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July 2, 1997

Docket No. 50-461

Mr. A. Bill Beach
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60532-4351

Subject: Response to Confirmatory Action Letter dated January 9, 1997

Dear Mr. Beach:

By letter dated December 9, 1996, Illinois Power Company (IP) submitted a Startup Readiness Action Plan (SRAP) to address deficiencies in a number of areas determined to have caused or contributed to the September 5, 1996, event at Clinton Power Station (CPS). The SRAP included actions discussed in IP's letter to the NRC dated September 24, 1996. On January 9, 1997, you issued a Confirmatory Action Letter (CAL), which expressed the NRC's understanding of the actions or activities that IP would undertake in six general areas, based on the SRAP. The CAL also stated that IP would meet with the NRC to discuss the results of the SRAP and would document the results of the activities described in the CAL and the other activities in IP's letters of September 24, 1996, and December 9, 1996.

In accordance with the CAL, IP met with the NRC to discuss the results of the SRAP on May 28, 1997, and on several previous occasions. The purpose of this letter is to document the results of the SRAP pursuant to the above-described requirements of the CAL. Accordingly, Attachment 1 documents the completion of the six activities discussed in the CAL. Attachment 2, by providing a description and the results of each SRAP item, documents the results of the actions discussed in IP's letters of September 24, 1996, and December 9, 1996, as incorporated in the SRAP. It should also be noted that IP has coordinated with onsite inspectors to support NRC review of supporting documentation.

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In summary, IP has completed the actions discussed in the CAL dated January 9, 1997, that were required to be completed prior to startup. There are three SRAP actions which will be completed as part of plant restart. IP is planning to restart CPS upon completion of outage activities and startup preparations. IP realizes that there is need for additional improvement, and will be taking action under its Long-Term Improvement Plan to achieve further improvements in performance.

If you have any questions, please contact me or my assistant, Richard Phares.

Sincerely yours,

Wayne D. Romberg
Assistant Vice President

SPF/krk

Attachments

cc: NRC Clinton Licensing Project Manager
NRC Resident Office, V-690
NRC Document Control Desk
Illinois Department of Nuclear Safety

Results of the Six Activities Described in the Confirmatory Action Letter Dated January 9, 1997

Activity

(1) Actions will be taken to ensure operators understand their prime function is to maintain the plant in a safe condition. The actions will emphasize that other considerations, e.g., schedules or facility availability, are not to interfere with decisions regarding safe operation.

Results

As discussed in Attachment 2, Actions I.1, I.2, I.6, II.1, and II.2, IP revised and issued new policy statements and procedures to clearly set forth management's expectations on conservative decision making and procedure compliance, and site personnel participated in seminars on procedure compliance and conservative decision making. Additionally, as discussed in Attachment 2, SRAP Actions II.4, II.5, and II.9, actions have been taken to ensure that operators in particular understand management's expectations on procedure compliance, conservative decision making, and ensuring that the plant is in a safe condition.

Activity

(2) To improve human performance and ensure staff understanding of expectations regarding conservative operations and decision making, IP will provide written guidance, conduct seminars on conservative decision making, and conduct individual discussions between the plant manager and selected staff. Emphasis will be placed on proper understanding of emergency action levels and the need to continually assess plant conditions against those levels. In addition, to enhance operator performance, limits on operation of the facility and selected equipment will be established.

Results

See the Results for Activity (1). Additionally, as discussed in Attachment 2, Actions II.5 and II.9, IP provided simulator training on emergency action levels. Finally, as discussed in Attachment 2, SRAP Actions II.3 and II.6, IP established limits on a number of plant components.

Activity

(3) To improve procedural adequacy and adherence, IP will review selected system and facility operating procedures to ensure their adequacy. IP will review all surveillance procedures prior to use, with special emphasis on pre-conditioning, completeness, and fidelity with the technical specifications and Updated Safety Analysis Report (USAR). Training will be provided to staff on management expectation for procedural adherence and in selected areas such as plant startup activities and 10CFR50.59.

Results

As discussed in Attachment 2, SRAP Actions I.3, I.4, and I.7, IP reviewed numerous operating procedures, and made revisions (or developed new procedures) for more than 100 procedures to ensure clarity, consistency, and ease of use, or to ensure adequacy for successful completion of evolutions. As discussed in IP's letter dated April 9, 1997, IP modified its commitment with respect to review of surveillance procedures. Nevertheless, as discussed in Attachment 2, SRAP Actions I.19, IP did review a sample (about ninety) of surveillance procedures for preconditioning, completeness, and fidelity with the technical specifications and USAR. A number of errors and inconsistencies were identified and documented for corrective action; however, none of the errors or inconsistencies impacted equipment operability. Finally, as discussed in Attachment 2, SRAP Actions I.2, I.4, I.6, I.17, and II.9, IP provided training and seminars on management expectations or procedure adherence, startup activities, and 10CFR50.59.

Activity

(4) To improve management oversight effectiveness, IP will provide training for management/supervisory individuals regarding their role in overseeing activities. In addition, during the plant startup and until stable power operation is achieved, senior managers will monitor operation's crews and provide written documentation of their observations.

Results

Training was provided to management/supervisory individuals regarding their role on overseeing activities, as discussed in Attachment 2, SRAP Action III.2. As discussed in Attachment 2, SRAP Action III.3, IP has developed an Operations Crew Monitoring document to monitor crew performance during startup and until stable power operation is achieved. As discussed in IP's letter dated February 7, 1997, this monitoring is being performed by experienced plant personnel in addition to "senior managers" as stated in the CAL.

Activity

(5) To improve plant material condition, IP will conduct reviews of outstanding maintenance work requests to ensure the work is scheduled consistent with safety significance, operator impact, and plant operating conditions. Further, IP will establish a program for senior manager oversight of long term material deficiencies to ensure corrective actions are being implemented in a manner consistent with the items significance.

Results

A review of maintenance work requests (MWRs) was conducted, as discussed in Attachment 2, SRAP Actions IV.4 and IV.12. This review identified more than thirty MWRs that were added to the current outage work scope. The first quarterly senior management review of long-term material deficiencies was conducted, as discussed in Attachment 2, SRAP Action IV.7. This review identified four issues for increased focus.

Activity

(6) IP will establish quantitative and qualitative benchmarks against which to assess and monitor the effectiveness of the Startup Readiness Action Plan items, including those items discussed above.

Results

IP established performance measures that encompass the SRAP items. These performance measures were presented to the NRC in a meeting on April 18, 1997, and an update of some of these performance measures was provided to the NRC in subsequent meetings. Although not all of the performance measures are positive, the overall results of these performance measures show that performance of CPS is satisfactory for restart. Nevertheless, IP will be taking action under its Long-Term Improvement Plan to achieve further improvement in performance.

Results of SRAP Actions

The attached document provides, in writing, the resolution of each startup readiness action item. For each item, the document describes the action, resolution, and relevant performance measures. In some cases, actions are identified which are being or will be taken.

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 1

Action Description: The adequacy of policy statements and general procedures regarding conduct of operations and procedure compliance will be reviewed, and changes made as necessary to ensure that expectations and requirements regarding conservative decision-making and procedure compliance are clearly set forth. (CAL II.1)

Actio. Resolution: The Clinton Power Station site performed a review of the adequacy of policy statements and general procedures, to ensure that expectations and requirements regarding conservative decision-making and procedure compliance was clearly set forth. The following is a listing of the procedure/document that were reviewed. The asterisk (*) denotes the procedures/documents which were revised to meet the intent of the above action item.

