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**Wilfred Connell**  
Vice President



U-602670  
1A.120  
WC-370-96  
December 9, 1996

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: Clinton Power Station Startup Readiness Action Plan

Dear Mr. Beach:

By letters dated September 17 and 24, 1996, we submitted our corrective action plan in response to the September 5, 1996, reactor recirculation pump seal failure event and the associated September 11, 1996, Confirmatory Action Letter. Since then, we have completed a number of the actions described in our corrective action plan.

In addition, based upon further evaluations, including the results of the NRC's Special Inspection and Operational Safety Team Inspection, our plans have been revised and additional actions incorporated into them. We clearly recognize the need to accomplish a major shift in the safety culture at CPS to ensure that decisions and actions in the plant are made with safety as the first and overriding concern. To this end, we have included in our startup readiness plan several specific actions to ensure that CPS personnel clearly understand that safety must be our constant focus and takes priority over other considerations.

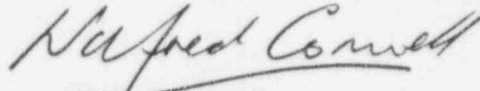
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Attachment 1 is our Startup Readiness Action Plan which describes more fully the actions we plan to accomplish prior to startup of CPS, along with the current status of completion of these actions. As noted in the Startup Readiness Action Plan, we intend to perform formal assessments to verify completion of pre-startup actions and to monitor the effectiveness of corrective actions to ensure readiness prior to startup. Attachment 2 includes additional technical actions involving plant equipment which will also be resolved prior to startup of CPS. Detailed records of the accomplishment of actions are being kept at CPS and are available for NRC review. We are also developing a set of longer-term actions to be taken after startup to further improve our performance in areas of weakness identified by the September 5, 1996, event and related assessments and inspections, including methods to monitor the effectiveness of the corrective actions. The Long Term Action Plan is expected to be issued by December 13, 1996. This plan will continue to be evaluated for additional action items, and revised, as necessary. We will keep the NRC Senior Resident informed of our progress in completing these activities.

Please call me if you would like to discuss these plans or require any further information.

Sincerely yours,



Wilfred Connell  
Vice President

WEB/csm

Attachments

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

### Startup Readiness Action Plan Summary

This attachment describes the actions included in the Clinton Power Station (CPS) Startup Readiness Action Plan (SRAP). The SRAP encompasses actions to ensure that CPS can be returned to service safely and reliably.

The SRAP was developed based upon Illinois Power Company investigations and reviews of the September 5, 1996 Reactor Recirculation pump seal failure event, results of other recent Illinois Power Company assessments and reviews, and results of the NRC Special Inspection and Operational Safety Team Inspection conducted following the September 5 event. The SRAP incorporates all actions from Illinois Power Company's September 17 and 24, 1996 Confirmatory Action Letter responses.

The SRAP covers four areas determined to have caused the September 5, 1996 event:

- Procedure Compliance/Adequacy -- includes actions to ensure that procedures are clear and consistent, and that expectations for procedure compliance are understood and implemented.
- Conservative Decision Making/Human Performance -- includes actions to ensure that personnel understand that safety focus is our top priority and implement this understanding through conservative decisions. Also, this area includes actions to ensure that plant equipment operating limits reflect this conservative approach.
- Management Oversight -- includes actions to ensure that managers and supervisors understand their oversight roles and maintain a conservative "big picture" view of plant and a focus on operational safety.
- Plant Material Conditions -- includes actions to ensure that plant equipment is maintained to support safe and reliable operations.

In each of these areas, the SRAP defines specific actions to be taken, and designate the CPS department responsible for accomplishment of the action. As stated earlier, these actions will be completed prior to startup.

In addition to specific actions to be taken, the SRAP describes the assessments that will be performed to ensure startup readiness, including the Nuclear Assessment Department verifying completion of SRAP actions, and a formal assessment for determining readiness for startup. Startup will be accomplished utilizing a startup plan which includes hold points at which startup progress and performance will be assessed prior to proceeding further. A startup readiness self-assessment will also be conducted at the direction of the Assistant Plant Manager-Operations.

Those actions in this attachment that were included in Illinois Power's earlier Confirmatory Action Letter response are indicated by [CAL] in parentheses after the action, along with a reference to the portion of the response in which the action originally appeared.

