

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-315/88020(DRP); 50-316/88023(DRP)

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation
Indiana and Michigan Electric Company
1 Riverside Plaza
Columbus, OH 43216

Facility Name: Donald C. Cook Nuclear Power Plant, Units 1 and 2

Inspection At: Donald C. Cook Site, Bridgman, Michigan

Inspection Conducted: July 26 through September 7, 1988

Inspectors: B. L. Jorgensen

J. K. Heller

J. M. Shine

Approved By: *B. L. Burgess*
B. L. Burgess, Chief
Reactor Projects Section 2A

9/19/88
Date

Inspection Summary

Inspection on July 26 through September 7, 1988 (Reports No. 50-315/88020(DRP);
No. 50-316/88023(DRP))

Areas Inspected: Routine unannounced inspection by the resident inspectors of: actions on previously identified items; plant operations; radiological controls; maintenance; surveillance; fire protection; emergency preparedness; security; outages; quality programs; reportable events; NRC compliance bulletins; and, Region III requests. No Safety Issues Management System (SIMS) items were reviewed.

Results: Of the 13 areas inspected, no violations or deviations were identified.

The inspection disclosed some weaknesses in the licensee's attention to one safety-related ventilation system. As a result, two new Unresolved Items were identified (and are discussed in Paragraphs 3.d and 6.e) both related to performance controls on the containment air recirculation hydrogen skimming system. The inspection noted strengths in the licensee's outage management functions.

DETAILS

1. Persons Contacted

- *W. Smith, Jr., Plant Manager
- A. Blind, Assistant Plant Manager, Administration
- *J. Rutkowski, Assistant Plant Manager, Production
- *L. Gibson, Assistant Plant Manager, Technical Support
- B. Svensson, Licensing Activity Coordinator
- K. Baker, Operations Superintendent
- J. Sampson, Safety and Assessment Superintendent
- E. Morse, Quality Control Supervisor
- T. Beilman, I&C/Planning Superintendent
- *J. Droste, Maintenance Superintendent
- *T. Postlewait, Technical Superintendent, Engineering
- L. Matthias, Administrative Superintendent
- M. Horvath, Quality Assurance Supervisor
- D. Loope, Radiation Protection Supervisor

The inspector also contacted a number of other licensee and contract employees and informally interviewed operations, maintenance, and technical personnel.

*Denotes some of the personnel attending Management Interview on September 8, 1988.

2. Actions on Previously Identified Items (92701, 92702)

- a. (Open) Violation (316/83004-01) and Open Item (316/83004-04): As previously updated in Inspection Reports No. 50-316/85016(DRP), No. 50-316/85022(DRP), No. 50-316/86008(DRP), and No. 50-316/88003(DRP), the test program could not demonstrate containment spray additive system operability. As stated in the last update, this item was left open pending the approval of a Technical Specification change request permitting removal of the system. The change request has since been shelved until NRR revises the Standard Review Plan. The Technical Specification 5-year surveillance requirement of the containment spray additive system was incorporated into Special Procedure 12 THP SP.177 "Spray Additive Eductor Performance Test" Revision 0 dated August 5, 1988. This test was performed on August 11, 1988. According to the test engineer, the test data will be analyzed by the corporate engineering group with the objective of showing "classical" behavior by the eductor. This analysis, which is to be completed before Unit 2 startup, is expected to demonstrate proper eductor operability under applicable conditions. This item remains open pending further review of the forthcoming analysis.

- b. (Open) Unresolved Item (316/88018-01): Unit 1 Technical Specification 4.7.4.1.c requires Essential Service Water (ESW) pumps be demonstrated operable by verifying that each pump develops at least 93-percent of the discharge pressure for the applicable flow rate as determined from the manufacturer's pump performance curve. Unit 2 Technical Specifications contain no such requirement. The requirements of Section XI of the ASME Boiler Pressure Code are applicable to Unit 2. The requirement of the ASME Code allows the pump flow rate to decrease to 90-percent of the reference value established for the pump. This may or may not be 90-percent of the flow rate from the manufacturer's curve, which meets the requirements of the ASME Code. Discussions with the licensee indicated that the Safety Analysis for ESW flows only went to 90-percent of the manufacturer's curve. If the measured value of the flow and discharge pressure were less than the manufacture curve, which is the case for the Unit 2 West ESW replacement pump, the reference value established for the pump could be below the manufacturer's curve. Since the Code allows the pump flow to degrade to 90-percent of the reference value, the 90-percent reference flow could be outside the flowrate analyzed by the licensee's safety evaluation. The licensee is pursuing a Technical Specification change to clear up the confusion between Unit 1 and Unit 2 to address the above concern.