*CPS Procedure No. 1005.01, CPS Procedures and Documents
CPS Procedure 1005.07, Temporary Change to Station Procedures and Documents
CPS Procedure No. 1011.02, Implementation and Control of Surveillance Testing
*CPS Procedure No. 1401.01, Conduct of Operations
CPS Procedure No 1501.02, Conduct of Maintenance
Corporate Nuclear Procedure 1.01, Preparation and Control of Corporate Nuclear Procedures, and approval of and changes to all Department Procedures
NT&S Procedure 1.01, Preparation and Control of Nuclear Training and *Support Department Procedures
*Nuclear Assessment Procedure 105.01, Nuclear assessment Procedures
*NSED Procedure A.0 Procedures/Instructions/Forms Review and Approval
*Nuclear Policy Statement No. 7 Supervisor Responsibilities
Nuclear Training and Support Procedure 11.01 Nuclear Training Program
*Licensing Procedure A.0, Preparation and Control of Licensing Department Procedure
General Employee Training Lesson Plan 10145-05
Seminar RC90018-00, Procedure Usage
Quality Assurance Manual Chapter 5, Instruction, Procedures and Drawings
*CPS Procedure No. 1001.05, Authorities and Responsibilities for Reactor Operators for Safe Operation and Shutdown
*OSO-90, Expectations for Operating Crews

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 1

CPS also issued a new procedure, CPS 1005.15, Procedure Use and Adherence. This procedure provides guidance to assist procedure users to understand and apply procedure use and adhearance expectations. Also, CPS 1005.01 and 1005.07 was revised to support 1005.15.

Performance Measures: The performance measures listed below show an improving performance trend. This trend indicates that personnel are applying the guidelines provided in CPS No. 1005.15, Procedure Use and Adherence.

Event Free Performance

Total Significant Open Comment Control Forms (CCFs)

Condition Reports Associated with Procedure Violations

Maintenance Task Performance Checklists

Operations In-Plant Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 2

Action Description: A seminar on procedure compliance including Main Control Room activities, turnover, log keeping, and communications will be provided to the following personnel. (CAL II.2)

*Site Managers
*Plant Staff Directors/Assistant Director-Operations
*Work Control Team Leaders
*Facility Review Group Members
*Licensed and non-licensed Operations personnel
*Shift Technical Advisors
*System Engineers
*Active operator license holders
*Management monitors

Action Resolution: The above listed personnel attended Seminar RC90018-02 on procedure compliance. Each attendee received a booklet that contained portions of CPS 1005.01, CPS Procedures and Documents, CPS 1011.02, Implementation and Control of Surveillance Testing, and CPS 1401.01, Conduct of Operations.

During each session a Shift Supervisor presented a discussion of specific steps within the aforementioned procedures in regard to procedure compliance. The discussion included Main Control Room activities, turnover, log keeping, and communication. The Assistant Director-Operations discussed how applying the presented rules of Conservative Decision-Making and Procedural Compliance may have altered the seal failure event. Throughout the seminar, management's expectations regarding procedure compliance were clearly presented.

A written "check for understanding" was required to be turned in by all attendees.

IP will Continue to reemphasize expectations as part of refresher General Employee Training (GET).

CPS also issued a new procedure, CPS 1005.15, Procedure Use and Adherence. This procedure provides guidance to assist procedure users to understand and apply procedure use and adherence expectations. Also, CPS 1005.01 and 1005.07 was revised to support 1005.15. Site personnel were trained on these changes.

Performance Measures: The performance measures listed below show an improving performance trend. This trend indicates that personnel are applying the guidelines provided in CPS No. 1005.15, Procedure Use and

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 2

Adherence.

Event Free Performance

Total Significant Open CCFs

Maintenance Task Performance Checklist

Operations In-Plant Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 3

Action Description: Procedures used in the following activities will be reviewed to ensure clarity, consistency, and ease of use, and changes will be made as warranted. (CAL II.3)

*plant startup
*single loop operation
*leak detection
*reactor coolant leakage
*procedure adherence
*long cycle lineup and operations
*conservative decision making
*management oversight
*RR seal problems

Action Resolution: The following list of procedures and training seminars were either reviewed or developed in response to this action item. Documents marked with an asterisk (*) were revised. Documents developed in response to the item are identified by a pound sign (#).

-CNP 1.01, Preparation and Control of Corporate Nuclear Procedures and Approval of and Changes to All Departmental Procedures
-GET LP10145-05, Quality Assurance and Quality Control
-*NAP 105.01, Nuclear Assessment Procedures
-NPS 7, Supervisor Responsibilities
-*NSED A.0, Procedures, Instructions. Forms Review and Approval
-#NT&S Seminar RC90019, Conservative Decision Making
-NT&S Seminar RC90018, Procedure Usage
-#NT&S Seminar RS92011, Unit Startup
-NT&S 11.01, Nuclear Training Program
-#*OSO-090, Expectations for Operating Crew Members
-#*PMSO-084, Management Oversight Instruction
-QAM Chapter 5, Instructions, Procedures and Drawings
-Standing Orders
-USAR
-*1001.05, Authorities and Responsibilities of Reactor Operators for Safe Operation and Shutdown
-*1005.01, CPS Procedures and Documents
-1005.07, Temporary Changes to Station Procedures and Documents
-1011.02, Implementation and Control of Surveillance Testing
-*1016.05, Conduct of Critiques
-*1401.01, Conduct of Operations
-1501.02, Conduct of Maintenance
-*3001.01, Approach to Critical

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 3

-*3001.01C001, Approach to Critical Checklist
-*3001.01C002, Mode 2 Checklist
-*3002.01, Heatup and Pressurization
-*3004.01, Turbine Startup and Generator Synchronization
-*3005.01, Unit Power Operation
-*3006.01, Unit Shutdown
-*3103.01, Feedwater
-*3104.01, Condensate/Condensate Booster
-*3105.01, Turbine
-*3105.05, Generator
-*3302.01, Reactor Recirculation
-*3304.01, Control Rod Hydraulic and Control
-*3315.02, Leak Detection
-*3320.01, Drywell Cooling System
-*3512.01, Display Control System (DCS)/Performance Monitoring System (PMS)
-3800.02, Area Operator Logs
-*3800.02C007, Radwaste Operation Center Daily Activity Checklist
-*4001.01, Reactor Coolant Leakage
-*4005.01, Loss of Feedwater Heating
-*4008.01, Abnormal Reactor Coolant Flow
-*4100.01, Reactor Scram
-5003.04, Recirc Pump A(B) Outer Seal Leakage High
-5003.05, Recirc Pump A(B) Seal Staging Flow Hi-Lo
-9000.01, Control Room Surveillance Log
-*9000.01D001, CRO Surveillance Log Mode 1, 2, 3 Data Sheet

Performance Measures: Total Significant Open CCFs

In-Plant Crew Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 4

Action Description:	Operating crews will receive simulator practice on normal plant operation and startup activities to ensure familiarity with associated procedures, and identify any areas for procedure revision or enhancement. (CAL II.4)
Action Resolution:	The operating crews received Seminar RS92011-01, Outline of Instruction Unit Startup. This seminar required the crews to pull rods to achieve criticality and at least two other normal plant operations. These included: Starting the Reactor Recirculation (RR) Pumps, Removing Shutdown Cooling from Service, Changing from Mode 4 to Mode 2, Placing Reactor Core Isolation Cooling (RCIC) in Standby, Starting the Motor Driven Reactor Feed Pump (MDRFP), Placing the Steam Jet Air Ejectors (SJAE) in Service, Placing the Turbine Generator in Service, Shifting from the MDRFP to the Turbine Driven Reactor Feed Pump (TDRFP), or Upshifting the RR Pumps to Fast Speed. During these simulator sessions, procedure changes/clarifications were identified, including the use of the boiling boundary, RR seal leakage, and approach to critical. These procedures have been revised and a subsequent Seminar RC92018, Recent Procedure Changes: Forced Outage 96-03, was used to brief personnel on the procedure changes resulting from Seminar RS92011-01. CPS provided additional simulator training as indicated in Startup Readiness Action Item II.9. Cyclic Requalification training has been reestablished following the refueling outage.
Performance Measures:	Operations In-plant monitoring Event Free Performance Total Significant Open CCFs

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 5

Action Description:	The critique process will be revised to include: (CAL II.5) - Appropriate, independent and objective inputs from other departments - In-depth fact finding - Expectations for timeliness of the evaluation and documentation are clear and enforced - Specific determinations on whether procedure noncompliances or nonconservative operations occurred - A timely review and concurrence of the facts by appropriate senior management
Action Resolution:	Clinton Power Station (CPS) procedure 1016.05, Conduct and Documentation of Critique, was revised to include the above-mentioned attributes.
Performance Measures:	None

