

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, DC 20555

June 5, 1984

IE INFORMATION NOTICE NO. 84-42: EQUIPMENT AVAILABILITY FOR CONDITIONS  
DURING OUTAGES NOT COVERED BY TECHNICAL  
SPECIFICATIONS

Addressees:

All holders of a nuclear power plant operating license (OL) or construction permit (CP).

Purpose:

This information notice is provided to alert licensees to the importance of controlling equipment availability for conditions during outages not covered by Technical Specifications. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to preclude similar problems occurring at their facilities. However, suggestions contained in this information notice do not constitute NRC requirements and, therefore, no specific action or written response is required.

Description of Circumstances:

On January 8, 1984, the Palisades Nuclear Plant experienced a complete loss of offsite and onsite ac power. The event was precipitated by the need to isolate a faulty switchyard breaker. To isolate the breaker, it was necessary to interrupt the offsite power supply to the plant. At the time of the event, Palisades was in a refueling outage with all fuel removed from the reactor and the no. 2 diesel generator (DG) inoperable. The service water pump powered from the no. 1 (operable) DG also was inoperable as a result of maintenance.

When the shift supervisor interrupted the offsite power supply to the plant, the operators did not realize cooling water to the operable DG was not available. The control room alarm indication, which should have warned the operators, was apparently masked by the large number of simultaneous alarms received when the offsite power was interrupted. Approximately 50 minutes later the DG overheated and was manually tripped. Once the DG was tripped, all station power was lost, with the exception of the station batteries and their associated dc and preferred ac buses. The loss of ac power caused a loss of plant communications, fire protection, security, and habitability systems as well as the fuel pool cooling system. (Compensatory measures were promptly taken upon loss of the normal security systems.) The loss of communications is considered the most serious consequence of this event. This loss of communications will be further addressed in a separate information

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notice (IN). The restoration of ac power was delayed as a result of an inoperable main transformer (out for maintenance) and a malfunction of one of the startup supply breakers.

While operating procedures required two operable diesel generators before removing offsite power, operating procedures did not specifically delineate equipment availability requirements for this defueled condition. The shift supervisor violated the procedure and proceeded with the evolution after evaluating fuel cooling. The fuel pool was known to heat up very slowly and to require days without active cooling before the high temperature alarm would be reached. The shift supervisor, however, failed to fully recognize the importance of the other support systems (e.g., communication, fire protection) to the overall safety of the plant. The procedural requirements were reviewed as part of the evaluation of fuel cooling and it was determined their intent was to minimize risk to fuel integrity when the fuel was in the reactor vessel.

Following the loss of onsite and offsite ac power, the Emergency Procedures were not implemented in a timely manner because the importance of the various support systems had not been recognized.

The licensee initiated many corrective actions as a result of this event (see Palisades Licensee Event Report (LER) 84-001). Some of the more important corrective actions by the licensee include:

1. A review of the management control of equipment for plant conditions not covered by the requirements of the Technical Specifications. The review will specifically address electrical system requirements during cold shutdown to ensure sufficient equipment remains available to maintain the plant in a safe condition and to meet the commitments of the Site Emergency, Security, and Fire Protection Plans.
2. Establishing minimum equipment availability for specific conditions not covered by the Technical Specifications.
3. Provide classroom training for all operators on the use and intent of the Site Emergency Plan.
4. Integrate the use of the Site Emergency Plan into simulator training.
5. Discuss the need for strict adherence to operating procedures with all operations personnel.

NRC has previously identified concerns with operability of required equipment in IE IN 83-56, "Operability of Required Auxiliary Equipment," and IN 80-20, "Loss of Decay Heat Removal Capability at Davis-Besse Unit 1 While in a Refueling Mode." If you have any questions regarding this matter, please

contact the Regional Administrator of the appropriate NRC Regional Office or this office.



Edward L. Jordan, Director  
Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement

Technical Contact: H. Bailey, IE  
(301) 492-7078

Attachment:  
List of Recently Issued IE Information Notices

Attachment  
IN 84-42  
June 5, 1984

LIST OF RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
84-41	IGSCC in BWR Plants	06/01/84	All BWR reactor facilities holding an OL or CP
84-40	Emergency Worker Doses	05/30/84	All power reactor facilities holding an OL or CP; research and test reactor and fuel cycle licensees
83-66	Fatality at Argentine Critical Facility	05/25/84	All power reactor facilities holding an OL or CP; non-power reactor, critical facility, & fuel cycle licensees
84-39	Inadvertent Isolation of Spray Systems	05/25/84	All power reactor facilities holding an OL or CP
84-38	Problems With Design, Maintenance, and Operation of Offsite Power Systems	05/17/84	All power reactor facilities holding an OL or CP
84-37	Use of Lifted Leads and Jumpers During Maintenance or Surveillance Testing	05/10/84	All power reactor facilities holding an OL or CP
84-36	Loosening of Locking Nut on Limitorque Operator	05/01/84	All power reactor facilities holding an OL or CP
84-35	BWR Post Scram Drywell Pressurization	04/23/84	All power reactor facilities holding an OL or CP
84-34	Respirator Users Warning: Defective Self-Contained Breathing Apparatus Air Cylinders	04/23/84	All power reactor facilities holding an OL or CP; research and test; fuel cycle; and Priority 1

OL = Operating License  
CP = Construction Permit