During the review of ESW pump records, the inspector noted that the FSAR design flowrates indicated on Table 9.8.5 (for a one Unit LOCA with the other Unit at full power) apparently had not been verified by actual testing. Tests had been run on each Unit which indicated the conditions specified in the FSAR would probably be met. The licensee agreed to review this item.

This Unresolved Item will remain open pending further review of licensee actions.

No violations, deviations, unresolved or open items were identified.

3. Plant Operations (71707, 71710, 42700)

Routine facility operating activities were observed as conducted in the plant and from the main control rooms. Plant startup, steady power operation, plant shutdown, and system(s) lineup and operation were observed as applicable.

The performance of licensed Reactor Operators and Senior Reactor Operators, of Shift Technical Advisors, and of auxiliary equipment operators was observed and evaluated including procedure use and adherence, records and logs, communications, shift/duty turnover, and the degree of professionalism of control room activities.

Evaluation, corrective action, and response for off normal conditions or events, if any, were examined. This included compliance to any reporting requirements.

Observations of the control room monitors, indicators, and recorders were made to verify the operability of emergency systems, radiation monitoring systems and nuclear reactor protection systems, as applicable. Reviews of surveillance, equipment condition, and tagout logs were conducted. Proper return to service of selected components was verified.

- a. Unit 1 operated routinely throughout the inspection, normally at a 90-percent full power administrative limit, until an unidentified primary coolant system leak developed on about September 5, 1988. As the leak could not be specifically located and the leak rate was increasing, a normal controlled shutdown was performed on the morning of September 7. During specific periods, high electrical demand due to extreme hot weather led to brief power increases to 100-percent. Operation with high ambient temperatures is discussed further at Paragraph 3.e.
- b. Minor items identified during routine tours were referred to responsible licensee personnel for action:
 - (1) a test tap connection was found installed at valve 1-WPX-711-V1 instead of a pipe plug (see also Paragraph 6.b);
 - (2) valves 2-SI-181 and 2-SI-182 were observed to be lacking identification tags;
 - (3) minor damage to instrument cabling for level instrument/alarm 2-LLA-301 was noted.

In each case, the licensee either initiated or had already initiated appropriate corrective actions.

- c. A Unit 1 log entry on August 29, 1988, documented that breaker 12AB was opened to facilitate removal of the AB loop disconnect to the 201AB Unit transformer. The log entry stated that Technical Specification 3.8.1.1 applied and required verification of remaining AC sources and start of the associated diesel generator (in this case the AB) within one-hour and every eight-hours thereafter. The inspector reviewed this unusual lineup and how it was administered. Basically, Technical Specification 3.8.1.1 requires operability of two physically independent offsite transmission networks and two diesel generators. When breaker 12AB was opened, the physically independent offsite transmission network to the Unit 1 A and B busses and Unit 2 A and B busses was removed. The Unit 1 C and D busses and Unit 2 C and D busses were not affected and still had physically independent offsite transmission networks. The licensee's decision about how to do the electrical lineup, and to start test only the Unit 1 AB diesel generator, appeared correct. The inspector confirmed that the Unit 2 Technical Specifications were identical but did not apply because Unit 2 was in a MODE for which the Technical Specification did not apply.

- d. A partial system walkdown was performed on the containment air recirculation/hydrogen skimmer systems in both Units. The Unit 2 system was out-of-service as permitted during the existing Unit outage conditions. Unit 1 was in service with the system required to be OPERABLE.

Procedures 1-OHP 4021.028.008 and 2-OHP 4021.028.008, each entitled "Operation of Containment Air Recirculation and Hydrogen Skimming Systems", were reviewed. Data Sheet 5.1 of the Unit 1 procedure was used for the walkdown mentioned above. Specific attention was given to verifying hydrogen skimmer subsystem damper positions - see also Paragraph 6.e. Three of twelve dampers checked were found to be positioned other than specified by the procedure, as follows:

<u>Description</u>	<u>Specified</u>	<u>Found</u>
1-HYS-102 S/G No. 2 Suction	Notch Position No. 7	Notch Position No. 9
1-HYS-107 Dome Suction	Notch Position No. 4	Notch Position No. 5
1-HYS-101 Dome Suction	Notch Position No. 4	Notch Position No. 5

This finding was made and reported to the licensee late in the inspection period, and no final determination as to its significance could be made. If the mispositioning affected the operability of the system, the finding could involve a violation of Technical Specification Limiting Condition for Operations (LCO) requirements. The administrative requirements of Technical Specifications to properly implement plant procedures appear to have been violated. Pending further review of the cause and consequences of this matter, this is considered an Unresolved Item (315/88020-01).