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 6

Action Description:	Site personnel will participate in a seminar on procedure compliance. (CAL LT II.1)
Action Resolution:	Site personnel, including contractors, attended Seminar RS82001, Procedure Compliance and RC90018, Procedure Usage. A written "check for understanding" was required for each attendee. CPS also issued a new procedure, CPS 1005.15, Procedure Use and Adherence. This procedure provides guidance to assist procedure users to understand and apply procedure use and adherence expectations. Also, CPS 1005.01 and 1005.07 were revised to support 1005.15. Site personnel were trained on the new procedure and revised procedures.
Performance Measures:	The performance measures listed below show an improving performance trend. This trend indicates that personnel are applying the guidelines provided in CPS No. 1005.15, Procedure Use and Adherence. Event Free Performance Total Significant Open CCFs Condition Reports Associated with Procedure Violation Maintenance Task Performance Checklists Operations In-Plant Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 7

Action Description:	A review of procedures used for (a) movement of new fuel and (b) movement of fuel during refueling will be conducted to ensure clarity, consistency, and ease of use and changes will be made as warranted. (CAL LT II.2)
Action Resolution:	The procedures associated with new fuel movement and movement of fuel during refueling have been reviewed by the Lead Senior Reactor Operator and technicians as part of refueling activities and training. Clarification of instructions, contingency actions, inspection enhancements, and editorial changes were made, evaluated, and implemented. The following procedures were reviewed. The asterisk (*) denotes the procedures that were revised: CPS 3007.01, Preparation and Recovery from Refueling Operation *CPS 3702.01, Inclined Fuel Transfer System (IFTS) CPS 3703.01, Core Alterations *CPS 3703.02, Handling Platform (F11) Operations *CPS 3870.01, Fuel Handling Platform (F11) Test *CPS 3870.02, Refuel Bridge (F15) and Auxiliary Platform Test *CPS 9090.01, Refueling Interlocks Operability Test/One Rod Out Interlock Oper. *CPS 9091.02, Refuel Bridge Crane/Hoist Operability CPS 9092.01, Inclined Fuel Transfer System Interlock Functional CPS 3870.03 Pre-Refuel Interlock Operability Check Fuel Handling personnel were advised of subsequent procedural changes through pre-job briefings. Fuel moves were successfully completed.
Performance Measures:	None required.

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 8

Action Description:	Current methods to monitor and measure procedure compliance program effectiveness will be assessed and revised. (CAL LT II.3)
Action Resolution:	The Nuclear Assessment Department (NAD) established an improved method of communicating the results of NAD monitoring and measurement activities covering a specific time frame. This communication will be to site Senior Management as a group. This will be accomplished by periodic meetings with the Senior Management team in accordance with Nuclear Assessment Procedure 101.01, Nuclear Assessment Organization and Responsibilities. NAD will provide information on procedure compliance trends. In addition, the audit, surveillance and inspection procedures used by NAD for performing day-to-day assessment activities were reviewed. The audit and inspection procedures clearly identify the need to continually assess procedure compliance program effectiveness. The surveillance procedure, NAP 118.05, Nuclear Assessment Surveillance Program, was revised to include assessment of procedure compliance. In addition to the above actions specific performance measures were developed to provide CPS management with the capability to monitor procedure compliance effectiveness. These measures are now reviewed routinely by station management.
Performance Measures:	- Total Significant Open Comment Control Forms - Total CPS Procedure Changes - Condition Report Associated With Procedure Violations - Percentage of Human Performance and Technical Comment Control Forms

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 9

Action Description: Evaluate procedure process (use, revision, backlog). (CAL LT II.4)

Action Resolution: The Independent Safety Engineering Group (ISEG) performed a limited scope review of the procedure use, procedure revision process and the backlogged Comment Control Forms (CCF) to determine if further evaluations are required. During the procedure use review, ISEG identified that station personnel must continue to provide heightened sensitivity to the presence of potential preconditioning activities. Eight recommendations and one observation was made to address specific preconditioning concerns along with strengthening the site administrative controls in this area.

ISEG reviewed the procedure revision process and determined this process to be adequate. A notable increase in the number of procedure changes is probably due to the heightened sensitivity which personnel have given to procedure clarity and adequacy. Four recommendations and four observations were made to enhance the program effectiveness.

The results of ISEG's review of the backlogged CCFs was that the current program has an adequate foundation established, but that a number of potential weaknesses are present and the program is in need of improvement. Ten recommendations were identified to strengthen the program.

ISEG is tracking all recommendations for resolution.

The review that ISEG performed in accordance with the SRP identified one recommendation that was required to be completed prior to startup. Specifically, all open CCFs were to be reviewed for significance in accordance with the criteria specified in 1005.01, CPS Procedures and Documents. This activity has been completed.

Performance Measures: The performance measures listed below show an improving performance trend. This trend indicates that personnel are applying the guidelines provided in CPS No. 1005.15, Procedure Use and Adherence.

Total Significant Open CCFs

Total CPS Procedure Changes

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 10

Action Description:	Review operating procedures and revise procedure inadequacies that prohibit successful completion of an operational evolution (PSI)
Action Resolution:	The Operations Department conducted a review of selected system operating procedures. Approximately 160 procedures were reviewed. The procedures that required a revision were categorized by priorities. Category A procedures, those required for startup, received top priority. This category included 90 procedures. 88 of the 90 have been revised and issued. Operations determined that the 2 remaining procedures did not require revision prior to startup.
Performance Measures:	The below listed performance measures show an improving trend in procedures that can be successfully completed as written. These measures also indicate personnel are revising procedures that cannot be completed and providing CCF as appropriate on the others. Technical/Human Performance CCFs Total Significant Open CCFs Operations In-Plant Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 11

Action Description:	Review of Station Surveillance Procedures The operating crew personnel will review scheduled surveillances prior to their performance to identify and correct inadquacies that prohibit successful completion of the surveillance activities. This review will be conducted in accordance with OSO-92. (PSI)
Action Resolution:	Operations is performing a review of scheduled surveillances prior to their performance. This review is being performed for the purpose of identifying and correcting inadequacies that prohibited successful completion of the surveillance activity. Operations Standing Order (OSO)-092, "Performance of Outage and Operational Activity Reviews," was the document utilized to conduct these reviews. This OSO provided the guidelines and instructions for reviewing procedures for adequacy, completeness, and proper interfacing between procedures, acceptance criteria, and pre-conditioning. Surveillance procedures will continue to be reviewed prior to performance over the long term. The Long Term Improvement Plan contains an action item for continuation and tracking of this effort. Surveillances will be reviewed one to two weeks prior tc being performed until all surveillances have been reviewed at least once.
Performance Measures:	Operations Crew Monitoring Total Significant Open CCFs Event Free Performance Condition Reports Associated With Procedure Violations

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 12

Action Description:	Electrical Control and Instrumentation (EC&I) senior maintenance personnel who have experience with the performance of surveillances will review a random sample of the procedures, including at least 25% of all RF-6 surveillances to identify problems with methods of criteria. (PSI)
Action Resolution:	E,C&I senior maintenance personnel performed a review of 21 C&I and 9 electrical surveillances. The following review criteria consisted of the following: °Can the procedure be followed and performed as written? °Are the Technical Specifications and non-Technical Specification acceptance data and tolerance correct? °Are any actions performed for the surveillance procedures considered pre-conditioning? The review resulted in the issuance of 11 CCFs. Changes were, and will be made prior to the next performance of the surveillance. The summary identified during the review would not have prevented or affected the required actions and acceptability of the test.
Performance Measures:	Maintenance Task Performance Checklist Total Significant Open CCFs Event Free Performance

