and examined in a reasonable amount of time. One recorder chart was not in the storage location indicated, however, warehouse personnel were able to locate it during the inspection. Computer logs were stored in the central file room without means for quick identification, however, the records selected for verification were located in a reasonable amount of time.

The licensee is currently in the process of completing computerized listing of all design documents such as drawings and vendor manuals. An inventory of the drawings maintained in the control room has been completed. Inventory of the central file remains to be completed.

Discussions with cognizant personnel indicated that progress has been slow in completing inventory of records and in developing a program of microfilming. The reason for the backlog appears to be lack of appropriate manpower and the higher priority assigned to establishing an acceptable storekeeping operation.

g. Instrument Tube Vibration Testing

The licensee had installed special test equipment supplied by the nuclear steam supply vendor (GE) to record data for power spectral density testing in accordance with discussions with NRR (L). The test equipment receives its signal from the computer output of the APRM monitors, and has no apparent affect on plant instrumentation except for the plant computer printout. The inspectors verified that the panel indicators were operable and that there was no affect on any safety related system.

The inspector discussed the test program and installation of the test equipment with cognizant licensee personnel and with the GE representative who was recording the data. The

discussions indicated that licensee personnel had evaluated the test with respect to possible affect on plant instrumentation, but there was no documentation of such an evaluation nor a record of installation of the test equipment except a log entry cautioning that computer output data for APRM's was affected by the test equipment, and should be disregarded.

Because the test equipment was connected to nuclear instrumentation channels that do have safety functions the test should have been reviewed by the Operations Committee, therefore the testing was not in conformance with Section 6.5.1.4.C of the Technical Specifications.

h. Maintenance Program

The inspector reviewed the licensee's administrative controls and implementation of the maintenance program within the areas of procurement, procedures (routine and nonroutine) and surveillance.

(1) Procurement

The inspector identified three safety related items in storage and verified that procurement specifications included approval and quality control inspection and record requirements. Documented evidence was available on site to support equipment and material conformance to procurement requirements. the items identified were; (1) diesel generator drain rings, (2) core spray pump upper thrust bearing and (3) a traverse incoré probe detector.

In discussions with licensee representatives the inspector was informed that the procurement program is being computerized and that new procedures are being written to identify this in the procurement program. However, the inspector determined that the licensee's present procurement program does not follow any approved procedure. Examples of this are: (1) ACP No. 3.5 (Preservation). This procedure outlines the preventative maintenance for safety related items. The inspector determined that no preventative maintenance program is being used by the license. (2) ACP No. 3.4 (Storage). Section 5.2 identifies the requirements for limited life items. The inspector determined that no program is used to control safety related items with limited shelf life.

(2) Control of Welding Supplies

Reviewing the licensee's program for control of welding material, the inspector determined that the total program responsibility has been transferred from the Storekeeper to the Mechanical Maintenance Supervisor.

The inspector toured the weld material storage area and the weld shop where the weld rod ovens are located and found three examples of nonconformance with the ACP for weld material control.

- (a) No indication of control and separations of acceptable and unacceptable weld materials.
- (b) The surveillance program on several weld rod ovens had not been completed within the last year.
- (c) There was no indication that weld materials are used on a first in/first out basis.

The above requirements were included in ACP 3.9, which had been issued for trial use and comment. Failure to accomplish activities that can affect quality in accordance with procedures is nonconformance with the requirements of 10 CFR 50, Appendix B, Criterion V.

(3) Routine and Nonroutine Maintenance Procedures

(a) Preventive Maintenance

The inspector verified that routine preventive maintenance was being performed according to existing procedures, but that these existing inspection and lubrication procedures were never reviewed or approved as required by Section 6.8.2 of the licensee's Technical Specifications. Listed below are the routine maintenance procedures reviewed during this inspection:

- 1. Inspection Procedures:
 - a. IP 19, 125V and 250V Batteries, Rev. 1, August 14, 1974.
 - b. IP 74, Control Rod Drive System dated June 8, 1973.

c. IP 98, River Water Intake Gates, dated January 15, 1974.

d. IP 139, Fuel Preparation Machine, dated February 20, 1974.