- e. During this inspection period, Lake Michigan water temperatures approached historic highs due to a prolonged heat wave. The lake serves as the ultimate heat sink, and the Safety Analysis Report assumes temperatures at the essential service water (ESW) system suction of 79-degrees. The licensee had performed and/or contracted additional analyses to support operation at higher lake temperatures, culminating in an analysis showing full power operation of Unit 1 to be acceptable to 90-degrees at the ESW suction. The licensee implemented some selected measures to improve ventilation to certain electrical equipment, but no significant operational problems were experienced. The highest ESW intake temperature observed was 83-degrees.
- f. During a tour of the auxiliary building, the inspector found that the identification labels for the Unit 1 and 2 letdown heat exchanger had become discolored due to the heat. This was discussed with plant personnel who had the labels repositioned and informed the inspector that the labels had been improperly positioned when they were initially installed

- g. While observing divers in the screenhouse, the inspector noticed that plant service air was one of the sources of the divers breathing air. The plant service air screenhouse isolation valves were tagged with scraps of paper which stated .."divers' breathing air - do not close". The inspector asked plant personnel if this was the appropriate tag for the service. During a subsequent tour the inspector found that the tags had been replaced with plant official, yellow Caution Tags.

One unresolved item and no violations, deviations or open items were identified.

4. Radiological Controls (71709)

During routine tours of radiologically controlled plant facilities or areas, the inspector observed occupational radiation safety practices by the radiation protection staff and other workers.

Effluent releases were routinely checked, including examination of on-line recorder traces and proper operation of automatic monitoring equipment.

Independent surveys were performed in various radiologically controlled areas.

- a. During a tour of the auxiliary building the inspector observed a pregnant technician performing a surveillance test. The inspector asked the functional supervisor what steps were taken to assure that the technician did not exceed the exposure limit of 500 mR per gestation period. The supervisor stated that the technician's dose was being monitored weekly and that her allowable quarterly limit had been reduced to 100 mR. The inspector confirmed that the REM computer has the technician's exposure limit set at 100 mR.
- b. During a previous inspection (Inspection Reports No. 50-315/88019(DRSS); No. 50-316/88022(DRSS)) a question was raised concerning the extent of as-built measurements being taken (templating) on the new Unit 2 steam generator lower assemblies and reactor coolant piping; e.g. was the radiation dose commitment consistent with keeping exposure ALARA? The licensee re-examined his bases for conducting the templating and concluded that a dose savings overall (from faster and surer fitup) would occur compared to proceeding without templating. The bases for this conclusion is documented in the licensee's memorandum MEMO-0701, which the inspector reviewed and found satisfactory.
- c. Radiation Work Permits (RWPs) for activities being conducted outside the radiologically controlled areas were reviewed and compliance verified:

- (1) RWP NO. 2090 - transport and storage of the old Unit 2 steam generator lower assemblies;
 - (2) RWP No. 2089 - refurbishment/modification of the Unit 2 steam generator upper assemblies in the south turbine building track alley.
- d. Observations involving carelessness in following good contamination control practices were referred to responsible licensee personnel for corrective action:
- (1) A worker exiting a posted contaminated area frisked hands and feet only, but applicable instructions specified a whole body frisk. The inspector informed the radiation protection technician assigned to the area and he hailed the subject individual, returned him to the area for a proper whole body frisk (no contamination was present), counselled him, and initiated a Radiological Occurrence Report. Subsequently, the inspector noted the licensee stationed technicians at selected frisker locations to observe and verify proper frisking techniques, especially from high-traffic areas.
 - (2) Two instances were noted which involved careless handling of tools and equipment. In each case, the boundary defined by magenta and yellow tape on the floor was breached because tools or equipment were left scattered across the boundary. The licensee took timely action, when notified, to correct each occurrence.
 - (3) A yellow herculite drip shield that was taped to a joint on the letdown heat exchanger had melted. This item was referred to the auxiliary building access control coverage radiation protection technician.