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 13

Action Description:	EC&I senior maintenance personnel who have experience with performance of surveillances will review all outstanding comment control forms on surveillance procedures to assess if changes are timely and if significant problems exist which might call into question the effectiveness of the results. (PSI)
Action Resolution:	EC&I reviewed 36 outstanding CCFs. The review criteria was: Can the procedure be followed and performed as written? And are the Technical Specification and Non-Technical Specification acceptance data and tolerance criteria correct? Twelve (12) of the CCFs required incorporation prior to the surveillance being performed; this was accomplished. Seventeen (17) were determined to be non-technical/no impact and will incorporated in the next revision. The remaining seven (7) were incorporated during the assessment period. Due to the number of CCFs requiring immediate incorporation, EC&I recommended streamlining the procedure change process.
Performance Measures:	Maintenance Task Performance Checklist Total Significant Open CCFs Event Free Performance

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 14

Action Description:	An assessment will be made of the EC&I maintenance personnel who are qualified to perform surveillances to assure the combination of skills, procedures and training sufficiently prepares our technicians to properly perform surveillances. This will be accomplished by performing walk throughs of various surveillances by personnel with different levels of experience. (PSI)
Action Resolution:	E, C&I maintenance personnel performed a review of 212 C&I surveillance procedures for the purpose of determining how these procedures are written and what qualification the technicians must have to perform these surveillances. This review identified 12 of the 212 surveillance procedures which requires specific qualifications for the technicians to achieve prior to being allowed to perform the surveillance. The list of surveillances requiring specific qualifications was provided to the C&I group leaders for the purpose of assigning technicians with the appropriate qualifications when performing these surveillances. The qualification matrix was updated to include the surveillances.
Performance Measures:	Maintenance Task Performance List (TPCL) The Maintenance TPCL provides a specific rating for worker qualifications under the Maintenance Standards and Practices section. The average rating score for this category was 3.7 which is acceptable.

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 15

Action Description:	EC&I supervision will review the last 35-50 TPDs or PACs to determine the significance of the changes and affect on training, previous acceptability and effectiveness of the change. (PSI)
Action Resolution:	E,C&I supervision reviewed 48 Temporary Procedure Deviations (TPDs)/PACs for the effect on training, previous acceptability, and the effectiveness of these changes. This review determined that most of these changes corrected deficiencies that had been overlooked or interpreted differently in the past. This review revealed that no significant problems were identified, no additional training of personnel was needed, and all changes were effective.
Performance Measures:	Maintenance Task Performance Checklist

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 16

Action Description:	Field observations of RF-6 EC&I surveillances will be performed to assess the actual quality of performance of the package. (PSI)
Action Resolution:	18 field observations were conducted by the Nuclear Assessment Department, group leaders, and process coordinators. No significant problems were identified. The following positive attributes were observed: -- Technician's commitment to procedure adherence was evident, and -- Procedures are being changed when required Performance of the Maintenance Task Performance Checklist will continue to ensure management expectations are met.
Performance Measures:	Maintenance Task Performance Checklist

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 17

Action Description:	Provide training to appropriate personnel on 10CFR50.59 purpose, process, and applicability. (EIP)
Action Resolution:	IP provided familiarization training to qualified 10CFR50.59 preparers and personnel involved in the "work function" at CPS. Personnel qualified in the 10CFR50.59 evaluation process not attending this training were removed from the list of authorized preparers; fourteen (14) individuals were dropped from this list. Seminar XZ61644-00, "10CFR50.59 Purpose, Process and Applicability," was provided to the following: ·Personnel currently qualified to perform 10CFR50.59 safety evaluation. ·Personnel who in the performance of their duties are involved with the "work function" at CPS. These personnel include such individuals as supervisors, group leaders, licensed senior reactor operators, and system engineers. The personnel identified as requiring the training included those currently qualified to perform safety evaluations/screenings. If these individuals did not attend this training, they were removed from the qualified preparer list maintained by the Licensing Department. This seminar included a check for understanding. In addition to the training presented using Seminar XZ61644-00, a lessons-learned seminar was presented to qualified safety evaluation preparers. This seminar emphasized lessons learned from identified 10CFR50.59 program weaknesses and discussed, 1) the importance of full and complete safety evaluations, 2) the type of station changes which are required to be evaluated in accordance with 10CFR50.59, and 3) the definition of what constitutes an unresolved safety question. As part of the Strategic Recovery Plan element review, the 10CFR50.59 program is being reviewed. New improvements will be included in the Long Term Improvement Plan.
Performance Measures:	None

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 18

Action Description:	Review all Standing Orders against the 10CFR50.59 screening process. (PSI)
Action Resolution:	The following Standing Orders were reviewed against the 10CFR50.59 screening process: - Radwaste Program Standing Orders - Chemistry Department Standing Orders - Radiation Protection Work Instructions - Plant Security Standing Orders - Plant Support Services Standing Orders - Plant Managers Standing Orders - Operations Standing Orders - Maintenance Standing Orders - Planning and Scheduling Standing Orders The review did not identify any Standing Orders that required a 10CFR50.59 Safety Evaluation. Also, the 50.59 screenings were prepared by qualified personnel.
Performance Measures:	None

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: I

Number: 19

Action Description: Review Surveillance Procedures for fidelity with Technical Specifications and USAR.

Action Resolution: The sample review of surveillance procedures for fidelity with the Technical Specifications (TS) and Updated Safety Analysis Report (USAR) has been completed. Every plant discipline was represented on a proportional basis so that Operations and C&I procedures constituted a large share of the overall sample. The population of procedures reviewed is as follows:

* Operations - 34
* C&I - 22
* Radiation Protection - 9
* Electrical - 9
* Nuclear Station Engineering Department (NSED) - 6
* Chemistry - 4
* Fire Protection - 3
* Mechanical Maintenance - 3

Each of the ninety (90) surveillance procedures were reviewed for preconditioning, completeness, fidelity with the TS and fidelity with the USAR. The review resulted in the generation of 21 Condition Reports (CRs), 93 Comment Control Forms (CCFs), two USAR changes, one proposed change to the TS bases and one Engineering Work Request.

The number of CRs, CCFs and other documents generated confirms that the surveillance procedures do contain errors and inconsistencies. However, none of these errors or inconsistencies led to a determination of equipment inoperability with respect to the requirements or commitments in TS or the USAR. The large number of errors and inconsistencies identified from the review confirms the need to continue the surveillance procedure review. This effort will be tracked by the Long Term Improvement Plan.

Performance Measures: Total significant open Comment Control Forms
Percentage of Human Performance and technical Comment Control Forms

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 1

Action Description:	Expectations of Conservative Decison Making emphasizing safety of operation will be clearly defined and provided to key personnel. (CAL I.1)
Action Resolution:	Site Managers, Assistant Managers, Plant Staff Directors, the Assistant Director-Operations, Work Control Team Leaders, FRG members, Operations personnel (including STAs), system engineers, active operator license holders attended Seminar RC90019 on conservative decision making. Each attendee received a copy of the Clinton Power Station expectations regarding Conservative Decision-Making.
Performance Measures:	Event Free Performance Total Significant Open CCFs Main Control Room (MCR) Deficiencies Maintenance Task Performance Checklists In-Plant Crew Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 2

Action Description: A seminar on conservative decision making emphasizing safety of operation will be provided to key personnel.

*Site Managers
*Plant Staff Directors/Assistant Director-Operations
*Work Control Team Leaders
*Facility Review Group Members
*Licensed and non-licensed Operations personnel
*Shift Technical Advisors
*System Engineers
*Active operator license holders
*Management monitors

Action Resolution: The above listed personnel attended seminar RC90019-02, Conservative Decision-Making. All attendees received a handout that contained the Clinton Power Station policy on and definition of Conservative Decision-Making.

The seminar began with an introduction by the Vice President of CPS. A Shift Supervisor involved in the Reactor Recirculation pump seal failure event provided his personal comments. The seminar concluded with the Shift Supervisor presenting a discussion on the characteristics of Conservative Decision-Making. A written "check for understanding" was completed by each attendee.