**Startup Readiness  
Action Plan**

**I. Procedure Compliance/Adequacy**

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
1.	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)  Status: Verification in process.	Management Team
2.	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) <ul style="list-style-type: none"><li>• Site Managers</li><li>• Plant Staff Directors/Assistant Director-Operations</li><li>• Work Control Team Leaders</li><li>• Facility Review Group Members</li><li>• Licensed and non-licensed Operations personnel</li><li>• Shift Technical Advisors</li><li>• System Engineers</li><li>• Active operator license holders</li><li>• Management monitors</li></ul> Status: Verification complete.	Nuclear Training Department

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
3.	<p>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)</p> <ul style="list-style-type: none"><li>• plant startup</li><li>• single loop operation</li><li>• leak detection</li><li>• reactor coolant leakage</li><li>• procedure adherence</li><li>• long cycle lineup and operations</li><li>• conservative decision making</li><li>• management oversight</li><li>• RR seal problems</li></ul> <p>Status: Verification in process.</p>	Plant Staff Departments
4.	<p>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)</p> <p>Status: Verification complete.</p>	Plant Staff Departments/Nuclear Training Department
5.	<p>The critique process will be revised to include: (CAL II.5)</p> <ul style="list-style-type: none"><li>• Appropriate, independent and objective inputs from other departments</li><li>• In-depth fact finding</li><li>• Expectations for timeliness of the evaluation and documentation are clear and enforced</li><li>• Specific determinations on whether procedure noncompliances or nonconservative operations occurred</li><li>• A timely review and concurrence of the facts by appropriate senior management</li></ul> <p>Status: Verification complete.</p>	Plant Staff

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
6.	Site personnel will participate in a seminar on procedure compliance. (CAL LT II.1)  Status: Verification complete.	Nuclear Training Department
7.	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)  Status: (a) verification complete, (b) verification complete.	Plant Staff Departments
8.	Current methods to monitor and measure procedure compliance program effectiveness will be assessed and revised. (CAL LT II.3)  Status: Activities in progress.	Nuclear Assessment Department
9.	Evaluate procedure process (use, revision, backlog). (CAL LT II.4)  Status: Activities in progress. Procedure Assessment Plan issued.	Independent Safety Engineering Group
10.	Review of System Operating Procedures  Operations Department personnel will perform a review/walkdown of system operating procedures. The purpose of this walkdown is to identify and correct procedure inadequacies that prohibit successful completion of an operational evolution.  Status: Activity in progress. Project began 11/1/96.	Operations

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
11.	<p>Review of Station Surveillance Procedures</p> <p>The operating crew personnel will review scheduled surveillances prior to their performance to identify and correct inadequacies that prohibit successful completion of the surveillance activities. This review will be conducted in accordance with Operations Standing Order (OSO)-92.</p> <p>Status: Activity in progress. Currently, surveillances are being reviewed 1-2 weeks in advance.</p>	Operations Maintenance
12.	<p>Electrical Control and Instrumentation (EC&amp;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 or criteria.</p> <p>Status: Activity in progress.</p>	Maintenance
13.	<p>EC&amp;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.</p> <p>Status: Activity in progress.</p>	Maintenance
14.	<p>An assessment will be made of the EC&amp;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.</p> <p>Status: Activity in progress.</p>	Maintenanc



<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
15.	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.  Status: Activity in progress.	Maintenance
16.	Field observations of RF-6 EC&I surveillances will be performed to assess the actual quality of performance of the package.  Status: Activity in progress.	Maintenance
17.	Provide training to appropriate personnel on 10CFR50.59 purpose, process and applicability.  Status: Under development.	Licensing