No violations, deviations, unresolved or open items were identified.

5. Maintenance (62703, 42700)

Maintenance activities in the plant were routinely inspected, including both corrective maintenance (repairs) and preventive maintenance. Mechanical, electrical, and instrument and control group maintenance activities were included as available.

The focus of the inspection was to assure the maintenance activities reviewed were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specifications. The following items were considered during this review: the Limiting Conditions for Operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures; and post maintenance testing was performed as applicable.

The following activities were inspected:

- a. Job Order 003985: inspection and cleaning of 2CD diesel generator air intake using maintenance Procedure **12 MHP 5021.032.015 "Emergency Diesel Engine Intake Air Aftercooler Removal and Installation".
- b. Job Order 018348: removal/replacement of roof section for changeout of the Unit 2 CD battery charger per design change RFC-DC-2927, including Procedure **12 MHP 5021.001.073 "Repair of Abandoned Holes, Voids and Fire Barrier Block Walls Using Cement Grout".
- c. Job Order 029073: implement Temporary Modification (TM) 107 for Unit 2, involving removal of the quick exhaust valve diaphragm from a diesel starting air supply valve and plugging the port. The modification was necessary to avoid adverse affects from a failed quick exhaust valve for which no replacement was available. The inspector reviewed the TM package for appropriate evaluation, review, and approval documentation. No problems were noted.
- d. Minor modification 02-MM-001, "Replace an 8-inch Centerline butterfly valve with an 8-inch Pratt butterfly valve". The changeout was made at 2-CCM-451, "Containment isolation valve for CCW return from Reactor Coolant Pump bearing oil coolers" because the valve failed a Local Leak Rate test and Centerline replacement parts were not available.

The inspector reviewed the completed modification package and found that the package contained: Design Change procedure impact statement; Design Change proposal; 50.59 applicability determination work sheet; Job Order 021120 to disconnect/reconnect the Limitorque operator; Job Order 017497 to replace the butterfly valve; and, the Design Change release and review form. The inspector reviewed the Centerline and Pratt vendor manuals and confirmed the licensee's conclusion that this activity was an in-kind replacement and that a minor modification was the appropriate change mechanism.

No violations, deviations, unresolved or open items were identified.

6. Surveillance (61726, 42700)

The inspector reviewed Technical Specifications required surveillance testing as described below and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that Limiting Conditions for Operation were met, that removal and restoration of the affected components were properly accomplished, that test results conformed with Technical Specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The following activities were inspected:

- a. **12 THP 6040 PER.323 "Flux Map and Thermocouple Map Data Collection". The inspector observed this test and discussed leaking thimble tube contingency measures with the incore operator. The inspector found that the operator was: able to discuss the leak detection system; knowledgeable of current events pertaining to leaking thimble tubes; knowledgeable of a recent NRC/AEP management meeting on the subject; and, aware of the recently issued Operation's Department Instruction pertaining to leaking thimble tubes found. Current plant policy requires that the incore operator secure flux mapping and notify the reactor operator if the thimble tube leak detection system alarms during the flux mapping.
- b. **1 THP 4030 STP.241 "Unit 1 Essential Service Water Flow Balance". The inspector specifically verified the presence of procedural instructions controlling installation and removal of test equipment. Performance of this test was suspected to be the source of the test tap found left at valve 1-WPX-711-VI noted in Paragraph 3.b. The record copy showed the test equipment had been removed and verified removed, but did not specifically address the tap.
- c. **2 THP 6030 IMP.194 "Delta T/T-Average Protection Set I Calibration".
- d. **12 THP SP.122 "Spray Additive Eductor Performance Test". This test was performed, as noted in Paragraph 2 above, to collect data needed to evaluate system performance and obtain answers to open questions.
- e. Routine and special testing of the Containment Air Recirculation and Hydrogen Skimmer system was reviewed as follows:
 - **12 THP 6040 PER.098 "Hydrogen Skimmer Performance Test".
 - **12 THP 4030 STP.209 "Containment Hydrogen Skimmer Ventilation Test".

The Containment Air Recirculation and Hydrogen Skimmer system is a safety related system designed to prevent hydrogen concentrations from exceeding four percent volume in various compartments inside containment following a design basis accident. The McGuire Resident Inspectors documented in an NRC Morning Report dated August 5, 1988, that analysis of flow balance test results identified compartmental flows which were below design values. These findings stimulated a similar review of the D. C. Cook Containment Air Recirculation and Hydrogen Skimmer system.