Performance Measures: Event Free Performance

Total Significant Open CCFs

MCR Deficiencies

In-Plant Crew Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 3

Action Description:	Plant or equipment condition limits will be provided to ensure conservatism: (CAL I.3) Operation of the plant at power, with Reactor Recirculation pump seal degradation exceeding conservatively established limits, will not be permitted.
Action Resolution:	The following procedures were reviewed/revised to reduce potential impact of seal failure on future plant operation. 3005.01 Unit Power Changes 3004.01 Turbine Startup and Generator Synchronization 3006.01 Unit Shutdown 3302.01 Reactor Recirculation 3304.01 Control Rod Drive 5003.05 Recirculation Pump A/B Seal Staging Flow High or Low 5003.04 Recirculation Pump A/B Outer Seal Leakage High In parallel with reviewing procedures, Engineering compiled and reviewed industry and NRC publications on seal failures. Licensing commitments were also reviewed. The conclusion of the review performed by Engineering was that the procedures as written contained the required actions to minimize the potential for introducing seal instability, but needed revision to appropriately address operation and shutdown with seal degradation.
Performance Measures:	None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 4

Action Description:	Personnel involved have recognized and acknowledged their roles and errors made in this event. The Plant Manager will personally discuss elements of this event with each crew. (CAL VI.1)
Action Resolution:	Shortly after the September 5 event, the Plant Manager previous to P. D. Yocum conducted the discussions of the event with each crew. However, no records were maintained for these discussions. Therefore, the Plant Manager initiated the crew meetings as committed to by this item. The results of (3) three crew meetings conducted by the Plant Manager were considered to be non-productive. They were destructive as far as moral, team building and their use as a tool to communicate management expectations. Based on the results, the Plant Manager decided not to continue with the remaining crew meetings, but to concentrate on the individual crew member interviews as committed in Start-up Readiness Action item II.5. Also, the operating crews have received seminars at which the Plant Manager and others shared their views of the September 5, 1996 event in detail. These discussion sessions were performed in conjunction with the seminars performed for Startup Readiness Action Plan items I.2, II.1 and III.2.
Performance Measures:	Operations Crew Monitoring Condition Report Initiation Rate

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 5

Action Description:	Plant Manager will meet with each crew member to ensure the following: (CAL VI.2) *understanding of safe and conservative operation *impact of operator actions and possibility for negative plant response *responsibility for placing plant in safe configuration *planning for the unexpected *procedural compliance is required even when no one is watching *understanding of plant material conditions which impact plant operations *understanding of Emergency Action Levels and the need to continually assess plant conditions against those levels
Action Resolution:	The Plant Manager met with each operator on shift and discussed the topics listed above. This process allowed the Plant Manager and each operator to openly discuss these topics and to serve as a means to assess operator readiness for restart. Each crew operator signed a training attendance sheet.
Performance Measures:	Operations Crew Monitoring Condition Reports associated with Procedure Violation Self-Identification Rate The above listed Performance Measures will serve as measures for the following Strategic Recovery Plan Elements.

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 6

Action Description:	Additional plant or equipment condition limits will be developed as appropiate based on CPS and industry operating experience, to ensure conservatism: (CAL LT I.4) -Turbine Vibration
Action Resolution:	CPS procedures 3115.01, Turbine (TG, EHC, TS) and 5007.04, Alarm Response Instruction were revised. The revised procedures added more defined operator actions for when the auto trip switch is in bypass mode between the speed range of 1400 rpm to 1800 rpm. Also, training seminar RS92013-00 was revised to include the vibration limits prescribed in these procedures. The following additional plant or equipment condition limits will be established following startup: -Condenser in-leakage -Condenser vacuum -Main Power Transformer Gassing -Suppression Pool Level/Emergency Operating Procedure Entry -Rotating Component Vibration
Performance Measures:	None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 7

Action Description:	Review April 1996 incident corrective actions for adequacy, timeliness and effectiveness. (CAL LT IV.1)
Action Resolution:	This review consisted of reviewing the Corrective Actions for Condition Report (CR) 1-96-04-019 which was written to document the scram and subsequent loss of power from the Reserve Auxiliary Transformer in April 1996. The CR Corrective Actions were focused on preventing a similar event and would likely prevent this from occurring. The Corrective Actions were completed on, before or very close to the due dates, with the exception of two items. Although the items are not all complete, the identified Corrective Actions appear to be timely based on their relative importance. An aggressive root cause analyses would have identified these issues for corrective action. The Long Term Improvement Plan will include actions to improve root cause analyses. Additionally, the Corrective Action for this CR did not identify issues concerning management involvement and procedure adherence. The issues of management involvement and procedure adherence were strong areas of focus after the September 5 event. CR 1-96-04-019 will provide tracking and closure of the April 9, 1996 corrective action. The performance measures will provide indication of improved management involvement and procedure adherence.
Performance Measures:	- Main Control Room Deficiencies - Operator Work Arounds - Temporary Modifications - Long Term Tagouts - Maintenance Task Performance Checklist - Condition Reports Associated With Procedure Violations

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 8

Action Description:	Review SOER 92-01, "Reducing the Occurrence of Plant Events Through Improved Human Performance," response for adequacy. (CAL LT IV.2)
Action Resolution:	During the 1996 INPO Plant Evaluation, the response was determined not to be adequate. An action plan was developed to address the SOER Recommendations. The SOER Binder was supplemented with information for action taken in response to Startup Readiness Action Item I.2, I.6, II.1 and II.2. In addition, Performance Improvement International has provided expertise in facilitating human error reduction techniques.
Performance Measures:	CR Initiation Rate Radiation Worker Performance Maintenance Task Performance Checklist Operations In-Plant Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: II

Number: 9

Action Description:	Simulator Restart Training Active proficient licensed operators and Shift Technical Advisors/Shift Engineers will participate in startup training on the simulator. This training session will reinforce expectations on management oversight and roles, procedure compliance, conservative decision making, emerency action levels and reactivity management. The simulator session will be conducted with the intended crew composition as we rotate into normal shift compliments and will include management monitors. (PSI)
Action Resolution:	The simulator restart training was completed. This training session reinforced expectations on management oversight and roles, procedure compliance, conservative decision making, emergency action levels and reactivity management. The training was conducted with the intended crew composition and management monitors.
Performance Measures:	Event Free Performance In-Plant Crew Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 1

Action Description:	Roles, duties and expectations of personnel involved in operational oversight activities will be reviewed and revised. (CAL III.1)
Action Resolution:	Plant Manager Standing Order (PMSO) No. 84, Management Oversight Instructions, was developed for the purpose of establishing the roles, duties and expectations of personnel involved in the operational oversight activities. This PMSO provides instructions and guidance to personnel to assure their roles in the safe and conservative operation of Clinton Power Station. This information was included in the Conservative Decision-Making seminars provided to the personnel listed in item I.1 response to the Confirmatory Action Letter.
Performance Measures:	In-Plant Crew Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 2

Action Description:	Provide a briefing on operational oversight roles and responsibilities to the following personnel: (CAL III.2) Operating crews, Active Operator License Holders, Shift Technical Advisor, System Engineers, Assistant Plant Manager-Operations and Assistant Director-Operations, Plant Manager, and Management monitors.
Action Resolution:	The above listed personnel attending a briefing on the Operational Oversight Roles and Responsibilities as specified in Plant Manager Standing Order (PMSO) 84, Management Oversight Instructions. (See SRAP III.1). Each attendee was provided a handout of PMSO-084. The briefing was conducted by the Manager-CPS. The contents of the PMSO were thoroughly discussed with an emphasis on maintaining a broad independent viewpoint.
Performance Measures:	In-Plant Crew Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 3

Action Description:	During restart activities and until stable power operation is achieved, experienced plant personnel will be assigned to monitor main control room activities. They will specifically be charged with assessing the proper oversight functions by line management. (CAL III.3)
Action Resolution:	This action item will remain open through plant restart activities and until stable power operation is achieved. The Operations Crew Monitoring document has been developed and will be utilized during plant startup.
Performance Measures:	Operations Crew Monitoring

