

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION  
WASHINGTON, D.C. 20555-0001

March 8, 1996

NRC INFORMATION NOTICE 96-15: UNEXPECTED PLANT PERFORMANCE DURING PERFORMANCE OF NEW SURVEILLANCE TESTS

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to the potential for unexpected plant performance during new surveillance tests performed in accordance with implementation of improved Standardized Technical Specifications. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

In November 1995, Unit 2 of the Edwin I. Hatch Nuclear Plant was in its twelfth refueling outage in the cold shutdown mode; the "A" loop of the residual heat removal system was in the shutdown cooling mode. In accordance with the recent licensee implementation of improved Standardized Technical Specifications, component operation from the remote shutdown panel was being tested for the first time. When maintenance and operations personnel performed activities to determine the cause of deficiencies identified during the testing, approximately 12,000 gallons of water drained out of the reactor vessel in less than 1 minute. The low level of water in the reactor vessel triggered automatic isolation of the shutdown cooling system, terminating the event. Further investigation revealed that an interlock designed to prevent a draindown had been set improperly, actually causing the event. Although the event was compounded by personnel, procedural, and maintenance errors, NRC inspectors attributed the root cause to inadequate modification, maintenance, and testing control with respect to the remote shutdown panel and related equipment.

Over several years, various modifications were made to components which operate from both the main control room and the remote shutdown panel. Post-modification testing of the components had not included operation from the remote shutdown panel, nor were any periodic surveillance tests performed on the remote shutdown panel. The new surveillance test, when completed, revealed that five valves, two valve position indications, one pump indication, and one annunciator were inoperable when control was transferred

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to the remote shutdown panel. Prior to the performance of the valve operations from the remote shutdown panel, the facility did not adequately ensure that the new surveillance tests included sufficient operational and procedural controls to minimize the potential for a draindown path.

### Discussion

The recent implementation of improved Standardized Technical Specifications may result in surveillance tests using circuitry that previously went unchallenged. Over time, these circuits may have degraded or been modified and cause unexpected performance. The normal plant configuration may not be the most desirable configuration for these new tests. For example, the normal control switch lineup on the remote shutdown panel may be an appropriate lineup for mitigating a control room fire, but may be less appropriate for testing individual components. The licensee operational experience described in this information notice highlights the importance of plant configuration control when implementing new surveillance tests.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

  
Dennis M. Crutchfield, Director  
Division of Reactor Program Management  
Office of Nuclear Reactor Regulation

### References

1. Licensee Event Report 50-366/95-008, "Reactor Vessel Inventory Loss Results in Unplanned Engineered Safety Feature System Actuation," (Accession No. 9512050133).
2. NRC Inspection Report 50-366/95-26 (Accession No. 9512270044).
3. NRC Inspection Report 50-366/95-23 (Accession No. 9512190043).

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Information Notice No.	Subject	Date of Issuance	Issued to
96-14	Degradation of Radwaste Facility Equipment at Millstone Nuclear Power Station, Unit 1	03/01/96	All holders of OLs or CPs for nuclear power reactors
96-13	Potential Containment Leak Paths Through Hydrogen Analyzers	02/26/96	All holders of OLs or CPs for nuclear power reactors
96-12	Control Rod Insertion Problems	02/15/96	All holders of OLs or CPs for nuclear power reactors
96-11	Ingress of Demineralizer Resins Increases Potential Stress Corrosion Cracking of Control Rod Drive Mechanism Penetrations	02/14/96	All holders of OLs or CPs for pressurized water nuclear power reactors
96-10	Potential Blockage by Debris of Safety System Piping Which is Not Used During Normal Operation or Tested During Surveillances	02/13/96	All holders of OLs or CPs for nuclear power reactors
96-09	Damage in Foreign Steam Generator Internals	02/12/96	All holders of OLs or CPs for pressurized water reactors
96-08	Thermally Induced Pressure Locking of a High Pressure Coolant Injection Gate Valve	02/05/96	All holders of OLs or CPs for nuclear power reactors
96-07	Slow Five Percent Scram Insertion Times Caused By Viton Diaphragms in Scram Solenoid Pilot Valves	01/26/96	All holders of OLs or CPs for boiling water reactors

OL = Operating License  
CP = Construction Permit

to the remote shutdown panel. Prior to the performance of the valve operations from the remote shutdown panel, the facility did not adequately ensure that the new surveillance tests included sufficient operational and procedural controls to minimize the potential for a draindown path.

Discussion

The recent implementation of improved Standardized Technical Specifications may result in surveillance tests using circuitry that previously went unchallenged. Over time, these circuits may have degraded or been modified and cause unexpected performance. The normal plant configuration may not be the most desirable configuration for these new tests. For example, the normal control switch lineup on the remote shutdown panel may be an appropriate lineup for mitigating a control room fire, but may be less appropriate for testing individual components. The licensee operational experience described in this information notice highlights the importance of plant configuration control when implementing new surveillance tests.

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original signed by  
 Dennis M. Crutchfield, Director  
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 Office of Nuclear Reactor Regulation

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DATE	02/09/96 02/22/96	02/22/96	03/6/96					

adequately ensure that the new surveillance tests included sufficient operational and procedural controls to minimize the potential for a draindown path.

Discussion

The recent implementation of Standardized Technical Specifications may require licensees to perform surveillance testing on components using circuitry that previously went unchallenged. Over time, these circuits may have degraded or changed to the point at which unexpected performance may occur. The normal plant configuration may not be the most desirable configuration for these new tests. For example, the normal control switch lineup on the remote shutdown panel may be an appropriate lineup for mitigating a control room fire, but may be inappropriate for testing individual components. The licensee's operational experience described in this information notice highlights the importance of plant configuration control when implementing new surveillance tests.

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DATE	02/24/96		2/09/96		02/14/96	2/28/96	02/16/96
OFFICE	PECB/DRPH	E	D:DRPH				
NAME	AChaffee		DCrutchfield				
DATE	02/27/96		2/ 196				

OFFICE	PECB/DRPM	E	DRS/RII		C/TSB	E	<i>Rbanders</i>	C/PECB:DOPS
NAME	Nhunemuller*		Agibson*		Cgrimes*		Tech Ed.	Achaffee
DATE	02/01/96		02/09/96		02/14/96		02/16/96	0 / /96
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Comments

No. of Pages 1

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From Paul Steiner

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IN 96-xx  
March xx, 1996  
Page 2 of 2

Principal: the valve operability checks from the RSDP, the facility that the new surveillance program included proper operational controls to minimize the potential for a draindown path.

The recent implementation of Standardized Technical Specifications may require licensees to perform surveillance testing on components using circuitry that was previously unchallenged. Over a period of time these circuits may have degraded to the point where unexpected performance may occur. The normal plant configuration may not be the most desirable configuration for these new tests. For example, the normal control switch line-up on the Remote Shutdown Panel may be an appropriate line-up for mitigating a control room fire, but may not be appropriate for individual component testing. Prior to implementing a new surveillance test, careful consideration should be given to plant configuration.

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Discussion

The recent implementation of Standardized Technical Specifications may require licensees to perform new surveillance testing such as operability testing of components from the Remote Shutdown Panel. The normal plant configuration may not be the most desirable configuration for these new tests. For example, the normal control switch line-up on the Remote Shutdown Panel may be an appropriate line-up for mitigating a control room fire, but may not be appropriate for individual component testing.

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