**II. Conservative Decision-Making/Human Performance**

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
1.	<p>Expectations of conservative decision making emphasizing safety of operation will be clearly defined and provided in writing to the following personnel: (CAL I.1)</p> <ul style="list-style-type: none"><li>• Site Managers</li><li>• Plant Staff Directors/Assistant Director-Operations</li><li>• Work Control Team Leaders</li><li>• Facility Review Group Members</li><li>• Licensed and non-licensed Operations personnel</li><li>• Shift Technical Advisors</li><li>• System Engineers</li><li>• Active operator license holders</li><li>• Management monitors</li></ul> <p>Status: Verification complete.</p>	CPS Management Team
2.	<p>A seminar on conservative decision making emphasizing safety of operation will be provided to: (CAL I.2)</p> <ul style="list-style-type: none"><li>• Site Managers</li><li>• Plant Staff Directors/Assistant Director-Operations</li><li>• Work Control Team Leaders</li><li>• Facility Review Group Members</li><li>• Licensed and non-licensed Operations personnel</li><li>• Shift Technical Advisors</li><li>• System Engineers</li><li>• Active operator license holders</li><li>• Management monitors</li></ul> <p>Status: Verification complete.</p>	Nuclear Training Department/CPS Management Team/ Nuclear Station Engineering Department
3.	<p>Plant or equipment condition limits will be provided to ensure conservatism: (CAL I.3)</p> <ul style="list-style-type: none"><li>• Operation of the plant at power, with Reactor Recirculation pump seal degradation exceeding conservatively established limits will not be permitted.</li></ul> <p>Status: Verification complete.</p>	Plant Staff Departments

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
4.	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 shift crew. (CAL VI.1)  Status: Activity in progress.	Plant Staff
5.	Plant Manager will meet with each crew member to ensure the following: (CAL VI.2) <ul style="list-style-type: none"><li>• understanding of safe and conservative operation</li><li>• impact of operator actions and possibility for negative plant response</li><li>• responsibility for placing plant in safe configuration</li><li>• planning for the unexpected</li><li>• procedural compliance is required even when no one is watching</li><li>• understanding of plant material conditions which impact plant operations</li></ul> Status: Activity in progress.	Plant Staff
6.	Additional plant or equipment condition limits will be developed as appropriate based on CPS and industry operating experience, to ensure conservatism. (CAL LT I.4) <ul style="list-style-type: none"><li>• Turbine Vibration</li></ul> Status: Activity in progress.	Plant Staff Departments
7.	Review April 1996 incident corrective actions for adequacy, timeliness and effectiveness. (CAL LT IV.1)  Status: Verification in process.	Licensing
8.	Review SOER 92-01, "Reducing the Occurrence of Plant Events Through Improved Human Performance," response for adequacy. (CAL LT IV.2)  Status: Verification complete.	Licensing

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
9.	<p>Simulator Restart Training</p> <p>Active 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 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.</p> <p>Status: Activity has not started.</p>	Operations/Nuclear Training Department

### III. Management Oversight

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
1.	Roles, duties and expectations of personnel involved in operational oversight activities will be reviewed and revised. (CAL III.1)	Plant Staff Departments
	Status: Verification complete.	
2.	Provide a briefing on operational oversight roles and responsibilities to the following personnel: (CAL III.2) <ul style="list-style-type: none"><li>• Operating crews</li><li>• Active Operator License Holders</li><li>• Shift Technical Advisor</li><li>• System Engineers</li><li>• Assistant Plant Manager-Operations and Assistant Director-Operations</li><li>• Plant Manager</li><li>• Management monitors</li></ul>	Plant Staff Departments/ Nuclear Training Department
	Status: Verification complete.	
3.	During restart activities and until stable power operation is achieved, experienced plant personnel will be assigned to monitor main control room activities. They will be specifically be charged with assessing the proper oversight functions by line management. (CAL III.3)	Plant Staff Departments
	Status: Activity in progress, and will continue through startup to stable power. Also awaiting revised work schedule for Management monitors. Draft Management monitors objectives is presently being reviewed.	
4.	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)	Plant Staff Departments
	Status: Verification in process.	

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
5.	Methods will be developed to monitor operational decision making to ensure that expectations continue to be met and are reinforced. (CAL LT I.3)  Status: Verification in process.	Nuclear Assessment Department
6.	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)  Status: Verification complete.	Plant Staff Department
7.	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)  Status: Activities in progress.	Vice President and Senior Management Team
8.	Establish a lower threshold for initiating assessments based on events, conditions or trends. (CAL LT VI.2)  Status: Activity in progress.	Nuclear Assessment Department