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 4

Action Description:	A startup plan will be developed which provides "hold points" at which progress in the startup, equipment conditions and appropriate next steps are evaluated by Operations management and the shift crews. (CAL III.4)
Action Resolution:	The Clinton Power Station developed a RF-06 Start-up Plan. The Start-up Plan provides the following: * the purpose of the plan, * identifies those individuals (Shift Managers) who will authorize plant startup beyond designated hold points, * describes Shift Managers' responsibilities as they relate to the Shift Supervisor * specifies pre-defined management decisions points during plant startup, * specifies equipment conditions and activities to be evaluated or verified prior to proceeding, * provides a means to document the Shift Manager's approval to continue to the next hold point The specified Hold Points are as follows: * Prior to Mode 2 * Prior to exceeding 150 psig * Prior to Mode 1 * Prior to Roll turbine and synchrinization to grid * Prior to isolating Circulating Water (CW) water box * Prior to exceeding 24% * Prior to Reactor Recirculation (RR) pump shift to fast speed * Prior to exceeding 40%
Performance Measures:	None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 5

Action Description:	Methods will be developed to monitor operational decision making to ensure that expectations continue to be met and are reinforced. (CAL LT I.3)
Action Resolution:	NAP-118.05, NUCLEAR ASSESSMENT SURVEILLANCE PROGRAM was revised to strengthen the NAD Surveillance program to include a review for conservative decision making, human performance, and management oversight. NAP-101.01, NUCLEAR ASSESSMENT ORGANIZATION AND RESPONSIBILITIES, was revised to more clearly define the periodic Nuclear Assessment exit meetings with the senior management team. The procedure provides a list of specific topics for the meetings. The required agenda includes a review of NAD activities for a specific time frame and is presented in the following categories: Procedure Compliance/Adequacy; Conservative Decision Making/Human Performance; Management Oversight; and Plant Material Conditions. Further, the procedure revision also requires the meeting information to be categorized into SALP categories including Support, Engineering, Maintenance, and Operations.
Performance Measures:	CR Initiation Rate In-Plant Crew Monitoring Total Significant Open CCFs

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 6

Action Description:	A process will be established to ensure that personnel who may be assigned to operational positions which have oversight responsibilities will be briefed on those responsibilities prior to assuming the position. (CAL LT III.1)
Action Resolution:	Plant Manager Standing Order (PMSO) 84, Management Oversight Instructions contains instructions and guidance to Management Oversight personnel concerning their role in assuring the safe and conservative operation of Clinton Power Station. The PMSO requires that the Manager-CPS or Assistant Plant Manager-Operations brief management personnel on the requirements of this PMSO prior to each assignment to a management oversight role. A briefing was conducted by the Manager-CPS on the contents of PMSO-084 as part of SRP item III.2.
Performance Measures:	None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 7

Action Description:	The Senior Management Team will conduct a self-critique of personal performance related to this event and identify areas for improvement. (CAL LT VI.1)
Action Resolution:	Members of the senior management team met on November 4, 1996. Those in attendance were the Vice President, Manager-Nuclear Station Engineering, Assistant Manager-Operations, Recovery Director, Assistant Manager-Maintenance, Transition Director, Director-Licensing, Nuclear Program Controller, Manager-Nuclear Assurance, and Power Plant Manager. The purpose of the meeting was to conduct a self-critique of individual performance of management team members for the periods leading to, during, and following the events of September 5-6, 1996. Individuals shared what they believed to be their personal performance shortcomings, and what they could have done differently to have avoided or better responded to the event. The members of the senior management team agreed that they have learned much from the event, and that their individual performance and behavior have changed in positive ways. The members of the senior management team agreed that a team charter would be helpful in setting mutual expectations of each other and the whole management team. The team created a management team charter, with the intent that the charter will integrate with the Nuclear Program Expectations document previously promulgated to CPS employees.
Performance Measures:	Cultural Index

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 8

Action Description:	Establish a lower threshold for initiating assessments based on events, conditions or trends. (CAL LT VI.2)
Action Resolution:	The Nuclear Assessment Department (NAD) will focus on performance-based surveillances based on events, conditions and trends. As part of normal day to day and/or month to month business, Nuclear Assessment Management will review the results of surveillances and adjust the threshold for assessments based upon these results and periodic verbal reports to Senior Nuclear Program Management. Effectiveness of these corrective actions will be measured by the Senior Management Team through periodic Nuclear Assessment Exit Meetings, as specified in Nuclear Assessment Procedure 101.01, Nuclear Assessment Organization and Responsibilities.
Performance Measures:	Self-Identification Rate

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 9

Action Description:	Monitor the effectiveness of the Corrective Action to ensure readiness for startup.
Action Resolution:	This activity was performed by an independent team coordinated by the Manager of Nuclear Assessment. The results indicated that actions taken for procedure compliance was insufficient. Additionally, the Startup Readiness Action Plan did not encompass the entire site for the purpose of correcting program deficiencies in other areas. CPS issued a new procedure, CPS 1005.15, Procedure Use and Adherence. This procedure provides guidance to assist procedure users to understand and apply procedure use and adherence expectations. Also, CPS 1005.01 and 1005.07 were revised to support 1005.15. The Strategic Recovery Plan was developed to include reviews and corrective actions to ensure the plant is ready for startup and continued operation. This plan encompasses the entire site.
Performance Measures:	All measures.

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: III

Number: 10

Action Description:	Identify and schedule the corrective actions for the Work Control Program based on the assessment of the Work Control Team pilot. Items identified as short term corrective actions are to be completed prior to startup from RF-6. (PSI)
Action Resolution:	The Work Control Program was developed for the purpose of on-line scheduling and coordination of work activities at Clinton Power Station (CPS). This program established the work control team roles and interface responsibilities which is described in CPS 1141.01, Work Control. Team members were training utilizing Seminar XZ51005, Work Control Team Training and Seminar XZ51004, Work Control Team Overview. Additionally, Operations Shift Supervisors, Maintenance Supervisors, and Process Coordinators and Facility Process Coordinators and Group Leaders received training utilizing the above seminars. An assessment of the improvements to the work control process was conducted to assure the site's focus on nuclear safety. The assessment concluded that the changes to the work control process will enhance operations and the site's focus on nuclear safety through conservatively built work products and schedules. The Work Control Program is being evaluated by the Strategic Recovery Plan.
Performance Measures:	Main Control Room Deficiencies System Readiness Materiel Deficiencies Temporary Modifications Operator Workaround Refueling Outage Scheduling Performance

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 1

Action Description:	The B Reactor Recirculation (RR) pump seal was replaced and will be tested
Action Resolution:	Verification is in progress (a) Assembly and preliminary testing has been verified complete. (b) This item cannot be verified as complete until post modification testing (PMT) is performed at plant startup. Initial PMT checked leak check seal pressure and temperature during vessel pressure test. The results were satisfactory. This Startup Readiness Action Plan item will remain open until the system is placed in operation for power ascension.
Performance Measures:	Maintenance Rule a(1) System

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 2

Action Description:	The Drywell Floor Drain (RF) leak detection and flow measurement instrumentation was made operable and tested (CAL V.2)
Action Resolution:	The Drywell Floor Drain (RF) leak detection and flow measurement instrumentation was repaired utilizing Maintenance Work Request (MWR) D70490. During the repair process, a short was discovered in the instrumentation coax cable. The RF system was proven operable using CPS 9443.01, Drywell Floor/Equipment Drain Sump Flow E31-N580(N578) Channel Calibration.
Performance Measures:	MCR deficiencies (indirect) Maintenance Rule (a)1 Systems

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 3

Action Description:	The Drywell Equipment Drain (RE) leak detection and flow measurement instrumentation was made operable and tested. (CAL V.3)
Action Resolution:	The Drywell Equipment Drain (RE) leak detection and flow measurement instrumentation was repaired utilizing Maintenance Work Request (MWR) D61634. During the repair process, the weir box level element was found to be full of water and the flex conduit and related electrical connections also contained water. All parts suspected of containing water were removed and new parts were reinstalled. A sealant to prevent water intrusion was applied. A surveillance test using CPS 9443.01, "Drywell Floor/Equipment Drain Sump Flow E31-N570(N578) Channel Calibrations was performed and the RE system was declared operable.
Performance Measures:	MCR deficiencies (indirect) Maintenance Rule a(1) Systems

