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ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

June 20, 1986

Docket No. 50-461

Director of Nuclear Reactor Regulation
Attention: Dr. W. R. Butler, Director
BWR Project Directorate No. 4
Division of BWR Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Clinton Power Station
Remote Shutdown Scenario

Dear Dr. Butler:

At the request of a member of the NRC Staff, details concerning operator actions following an evacuation of the Main Control Room (MCR) and safe shutdown from the Remote Shutdown Panel (RSP) are attached. Attachment 1 lists the assumptions for the scenario and Attachment 2 details the approximate times into the scenario when specific actions would take place. Attachment 3 lists the number of switches and controllers to be manipulated for each action. If you need any further information, please advise.

Sincerely yours,

F. A. Spangenberg
F. A. Spangenberg
Manager - Licensing & Safety

DWW/pjr

Attachments

cc: B. L. Siegel, NRC Clinton Licensing Project Manager
NRC Resident Office
Regional Administrator, Region III USNRC
Illinois Department of Nuclear Safety

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Attachment 1
Assumptions for Remote Shutdown Scenario

1. Reactor power at or below rated prior to scram.
2. Three members of crew complement available to perform remote shutdown: Shift Supervisor, Control Room Operator, and Non-licensed operator.
3. An adequate number of personnel remain for the fire brigade.
4. A successful scram is initiated and verified prior to the MCR evacuation.
5. A complete loss of offsite power occurs immediately following the scram.
6. The Main Steam Isolation Valves (MSIVs) failed closed on loss of plant air.
7. Division 1 Emergency Diesel Generator operates per design.
8. No abnormal lineups exist.
9. No abnormal evolutions in progress.
10. Reactor Pressure Vessel (RPV) level goes below Level 3 (8.9 inches) but not below Level 2 (-45.5 inches).

Attachment 2

Remote Shutdown Scenario

<u>Time</u>	<u>Action</u>
0:00:00	The decision is made to evacuate the MCR; evacuation of the MCR begins.
0:00:20	A manual scram is initiated. All control rods are verified fully inserted. A complete loss of offsite power occurs.
0:00:30	MCR evacuation is complete. The Containment evacuation alarm is sounded.
0:01:30	The Non-licensed operator opens the scram solenoid breakers on Reactor Protective System solenoid panels A and B. This is a procedural requirement. There is no consequence if it is not done in the first ten minutes since the scram has already been verified.
0:02:00	The Shift Supervisor and Control Room Operator report to the RSP.
0:02:30	The Non-licensed operator reports to the RSP.
0:03:00	The MSIVs isolate on loss of plant air.
0:08:00 ¹	Reactor control has been established at the RSP. If it has not started automatically, Reactor Core Isolation Cooling (RCIC) is started at the RSP by the Control Room Operator. RCIC will automatically start at reactor vessel Level II without operator action.
0:10:00	The Shift Supervisor declares an Alert, assumes command authority, and begins notification. For all subsequent actions, the Shift Supervisor oversees the actions of the Control Room Operator, follows the procedure to assure the actions are performed, and is available to assist the Control Room Operator as necessary.
0:12:00 ¹	The Control Room Operator establishes a cooldown rate between 50 and 100°F/hour by throttling RCIC and alternating Safety Relief Valve 11 at the RSP.
0:15:00	The Non-licensed operator is dispatched to monitor the operation of the Division 1 Emergency Diesel Generator.
0:20:00	The Control Room Operator commences Suppression Pool cooling from the RSP.

1. These actions are part of the same cooldown procedure.

Attachment 2

Remote Shutdown Scenario

<u>Time</u>	<u>Action</u>
0:40:00	The Station Emergency Director assumes command authority from Shift Supervisor.
3:00:00	The RPV has been depressurized to 125 psig. The Non-licensed operator shuts the breaker for the Shutdown cooling outboard isolation valve (1E12-F008).
3:10:00	The Control Room Operator commences shutdown cooling from the RSP.
3:15:00	The Control Room Operator secures RCIC from the RSP.
6:00:00	The RPV is in a cold shutdown condition.

Attachment 3

Number of Switches or Controls to be Manipulated for each Action

<u>Time</u>	<u>Action</u>
0:01:30	Open 8 scram breakers
0:08:00	Turn 6 transfer switches to Emergency Start gland seal air compressor Open 1E51-F064, 1E51-F076 and the Trip Throttle valve Set flow controller to 600 gpm Open 1E51-F068, 1E51-FC10, 1E51-F019, 1E51-F013, 1E51-F063, 1E51-F046, 1E51-F077, 1E51-F095, 1E51-F045. Close 1E51-F076
0:12:00	Turn 1 transfer switch to Emergency Operate a maximum of 3 Safety/Relief Valve Switches to control cooldown. Throttle RCIC flow controller to control cooldown.
0:20:00	Turn 5 transfer switches to Emergency Close 1E12-F048A and 1E12-F027A Open 1E12-F064A Start RHR pump A Open 1E12-F024A then close 1E12-F064A
3:00:00	Close breaker for 1E12-F008
3:10:00	(Shutdown suppression pool cooling) Open 1E12-F064A then close 1E12-F024A Open 1E12-F027A Stop RHR pump A Close 1E12-F068A and 1E12-F014A Start shutdown cooling Shut 1E12-F004A and 1E12-F064A Open 1E12-F009, 1E12-F008, and 1E12-F006A Shut 1E12-F048A Open 1E12-F024A, 1E12-F003A Shut 1E12-F024A, 1E12-F003A Open 1E12-F048A, 1E12-F014A, and 1E12-F068A Start RHR pump A Throttle 1E12-F003A
3:15:00	Close Turbine Trip Throttle valve, 1E51-F045, 1E51-F095, 1E51-F013 and either 1E51-F019 or 1E51-F022 and 1E51-F059 Open 1E51-F077 and 1E51-F078 Close 1E51-F068 and 1E51-F010 or 1E51-F031 Close 1E51-F046 Stop gland seal air compressor