2. Lubrication Procedures:

a. LP 11, Waldron Coupling, dated February 4, 1974.

b. LP 16, Colt Industries (Fairbanks-Morse) Diesel, dated January 15, 1974.

c. LP 35, GE Motor, Model 5K 6357XC6A, dated June 13, 1973.

d. LP 92, Nuclear Instrumentation, dated February 21, 1974.

3. Repair Procedures:

a. RP59/ie-1, Drywell Head Installation, dated March, 1974.

b. RP62/ie-8, Vessel Head Insulation Removal, dated June 1, 1974.

c. RP45/ie-2, Flange Tensioning Requirements, dated April 17, 1975.

(b) Nonroutine Maintenance

Inspection of nonroutine maintenance was performed by reviewing licensee's Maintenance Action Request forms (MARs). Not one of the MARs reviewed by the inspector was completed in accordance with licensee's (ACP No. 1401.4, Control of Plant Work) Failure to comply with procedure 1401.4 is contrary to 10 CFR 50, Appendix B, Criterion V.

The following three Maintenance Action Requests are examples of the fifteen MARs reviewed by the inspector for completeness and detail.

1. MAR No. 6994, Main Steam Relief Valve

The maintenance action request form requires the identification of the procedures to be used to perform the corrective maintenance,

or in lieu of a procedure, special written instructions to identify the work to be done. Contrary to Technical Specifications, Section 6.8.1.5, and ACP 1401.4 no approved procedure was used for this work. The MAR identifies the work as having started on September 20, 1974. The design change review was not approved by the Operations Committee until September 21, 1974. The system was signed off as "restored to normal" on September 22, 1974.

The inspector identified, through discussions with licensee maintenance representatives and by reviewing the maintenance action request, that the system was returned to normal without prior testing. A licensee operations representative stated that some tests were made, but no records were presented to substantiate this statement. Surveillance test procedure No. 46D004 requires relief valve testing at specific pressures and temperatures at the time of reactor heatup. This procedure was not used. The licensee failure to comply with Technical Specification 6.8.1.

2. MAR No. 7412, Standby Liquid Control System

The inspector established that no procedure nor special instruction was used to complete the maintenance requested. A licensee representative stated that the maintenance work (adjusting the piston packing) was within the capability of the craft performing the maintenance and therefore, no maintenance or special instructions were necessary.

The MAR in question was generated as a result of the problem being identified during a surveillance test. The surveillance test was not rerun upon completion of the maintenance work, however, a comment that the pump was tested was written in section 5 on the MAR.

No decision was made by the Operations department as to whether this test was satisfactory for surveillance purposes.

3. MAR No. 7292, Diesel Generator, IK-10D

The inspector established that Contrary to ACP 1401.4 no procedures or special instructions were used to perform the corrective maintenance requested, and the system was not tested prior to returning it to service. The inspector verified that a design change was reviewed and approved, however, in reviewing the design change package, the inspector established that the welding performed on the system was not inspected and appropriately signed off by supervisory personnel as required on the weld assignment form.

i. Design Changes

(1) Site Review

Most plant design changes originate as Maintenance Action Requests (MAR). During the MAR review the Maintenance Supervisor makes the determination of whether it constitutes a design change or not. The MAR then goes to the Assistant Chief Engineer for concurrence and then to corporate Engineering where a Design Change Request (DCR) is initiated (Form is part of ACP 1409.1 Design Change Program, dated June 5, 1974). DCR's can also be initiated by anyone without the initial MAR routing, but prior to the performance of the work a MAR must be initiated. IELP Engineering staff writes the Safety Evaluation and the Operations Committee determines whether an unreviewed safety question exists. During the review of DCR's at the site it was noted that:

- a) ACP 1409.1, Design Change Program dated June 5, 1974, which covers Design Change does not explain how is the DCR form used and who is responsible for what during the flow of a design change from initiation to completion.
- (b) The DCR form does not specify the testing to be done after completion of the work. Testing is left to the discretion of the personnel handling the MAR. (Block No. 7)

(c) The DCR No. 417 package, regarding the replacement of the scram discharge tank level switches, was at the site and could be partially reviewed. The inspector noted that:

1. Although the hydro test was apparently performed on February 12, 1975 the results of the test and the entire design change package had not been sent back to Engineering for review and closeout.
2. A hydro test procedure did not exist. The Piping Systems Test Record lacked detailed information concerning the date the test was performed, the gauge used to determine test pressure, the test pressure and the length of time the pressure held. This is in noncompliance with 10 CFR 50, Appendix B, Criterion XI, in that documentation of the completion of acceptance criteria was not provided.