Containment Air Recirculation/Hydrogen Skimmer flow balance testing was performed at D. C. Cook per special test Procedure **12 THP 6040 PER.098. Testing of Unit 1 and 2 was completed September 20, 1985, and October 17, 1985, respectively. Several of the flows were found to be below the FSAR design basis values for each Unit. Corporate engineers accepted the flow test results and documented acceptance by memoranda dated September 23, 1985, for Unit 1, and October 11, 1985, for Unit 2. These memoranda contained minimum flow requirements which differed from the design basis values as stated in the FSAR. With the application of the minimum flow criteria all flows were acceptable with the exception of the dome flows for Unit 2. The later memorandum further stated that the FSAR values should be changed. As of this writing the FSAR values remain unchanged. The inspector questioned the technical justification for the "new" minimum flow values. The responsible system engineer has agreed to provide detailed calculations supporting the validity of these minimum flow values. Further, the adequacy of the measured Unit 2 dome flows is in question and needs to be shown to be acceptable. Lastly, the need for an FSAR update must be evaluated. This is an Unresolved Item pending completion of this review. (Unresolved Item 315/88020-02; 316/88023-01).

- f. 12 THP 4030 STP.209 "Containment Hydrogen Skimmer Ventilation Test". The inspector reviewed the data sheets performed for Unit 1 STP.209 on July 1, September 29, October 25, November 25, 1987, and on January 15, February 24, April 15, and May 27, 1988. The inspector confirmed that: the tests were done on a staggered basis; the tests were performed at an interval of three months; the tests did not exceed an individual interval by greater than 25-percent; and, any three consecutive tests did not exceed the interval by 3.25 times. The inspector also confirmed that STP.209 contained and implemented the containment air recirculation surveillance requirements of Technical Specification 4.6.5.6.

One unresolved item and no violations, deviations, or open items were identified.

7. Fire Protection (71707)

Fire protection program activities, including fire prevention and other activities associated with maintaining capability for early detection and suppression of postulated fires, were examined. Plant cleanliness, with a focus on control of combustibles and on maintaining continuous ready access to fire fighting equipment and materials, was included in the items evaluated.

Proper implementation of compensatory measures was questioned when fire door No. 374 was observed to be ajar with a hose running through it. Such measures were in place.

No violations, deviations, unresolved or open items were identified.



8. Emergency Preparedness

The inspector participated in the licensee's major emergency response exercise, which was conducted on August 23, 1988. NRC Region III inspection activities are documented in Inspection Reports No. 50-315/88022(DRSS); No. 316/88025(DRSS).

No violations, deviations, unresolved or open items were identified.

9. Security (71881)

Routine facility security measures, including control of access for vehicles, packages and personnel, were observed. Performance of dedicated physical security equipment was verified during inspections in various plant areas. The activities of the professional security force in maintaining facility security protection were occasionally examined or reviewed.

On several occasions the inspector interviewed members of the professional security force or observed performance at an assigned security post to ascertain guards had a thorough and correct understanding of applicable post orders and were carrying out those orders.

No violations, deviations, unresolved or open items were identified.

10. Outages

a. The following significant activities involving the Unit 2 steam generator repair project, a number of which were observed by the inspector, occurred during this inspection:

- (1) complete initial upper/lower assembly girth cutting;
- (2) remove steam generator enclosure concrete;
- (3) remove all steam domes for refurbishment;
- (4) complete reactor coolant pipe cuts;
- (5) remove all "old" lower assemblies;
- (6) set all "new" lower assemblies;
- (7) refurbish and modify steam domes and reset;
- (8) restart reactor coolant loop welds;
- (9) start girth welds; and,
- (10) restart concrete enclosure reconstruction (rebar).

The project has continued on or ahead of schedule and below estimated radiological dose commitments. Several aspects of the project (radiation protection, procedures, welding, etc.) have been the subject of specific inspections by NRC Region III which are documented separately.



- b. During one tour of the Unit 2 lower containment basement the inspector observed damage to the leads to the RCP oil collection drain tank level alarm instrument 2-LLA-301. The matter was referred to Instrument and Control (I&C) and they wrote a Job Order to perform repairs before returning Unit 2 to service.