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 4

Action Description:	Outstanding corrective MWRs will be reviewed to evaluate material conditions that impact plant operations. (CAL V.4)
Action Resolution:	A list of 677 corrective Maintenance Work Requests (MWRs) were reviewed by Engineering, Operations and Maintenance to determine if any were required to be worked prior to plant startup. The review resulted in four MWRs being added to the outage work scope. These four MWRs are as follows: D61642 D71975 D71988 D74722
Performance Measures:	Main Control Room Deficiencies System Readiness Materiel Deficiencies Temporary Modifications Operator Workarounds Long Term Tag-outs Refueling Outage Scheduling Performance

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 5

Action Description:	Develop and implement the following actions for RF leak detection system: (CAL LT V.3) 1. Incorporate the leak detection calculation method into the process computer 2. Perform complete and thorough cleaning of the RF weir V-notch system. 3. Determine and implement float setpoints change for improved time response for the alternate (LD-027) leak detection system which is based on RF sump pump discharge flow measurements.
Action Resolution:	The Leak Detection Calculation for the Drywell Floor Drain (RF) Sump Pump was incorporated into the process computer. The computer will provide a method for monitoring pump status and provide a calculation of the sump flow based on the time difference between the time a pump is on and the time the pumps are off. The computer shall also calculate a total flow whenever the equipment sump flow changes. The sump volume to be used in the calculation is a conservative value based on the volume to be pumped from the sump with the control switch in the "Auto after Start" position. The software modification was accomplished per Maintenance Work Request (MWR) D73737. A thorough cleaning of the RF Weir V-notch and piping system was completed. Implementation of float setpoint changes was investigated by NSED. They determined that the amount of setpoint change to affect a significant improvement in time response for the alternate (LD-027) leak detection system would not support the accuracy required by Reg Guide 1.45. Therefore, NSED pursued implementation/installation of Modification LD-028.
Performance Measures:	MCR deficiencies (indirect)

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 6

Action Description:	Incorporate the leak detection calculation method (based on RE sump fill times) into the process computer. (CAL LT V.5)
Action Resolution:	The Leak Detection Calculation for the Drywell Equipment (RE) Sump Pump was incorporated into the process computer. The computer will provide a method for monitoring pump status and provide a calculation of the sump flow based on the time difference between the time a pump is on and the time pumps are off. The computer shall also calculate a total flow whenever the equipment sump flow changes. The sump volume to be used in the calculation is a conservative value based on the volume to be pumped from the sump with the control switch in the "Auto after Start" position. The software modification was accomplished per Maintenance Work Request (MWR) D73737.
Performance Measures:	None Required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 7

Action Description: The Vice President, Manager-CPS and Manager-NSED will assess long term material deficiencies on a quarterly basis to ensure that corrective actions are being pursued aggressively and operational needs are clearly being met. (CAL LT V.6) (This will satisfy the initial assessment. The quarterly assessment will be a long term action.)

At a minimum this assessment will address:
1. Main Control Room Deficiencies
2. Operator Work Arounds
3. Maintenance Rule Category A.1. Systems

Action Resolution: The Vice President, Manager-CPS, Manager-NSED and Materiel Condition Management Team (MCMT) met to discuss long-term materiel deficiencies. The most pressing long-term materiel issues included main control room deficiencies, operator work arounds and Maintenance Rule Category A.1 systems. The team decided to increase focus on the following four issues:

(1) Main Steam Line Radiation Monitors
(2) Fuel Cooling Pumps
(3) Hardened Grease
(4) Main Control Room Recorders

These meetings will be held on a quarterly basis.

Performance Measures: Overall, the performance indicators show that materiel deficiencies are being adequately understood and addressed by CPS.

MCR deficiencies

MWR's

Maintenance System in a(1) Category

Operator Work Arounds

Long Term Tag-outs

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 8

Action Description:	Review 1995 and 1996 NRC Inspection Report material condition items for adequate response. (CAL ST V.7)
Action Resolution:	The 1995 and 1996 NRC Inspection Reports were reviewed for Materiel Conditions items. This review determined that materiel conditions identified in Inspection Report have been documented on Maintenance Work Request or Engineering Change document. However, resolution of some long-standing equipment problems have been untimely. These are discussed below. Several issues associated with plant materiel condition have been re-evaluated for startup restraints. These issues are as follows: - The breaker hardened grease issue will be resolved in accordance with breaker inspection plan as discussed with the NRC. - Oil leaks on significant components are being repaired. New leaks are being identified and assessed for repair during component maintenance. This is not considered a startup restraint. - Level indication on radwaste tanks have been modified. One of the nine tank level indicators remains to be modified. Administrative controls are in place to assist operators with determining level. This is not a startup restraint. - Chemistry monitors are being returned to operation. Fifteen of the 30 inoperable monitors will be returned to service by the end of 1997. This is not a startup restraint.
Performance Measures:	Maintenance Rule Systems in an a(1) Category Main Control Room Deficiencies Operator Work Arounds

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 9

Action Description:

a) Review adequacy of past operability evaluations and determinations. Identify and resolve any open issues which would result in equipment operability being questionable.
b) Develop Operability Determination Program for Clinton Power Station
c) Develop guideline for Reportability
d) Train appropriate engineering personnel on Operability Determination Program
e) Train appropriate operations personnel on Operability Determination Program

Action Resolution:

Nuclear Station Engineering Department (NSED) performed a review of past operability evaluations and determinations in accordance with Generic Letter 91-18. This review included Condition Reports (CRs), open mandatory modifications/plant changes, active MWRs used for CR corrective action, Centralized Commitment Tracking (CCT) documents, Operations Standing Orders, Shift Supervisor system files and specific operability of system structures and components. Approximately 260 documents were reviewed. No additional operability concerns were identified.

CPS 1014.06, Operability Determination Program, was developed and issued. This procedure establishes the methods for documenting the operability determination, bases and justification for the determination.

Training was provided to NSED and Operations utilizing lesson plan XT-61421, Operability Evaluations.

Guidance for reportability concerning operability determination was provided during this training.

Performance Measures:

None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 10

Action Description: Determine if any changes are needed to action plan process/programs Provide guidance to appropriate site personnel on action plan use as it pertains to manipulation of plant equipment (EIP).

Review adequacy of past action plans and determine if any actions are required.

Revise CPS 1070.01 procedure on action plans.

Action Resolution: A total of 48 plans were reviewed. 35 of the 48 plans were reviewed by the Nuclear Station Engineering Department self-assessment team, and 38 of the same 48 population were reviewed by an independent assessor (10 Action Plans which were for vendors to resolve concerns or to request vendor services were not reviewed by the independent assessment).

The independent review assessed operability of the affected equipment. These evaluations and reviews concluded that none of the 48 plans left equipment in an inoperable state.

The root cause to CR 1-96-10-032 indicates: that the action plan program described in NSED procedure A-16 is inadequate. "There were instances of personnel not following the procedure but the individuals appear to not have done this consciously. The procedure was sufficiently vague to leave much to the individual's interpretation." As a result the corrective action for the CR entailed the issuance of a new procedure, CPS 1070.01, "Coordination Plans." This procedure is clearer in stating that action plans are not work documents and that they must be incorporated into procedures, MWRs, temporary modifications, or design changes as applicable and that the appropriate safety evaluation or screening shall be accordingly performed.

The appropriate site personnel were trained/briefed on the new procedure.

Performance Measures: None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 11

Action Description:	Butterfly Valves Perform bounding analyses for pipe stress and supports, and update seismic analyses to validate initial operability evaluation and to determine if any further RF6 actions are required to assure operability is maintained
Action Resolution:	IP completed a Bounding Analysis; no operability concerns were identified. The following documents were verified for adequacy and completeness: 1. The list of Posi-Seal Motor Operated Butterfly Valves at CPS which defined the scope of Motor Operated Valves (MOVs) affected by the incorrect actuator and assembly weights. 2. Affected safety-related piping and support analysis. 3. Affected MOV seismic qualification analysis. 4. Revised Corrective Action Corrective Plan to CR 1-96-04-010.
Performance Measures:	None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 12

Action Description: Conduct a review of open MWRs (except CM-MWRs) older than 6 months old to verify no material deficiencies exist that significantly affect plant operations. (PSI)

Action Resolution: A list of 752 non-corrective maintenance (CM) Maintenance Work Requests (MWRs) was generated by Maintenance Planning and reviewed by Operations, Maintenance, and the Nuclear Station Engineering Department (NSED). The list contained non-CM MWRs greater than six months old. The criterion used to determine if MWRs should be recommended for addition to the sixth refueling outage (RF-6) scope of work included the following:

° Represent a condition that degrades a significant margin or barrier to operating limits.