(d) Station quality control personnel are not involved in ensuring quality of workmanship, testing, etc., for design changes or plant maintenance in general.

(e) Our review would have to be completed at IE:HQ because, after completion, all DCR's and supporting documents are filed there. The informal copies kept at the site were incomplete.

j. Housekeeping

The inspector toured the facility on May 14, 1975 and noted that:

- (1) The control room floor apparently is not cleaned frequently as it had several spills which personnel had walked over and showed general signs of neglect.
- (2) The plant interior, especially the floors, had never been painted and as a result the floor in the reactor and turbine buildings felt to be covered with grit. The lack of an adequate paint cover over the floor makes it harder to keep clean especially if contaminated water is spilled.

The licensee stated the poor appearance was not due to lack of paint but labor to apply it. Painting of the area where the boron injection system is located had started.

- (3) The area in the turbine building where the water makeup system is located contained a fair amount of water on the floor. Either no drains exist in the area or they are plugged. According to the licensee the system has never worked satisfactorily and the area is normally flooded.

3. Inspection Conducted at Corporate Offices

a. Management Review of Reactor Operations

The normal flow of information from the site to the corporate office is by phone to the Vice President, Generation, who stated that once he is aware an abnormal occurrence has taken place he informs the Executive Vice President and others of the Corporate Staff. In addition the Engineering Department has a member present at the site morning meetings. No records are kept of the phone conversations or morning meetings. As a result it was not possible to verify how "immediately" abnormal occurrences are reported to the Vice President Generation (new title for the General Production Manager) as required by TS Paragraph 6.6.1. except by this verbal discussion.

Technical Specification Paragraph 6.6.3 require that copies of the Operations Committee reports on abnormal occurrences be submitted to the Vice President Generation for review and approval of any recommendations to prevent or reduce the probability of a recurrence. The Vice President Generation stated he had delegated such responsibility to the Chief Engineer. When informed by the inspector that the TS did not authorize such delegations, he stated that AO reports come through his desk and he reviews them informally. The inspector was unable to verify that the Operations Committee recommendations regarding AO 50-331/74-53 which dealt with loss of control power to HPCI-CST Isolation Valve, or AO 50-331/75-10 which dealt with an inoperable RHR service water pump, had been reviewed and approved by the Vice President Generation. Both examples constitute noncompliance with Paragraph 6.6.3 of the Technical Specifications.

With regards to the relief valve blowdown line event of February, 1975, the Vice President Generation stated he was aware of the event and understood that Engineering was working on the problem, but he had not been informed of any damage or repairs required.

b. Management Instructions Following NRC Enforcement Action

The licensee stated all correspondence regarding enforcement matters IE Bulletins, etc., received by the office of the Executive Vice President is promptly routed to the Manager

Quality Assurance. The latter assigns responsibility to prepare the answers to the group most familiar with the items, and notes due date to NRC on cover page. He also maintains a file on each letter received. Most answers are drafted at the site. The draft is reviewed by the Manager Quality Assurance, might be reviewed the legal consultants, and then goes to the Executive Vice President for final review and signature.

Correspondence from Licensing NRR(L) follow a similar route except that assignment is made by the Manager of Mechanical and Nuclear Engineering. The inspector verified that ROB-74-16 regarding Fairbanks-Morse diesel generators followed the described route.