The inspector also had general discussions with plant management concerning measures to be taken to inspect Unit 2 for damaged or off-normal conditions which might result from the massive scope of activities performed in replacing the steam generator lower assemblies. The licensee plans both a system-based and an area-based turnover process to return the facility to plant site responsibility. Damage tours will be performed both by "project" and by "plant" representatives in support of the turnover process. A "punch-list" approach will be used to document findings, assign them for resolution, and verify they are corrected.

- c. The licensee's actions to address regulatory questions, concerning the scope of work involved in design change RFC-DC-12-2868, were reviewed. This design change necessitated construction of scaffold in the Unit 2 4KV switchgear room which had the potential to affect both trains of 4KV electrical equipment should it collapse; e.g. in a seismic event. Prior to permitting construction to proceed on the scaffold, the licensee performed and documented a specific safety and 10CFR50.59 review to evaluate postulated conditions against safety and Technical Specification requirements. The evaluation appeared technically correct and thorough. It even considered possible fire protection (10CFR50 Appendix R) ramifications. The inspector considered the completed Safety Review Memorandum to be exemplary of the correct way to deal with such issues.

No violations, deviations, unresolved or open items were identified.

11. Quality Programs

The effectiveness of management controls, verification and oversight activities, in the conduct of jobs observed during this inspection, was evaluated.

The inspector frequently attended management and supervisory meetings involving plant status and plans and focusing on proper co-ordination among Departments.

The results of licensee auditing and corrective action programs were routinely monitored by attendance at Problem Assessment Group (PAG) meetings and by review of Condition Reports, Problem Reports, Radiological Deficiency Reports, and security incident reports. As applicable, corrective action program documents were forwarded to NRC Region III technical specialists for information and possible followup evaluation.

No violations, deviations, unresolved or open items were identified.

12. Reportable Events (92700)

The inspector reviewed the following Licensee Event Reports (LERs) by means of direct observation, discussions with licensee personnel, and review of records. The review addressed compliance to reporting requirements and, as applicable, that immediate corrective action and appropriate action to prevent recurrence had been accomplished.

- a. (Closed) LER 316/87015-LL: Entry into Technical Specification 3.0.3 due to corrective maintenance. Following routine calibration of a power range nuclear instrument channel the high voltage cable connector separated from the cable. The repair and channel functional test exceeded the Technical Specification time limit by 17 minutes. Entry into Technical Specification 3.0.3 was mandated by the fact the applicable Technical Specification does not provide a followup action statement when the time limit expires. During the calibration and repair, the associated bistable was in the correct (tripped) condition.
- b. (Closed) LER 316/88004-LL: Six of twenty main steam safety valves (MSSV) were found with lift settings outside the specified Technical Specification range. Five were low by two to sixteen pounds and one was six pounds high. In each case the lift setpoint was corrected and the MSSV proven operable prior to proceeding to the next MSSV. The licensee's investigation concluded that the previously used test method was inherently less accurate and had a high probability of contributing to the drift. The licensee's safety analysis concluded that the out-of-specification setpoints did not affect the MSSV capability to properly relieve the steam generator during an event. This was the initial test for the Unit 2 MSSVs using the new (Trevitest) methodology. Unit 1 MSSVs were tested during the previous Unit 1 outage; similar test results are discussed in LER 315/87011-LL.
- c. (Closed) LER 316/88005-LL: Ice Buildup in ice condenser flow passages due to sublimation. The buildup was removed when the flow passages were manually cleaned. A licensee safety analysis indicates that 20-percent ice buildup is required before post accident containment peak pressure would exceed design. The subject blockage was less than the 20-percent discussed in the analysis. The licensee is currently working with other ice condenser utilities to resolve this and other associated problems. The problem of sublimation has not been resolved.
- d. (Closed) LER 316/88006-LL: Emergency Core Cooling System (ECCS) flow imbalance found during scheduled testing. The licensee found that the boron injection combined flow rates exceeded the maximum flow and exceeded the maximum distribution between loops. The licensee concluded that normal system fluctuations; combined with instrumentation/measurement error, could be the reason for the imbalance. The flow rates will be reset at the end of the Unit 2

steam generator replacement outage. The licensee's safety analysis concluded that the as-found condition would not have prevented successful operation of the Emergency Core Cooling System in an accident. The licensee is currently analyzing the flow balance tolerance as part of the program for power operation with reduced temperature and pressure.