° Represent an undesirable challenge or complication to normal safe operation of the plant, particularly, if other barriers of protection are degraded, or other contingencies are not possible.

The review identified and added to the scope of RF-6 a total of 28 MWRs.

During the verification process, it was determined that 127 non-CM MWRs were ommitted from this review process because they were less than 6 months old. As a follow-up to this item, Nuclear Assessment reviewed these MWRs using the same criteria as previously mentioned. None of the 127 non-CM MWRs were evaluated as impacting safe startup or operation of the plant.

Performance Measures: Main Control Room Deficiencies

System Readiness Materiel Deficiencies

Temporary Modifications

Operator Workarounds

Long Term Tag-outs

Refueling Outage Scheduling Performance

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 13

Action Description:	Resolve immediate operability issues with feedwater check valves 10 A/B and 32 A/B
Action Resolution:	IP installed Modifications on the feedwater check valves, performed local leak rate test. All valves passed satisfactory. A response will be provided to the NRC 60 days after startup to resolve issues with these valves. IP will perform leakage testing of the feedwater check valves during a mid cycle outage currently scheduled for spring of 1998.
Performance Measures:	None required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 14

Action Description: Determine and resolve operability issues within the scope of GL 96-06

Action Resolution: The condition was an original design deficiency identified as an industry-wide problem in GL 96-06. IP performed a review of mechanical containment penetrations. In many cases, thermal relief had been provided. Of the 152 penetrations reviewed, 21 were identified as being potentially susceptible. Upon further review, this number was reduced to 17. All 17 were non-essential systems that receive containment isolation signals to close for a LOCA.

Twenty-one penetrations were initially identified as being potentially susceptible to this phenomena as documented in CR 1-96-10-360. Penetrations IMC-048, 204, 205 and 208, however, do not receive isolation signals during a LOCA. These penetrations are for the cooling water supplies to the safety-related combusible gas compressor room coolers. This penomena could potentially occur for these penetrations during surveillance testing if both the inside and outside containment isolation valves were closed at the same time. Procedures were revised in support of the CPS response to GL 96-06 to prevent isolation of multiple valves simultaneously, during surveillance testing, thereby eliminating the possibility of the subject scenario. Caution statements and guidance were also added to the system operating procedures to assure that the penomena is not inadvertently introduced during maintenance or other system evolutions for these penetrations.

For the 17 potentially affected penetrations, corrective actions are as follows: (1) Penetrations 1MC-116, 078 and 088 are not needed post-LOCA or during normal plant operation. These penetrations will be drained prior to restart from our current refueling outage (RF-6) and will subsequently not be susceptible. Procedures CPS 9064.02 and CPS 9061.03C003, D003 were revised to support resolution of GL 96-06.

(2) The piping for penetrations IMC-056, 081, 082, 052, and 053 were modified to support resolution of GL 96-06 by adding air chambers. These air chambers will provide a compressible volume of air to accommodate the thermal expansion of water. The potential pressure increase will now be limited to that for the compressibility of air which will not be significant. Therefore, this issue is no longer a concern for these penetrations.

(3) Drill holes were provided in the most inside disc face of the inboard flexible wedge containment isolation valves (CIV) for penetrations IMC-046, 047 and 085. As the fluid between the CIVs thermally expands,

Startup Readiness Action Item and Resolution

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the outboard face of the inboard disc will be pushed off its seat and the pressure will be relieved through the hole in the opposite disc face before the penetration assembly would be overpressurized.

(4) Analyses for penetrations IMC-050, 065, 069, 070, 103 and 104 revealed that the current measured CIV leakages are sufficient to prevent overpressurization. Since these analyses are based on current leakage rates, reevaluation will be required each time new leakage data is obtained or if maintenance is performed that could affect the leakage rate. To eliminate this need for continued monitoring and reanalysis, CPS intends to modify these penetrations in our next refueling outage.

The above information was submitted in detail to the NRC in response to GL 96-06.

Performance Measures: None Required

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 15

Action Description: Ensure the AR/PR system is an effective tool for identifying radiological conditions within CPS. Provide training and expectations to Radiation Protection and Operations Personnel on monitoring and use of the system

Action Resolution: The current system is an effective tool for identifying radiological conditions within CPS. However, enhancements have been made to the locations of the Central Control Terminals (CCT). The problems that have been encountered in the past with this system have been due to having a CCT in the Radiation Protection Office and a CCT located in the Main Control Room, that if operated together would cause the computers to lock-up. Therefore, the CCT in the Radiation Protection office was utilized as the main CCT with the Main Control Room CCT shutdown. This has lead to problems with manning the CCT in the Radiation Protection Office full time or communicating alarms with the Main Control Room.

To alleviate these problems, the CCT from the Radiation Protection Office has replaced the non-functional CCT in the Main Control Room. This CCT is being manned full time by qualified Radiation Protection Technicians. This form of manning will continue until modification PRF018 (replaces the existing AR/PR CCT portion of the system) is implemented. At this time, Operations will be trained on the new modification.

The Policy Statement that describes the expectations concerning Operation of the Main Control Room CCT has been provided to Radiation Protection and Operations.

The following list of CPS procedures have been revised due to the location changes.

6901.01, 6902.01, 6948.01, 6948.02, 6949.01, 6954.01, 8637.64, 9432.61, 9432.63, 6567.01, 7410.10, 7410.75, 7410.78, 7910.70, 9432.62, 9911.11, 9911.16, 9911.24, 9911.50, 9955.03, 9437.40, 5140.01, 9437.60, 9437.62, 9532.60, 9532.62, 9537.40, 9537.60, 9537.62, 9537.66, 9940.01, 6567.02, 7410.71, 9437.61, 9437.63, 9532.61, 9532.63, 9537.41, 9537.61, 9537.63, 9537.67, 1909.22, 9437.41, 7910.75

Operations will be trained on the AR/PR system operation following installation of Modification PRF018. Operations will then relieve the Radiation Protection Department of the responsibility for operation of

Startup Readiness Action Item and Resolution

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the CCT in the Main Control Room.

Performance Measures: MCR Deficiencies (indirect)

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 16

Action Description:	Review the current population of identified operator workarounds for proper priority and scheduling of resolution. Ensure adequate justification for those that will not be corrected in RF6. (PSI)
Action Resolution:	A review of operator workarounds was completed. This review evaluated workarounds for proper priority, scheduling of resolution and justification for those workarounds not being corrected in RF-06. In addition, to ensure that no potential operator workarounds have been overlooked since September 1996, a series of reviews were performed. The reviews included the following: * Maintenance Work Requests * Open Caution tagouts * Vital System Readiness Reviews * Existing workarounds Eleven (11) new workarounds were identified. While two (2) existing workarounds have been removed from the workaround list. The list of workarounds were reviewed by Licensing for 10CFR50.59. They concluded that none required a safety evaluation. Subsequent workarounds will be reviewed prior to startup to determine if a safety evaluation is required. As new workarounds are identified, they will be evaluated for startup restraints. The operator workaround performance measure will be utilized to monitor the effectiveness.
Performance Measures:	Operator Workarounds

Startup Readiness Action Item and Resolution

Startup Readiness Action Plan Category: IV

Number: 17

Action Description:	Review the current population of identified Main Control Room deficiencies for proper priority and scheduling of resolution. Ensure adequate justification for those that are not scheduled in RF6. (PSI)
Action Resolution:	Main Control Room deficiencies have been reviewed for resolution. At this time, all deficiencies except twelve (12) will be worked in RF-06. Five of the twelve are non-outage with the remaining seven being outage. This number is below the established Main Control Room deficiency goal as indicated by the Strategic Recovery Plan Performance Measures.
Performance Measures:	Main Control Room Deficiencies