No system could be found to exist to ensure followup of commitments made by the licensee in their response to NRC correspondence. The inspector found that:

- (1) The Manager Quality Assurance concerns himself with the generation of answers to NRC inquires. Once the answers are generated his file is closed.
- (2) The Manager Mechanical and Nuclear Engineering maintains an informal tickler file for the generation of responses to NRC letters only.
- (3) The Vice President Engineering depends on his staff to ensure that responses, etc., are performed as required. All three of the above indicated it would be up to the Generation Department to ensure the final work involving DAEC got done.
- (4) The Vice President Generation has no system to follow either the establishment of a commitment or its execution.
- (5) The Executive Vice President could not be interviewed nor could his records be reviewed because he and his staff were on annual leave. As a result of the above the status of the following commitments could not be determined by the licensee at the corporate office:
 - (a) In a letter dated December 23, 1974, IELP stated new locks that met Regulatory Guide 5.12 would be installed on doors to high radiation areas by February 1, 1975. In response to a separate enforcement letter dated January 16, 1975 the licensee apparently realized it could not meet the February 1, 1975 date

and modified it to March 1975. According to the Manager Quality Assurance following a telephone communication with the site, all but four of the locks were installed in May, they are waiting for parts on two, and one is to be done during the next outage due to being in a high rad area.

- (b) In a letter dated December 23, 1974 the licensee stated a design change on the secondary containment airlock door interlocks had been initiated and the hardware was being modified to prevent future damage to components. The inspector verified that DCR No.78 was issued on May 7, 1974, was approved by engineering on September 5, 1974, and by the Operations Committee on September 27, 1974, but no action has been taken since.

This is a deviation from a licensee commitment to NRC.

c. Safety Committee

(1) Conformance with Technical Specifications

Discussion with Safety Committee chairman and review of Safety Committee meeting minutes from July 31, 1974 (No. 75) through May 27, 1975, (No. 104) determined the following were in accordance with Technical Specification 6.5.2.

- (a) Charter had been prepared and included required provisions.
- (b) Qualified members had been appointed.
- (c) Meeting frequency and quorum were being met.
- (d) Meeting minutes were maintained.

(2) Nonconformance with Technical Specifications

- (a) Contrary to TS 6.5.2.1., and the Safety Committee charter dated March 21, 1975 (and earlier revisions), the Safety Committee had not reviewed proposed plant changes completed under the provisions of paragraph (b) 10 CFR 50.59. Specifically Design Change Requests 167a (MSIV-RPS Switch), 417 (Replacement of Scram Discharge Volume System) and 368 (Replacement of Flow Elements Clean up System) had not been reviewed.
- (b) Contrary to TS 6.5.2.8, the Safety Committee (SC) had not initiated audits of areas specified. The SC charter provided a two year period to cover the required areas. However, ANSI 18.7-1972, Section 4.3,

referenced in TS 6.5.2.1, specifies activities be reviewed periodically. The fuel loading license was initially issued on February 22, 1974 and no audits have been performed during the ensuing 15 months. Procedures outlining the mechanism of SC auditing were reported in preparation in order to complete the program within the two year period identified in the charter.

- (c) Notices to SC members of scheduled meetings had not been formally prepared and retained for meeting numbers 99 (April 18, 1975) through 104 (May 27, 1975). Members were reportedly informed in most cases by telephone prior to a meeting.

It was also noted that the Safety Committee does not maintain an action item list or equivalent to assure commitments or other requirements have been completed.

d. Quality Assurance Department

The following was determined from review of site procedures, review of fifteen audits performed since December 1974, and discussion with corporate personnel.

- (1) On March 1975 the Manager Quality Assurance assumed the duties of Manager Electrical Engineering (not DAEC) in addition to his QA responsibilities. At the same time he began reporting to the Vice President Engineering with a communication line to the Executive Vice President. It was stated that, at present, each of the above positions require approximately 50% of the managers' attention.
- (2) Three QA Engineers, reporting to the Manager Quality Assurance, are assigned alternately to the site for a month's time. An active audit program with a formal followup system exists. Two audits conducted in January 1975 appeared effective in obtaining improvements in Print Control and Test Equipment Calibration. These are examples of what can be accomplished with management support. In addition, an audit of pipe inspection activities of the primary system were performed in February 1975.
- (3) Audit areas specified in present procedures are limited primarily to procurement and maintenance. The QA Manager has informally expanded these to include more operational topics.