**IV. Plant Material Conditions**

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
1.	<p>The "B" Reactor Recirculation (RR) pump seal was replaced and will be tested. (CAL V.1)</p> <p>Status: Verification process. a) Assembly and preliminary testing activities have been verified. b) This item cannot be verified as complete until PMT is performed at plant startup.</p>	<p>Nuclear Station Engineering Department</p>
2.	<p>The Drywell Floor Drain (RF) leak detection and flow measurement instrumentation was made operable and tested. (CAL V.2)</p> <p>Status: Verification complete.</p>	<p>Nuclear Station Engineering Department</p>
3.	<p>The Drywell Equipment Drain (RE) leak detection and flow measurement instrumentation was made operable and tested. (CAL V.3)</p> <p>Status: Verification complete.</p>	<p>Nuclear Station Engineering Department</p>
4.	<p>Outstanding corrective MWRs will be reviewed to evaluate material conditions that impact plant operations. (CAL V.4)</p> <p>Status: Verification complete.</p>	<p>Facility Review Group</p>
5.	<p>Develop and implement the following actions for RF leak detection systems: (CAL LT V.3)</p> <ul style="list-style-type: none"><li>• Incorporate the leak detection calculation method (based on RF sump fill times) into the process computer.</li><li>• Perform complete and thorough cleaning of the RF weir V-notch system.</li><li>• 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.</li></ul> <p>Status: Activity in progress.</p>	<p>Nuclear Station Engineering Department</p>

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
6.	<p>Incorporate the leak detection calculation method (based on RE sump fill times) into the process computer. (CAL LT V.5)</p> <p>Status: Activity in progress.</p>	<p>Nuclear Station Engineering Department</p>
7.	<p>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.)</p> <p>At a minimum this assessment will address:</p> <ul style="list-style-type: none"><li>• Main Control Room Deficiencies</li><li>• Operator Work Arounds</li><li>• Maintenance Rule Category A.1. Systems</li><li>• Top 10 Long Standing Material Problem List</li></ul> <p>Status: Activities in progress.</p>	<p>Senior Management Team</p>
8.	<p>Review 1995 and 1996 NRC Inspection Report material condition items for adequate response. (CAL LT V.7)</p> <p>Status: Verification complete.</p>	<p>Licensing</p>



<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
9.	<u>Operability/Generic Letter 91-18</u>  Review adequacy of past operability evaluations and determinations. Identify and resolve any open issues which would result in equipment operability being questionable.  Status: Activities in progress.	Engineering and Operations
	Develop Operability Determination Program for Clinton Power Station.  Status: Activities in progress.	Engineering and Operations
	Develop guideline for Reportability.  Status: Activities in progress.	Licensing
	Train appropriate engineering personnel on Operability Determination Program.  Status: Under development.	Engineering
	Train appropriate operations personnel on Operability Determination Program.  Status: Under development.	Operations

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
10.	<u>Action Plans</u>  Review adequacy of past action plans and determine if any actions are required.  Revise CPS 1010.01 procedure on action plans.  Determine if any changes are needed to action plan process/program.  Status: Activities in progress.	Engineering
	Provide guidance to appropriate site personnel on action plan use as it pertains to manipulation of plant equipment.  Status: Under development.	Operations
11.	<u>Butterfly Valves</u>  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.  Status: Engineering evaluation completed. Awaiting completion of ECN 29942 and 29943 for FC pipe supports.	Engineering
12.	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.  Status: Activities in progress.	Maintenance/Operations/ Engineering

**Technical Actions Required for Startup**

This attachment describes the technical actions required to be resolved for startup of Clinton Power Station. Although these actions are not described in the Startup Readiness Action Plan, they will be complete prior to startup. These actions include those required by Technical Specifications or equipment operability concerns.

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
1.	Resolve immediate operability issues with feedwater check valves 10 A/B and 32 A/B.  Status: In progress.	NSED
2.	Provide assurance that feedwater check valves will remain operable for one operating cycle. This will be required within 60 days of plant startup.  Status: Not started.	NSED
3.	Determine and resolve operability issues within the scope of GL 96-06. Written response will be provided in accordance with the generic letter reporting requirements.  Status: In progress.	NSED
4.	Ensure that 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.  Status: In progress.	Operations
5.	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 RF-6.  Status: In progress.	Operations

<u>No.</u>	<u>Action Items</u>	<u>Responsible Department</u>
6.	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 RF-6.	Operations

Status: In progress.