- e. (Closed) LER 316/88007-LL: Use of Incorrect ISI Reference Values. Design changes were made in 1984 to Unit 2 and in 1985 to Unit 1 whereby larger safety injection pump recirculation flow orifices (60 gpm vs. 30 gpm) were installed. Because the test conditions for the pumps were changed as a consequence, new Inservice Inspection (ISI) reference values should have been established. Due to an apparently isolated personnel error - a characterization the inspector specifically evaluated and confirmed - new ISI reference values were not established. Thus, until the error was discovered in 1988, the "wrong" ISI reference values were used. A review of historic pump performance data (dozens of tests) found two occasions on which, had correct reference values been in place, a pump would have failed a test instead of passing. In each case, the pump then passed the subsequent test. Both unrecognized "failures" showed pump differential pressure too high, not too low. Appropriate corrective and preventive actions have been implemented.

The subject LER describes a violation of regulatory requirements. Because the licensee identified, reported and corrected the violation, and because it was neither safety significant nor repetitive, the criteria of the NRC Enforcement Policy at 10 CFR 2 Appendix C are met and no Notice of Violation will be issued.

One licensee identified violation and no deviations, unresolved or open items were identified.

13. NRC Compliance Bulletins (92703)

The inspector reviewed the NRC communications listed below and verified that: the licensee has received the correspondence; the correspondence was reviewed by appropriate management representatives; a written response was submitted if required; and, plant-specific actions were taken as described in the licensee's response.

(Open) NRC Bulletin 88-05 - "nonconforming materials supplied by Piping Supplies, Inc. at Folsom, New Jersey and West Jersey Manufacturing Company at Williamstown, New Jersey". The licensee discovered during this inspection period that several flanges from one of the subject suppliers had been overlooked in initial record searches for this Bulletin. The additional suspect parts were tracked down and, like the previously identified few, appeared to meet quality requirements based on preliminary checks. Only one part was in service in a safety system.

No violations, deviations, unresolved or open items were identified.

14. Region III Requests (9205, 93702)

- a. The inspector provided the licensee with a copy of NRC Technical Specification Guidance (dated June 9, 1988) pertaining to performance of a diesel generator air roll test while the other diesel is inoperable. The air roll test makes the diesel inoperable while the cylinders are checked for moisture. Basically, the NRC states that if a diesel is inoperable and the plant is considered in an ACTION STATEMENT requiring demonstration of operability of the other diesel, then that demonstration shall not be preceded or followed by an air roll test. The licensee was asked to review the guidance and determine if it applies to D. C. Cook. The Operations Department has issued an "Operations Standing Order" and "Operation Memo" on the subject and has not taken exception to the guidance.
- b. The inspector informed the licensee that Zion Nuclear Power Plant had found erosion/corrosion in a section of secondary side pipe not previously inspected as part of the erosion/corrosion program because the selection criteria labeled that section as having a low probability of erosion failure. The licensee reviewed the information, discussed the problem with engineers at Zion and then added the appropriate section of piping to the Unit 2 erosion/corrosion program for the current outage.
- c. The inspector was informed that Palisades Nuclear Power Station had difficulty passing a control room pressurization test because fire seals within the pressurization boundary had been disturbed. The inspector asked the licensee about restrictions on fire seal work performed within the pressurization boundary at D. C. Cook. The licensee provided the inspector with a copy of Operations Standing Order (OSO) 76, "Control of Control Room Pressurization Boundaries". This Standing Order provides instructions for maintaining status/control of the control room pressurization boundary.
- d. The inspector informed the licensee that Prairie Island Nuclear Power Plant had identified a problem with Foxboro Model M/62H Style C controllers, used in the reactor protective system. The licensee reviewed his data base and confirmed that this controller is not used in safety related service at D. C. Cook.

No violations, deviations, unresolved or open items were identified.

18. Unresolved Items

Unresolved Items discussed in Paragraphs 3.d and 6.e are matters about which the licensee has been asked to provide more information in order for the inspector to ascertain whether they are acceptable items, violations, or deviations.

19. Management Interview (30703)

The inspector met with licensee representatives (denoted in Paragraph 1) on September 8, 1988, to discuss the scope and findings of the inspection as described in the details. The inspector specifically discussed the unresolved Items identified during the inspection (Paragraph 3.c and 6.e) relating to the Hydrogen Skimmer System. In addition, the inspector asked those in attendance whether they considered any of the items discussed to contain information exempt from disclosure. No items were identified.