- (4) Administrative Control procedures for the QA Department include many construction type procedures which are outdated or not in use. Examples are the General Audit Checklist and the Action Item Reporting procedures.

e. Design Changes

Processing of DCR's at the corporate office is controlled by a corporate ACP 1202.1 (Design Control), which appears to be a superior procedure when compared to the site procedures 1409.1. It was noted that the DCR form had been revised and now the review and approval signatures are included with the safety analysis. However, the form does not document that the proposed change was reviewed by the safety committee.

ACP 1202.1 Requirement 5 calls for the Project Engineer to maintain distribution and retrieval control for all design change documents. To aid in this a DCR log is maintained by Engineering.

(1) Status of Design Changes

A review of the log showed that many of the required entries had not been made, such as when the DCR package was returned to Engineering from the site after the work was completed. It was also noted that at times long periods of time elapsed between completion of a DCR before closeout with as-built drawings released. Specifically, DCR No. 319 was completed September 21, 1974, was reviewed by the assigned engineer on October 3, 1974 but as of June 3, 1975 had not been signed off nor had the as-built drawing been released. Another example is DCR No. 368 which was completed on November 18, 1974 but as of June 3, 1974 had not been closed out by Engineering.

A somewhat different delay is caused when the site fails to return the DCR to Engineering in a timely manner. An example is DCR No. 417, where the hydro test on the system was completed February 12, 1975, but as of June 3, 1975 had not been returned by the site to Engineering for review and closeout. According to the licensee it was still awaiting Operation Committee approval.

(2) Apparent Deficiencies in Design Change Records

Five design changes, as noted below, were selected for review with the following findings made:

- (a) DCR No. 167 dated June 25, 1974 consisted of a modification to the R.P.S. limit switches on all

MSIV's completed via 8 MAR's dated May 24, 1974. Block No. 4 in each MAR showed that isolation was required, but the individual assigned the job did not document verification of isolation. MAR's 3088 and 3089 indicate that Radiation Protection was required but no RWP was referenced to cover the work. These examples show noncompliance with 10 CFR 50, Appendix B, Criterion VI in that ACP 1401.4, Control of Plant Work, was not adhered to.

None of the forms indicated that testing after work completion was required or performed but the G. E. FDDR Ke-1-262 which is part of the DCR called for retest as per-normal surveillance procedures.

The work was signed completed on September 18, 1974. On October 28, 1974 two new MARs (00748 and 49) were issued because the modification did not work in that the new limit switches would not reset during surveillance test STP 47D005. DCR No. 167 was then modified to 167A including a new limit switch mechanism and reapproved on November 15, 1974. No test results could be found as part of the DCR. This is another example of noncompliance with 10 CFR 50, Appendix B, Criterion V.

Also the fact that the remodification work was performed on six of the eight valves without an approved MAR is an infraction of ACP 1401.4. The licensee could only locate the two MAR's listed earlier and could not find MARs for the modification of the remaining six valves.

- (b) DCR No. 288 involved the use of sealing wire on the retaining screws of the safety relief valves in lieu of tack welding. None of the MAR's indicated that the Operations Review Committee had reviewed the work (Block No 8 left blank). It was noted that neither procedure ACP 1401.4 nor 1409.1 clearly state the purpose of the Management Review Action (Block No. 8 left blank).
- (c) DCR No. 319 involved the replacement of limit switch LS-15 with a spare (LS-7) in the HPCI system. Again no testing was indicated necessary at the completion of the work (Deviation Form ANSI 18.7).

- (d) DCR No. 368 involved the replacement of RWCU flow elements in accordance with GE FDDR#KE-1-282. The DCR calls for the retest of the pump trip to verify PDIS 2747 is correctly set, and to assure that the system flows match the actual flow conditions. The DCR package had been reviewed and signed by the engineer but did not contain the results of the testing. The MAR's did not indicate any testing was required or performed.

Upon questioning engineering personnel stated they had failed to look for the test results, that no test was apparently performed and that the package should not have been signed. They plan to return the package to the site for completion of the required tests. Again this is an infraction of 10 CFR 10, Appendix B, Criterion V.

- (e) DCR No. 417 involved the replacement of the scram discharge tank level switches. The package was reviewed at the site and was still at the site hence was not reviewed by the inspectors.