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April 20, 2000

Docket No.: 50-348

NEL-00-0112

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Joseph M. Farley Nuclear Plant
Unit 1 Licensee Event Report 2000-004-00
Three Spent Fuel Assemblies in Spent Fuel Pool
Locations Not Allowed By Technical Specification 3.7.15

Ladies and Gentlemen:

Joseph M. Farley Nuclear Plant Unit 1 Licensee Event Report (LER) No. 2000-004-00 is being submitted in accordance with 50.73(a)(2)(i). There are two NRC commitments in the LER. They are as follows:

- 1) The applicable procedure will be changed to provide sufficient detail to ensure correct configuration determinations and define independent review requirements prior to moving fuel.
- 2) Responsible personnel will be trained on lessons learned from this event, review requirements, and revisions to the procedure prior to moving fuel.

These will be completed prior to the next fuel assembly movement.

If you have any questions, please advise.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "DM Morey".

Dave Morey

EWC/maf ler200004-00.doc
Attachment

JE22 11

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U. S. Nuclear Regulatory Commission

cc: Southern Nuclear Operating Company
Mr. L. M. Stinson, General Manager - Farley

U. S. Nuclear Regulatory Commission, Washington, D. C.
Mr. L. M. Padovan, Licensing Project Manager – Farley

U. S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator
Mr. T. P. Johnson, Senior Resident Inspector – Farley

NRC FORM 366 (6-1998)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED OMB NO. 3150-0104 EXPIRES: 06/30/2001 Estimated burden per response to comply with this mandatory information request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.					
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)										
FACILITY NAME (1) Joseph M. Farley Nuclear Plant - Unit 1					DOCKET NUMBER (2) 0 5 0 0 0 3 4 8		PAGE (3) 1 OF 4			
TITLE (4) Three Spent Fuel Assemblies in Spent Fuel Pool Locations Not Allowed by Technical Specification 3.7.15										
EVENT DATE (5) MONTH DAY YEAR 0 3 23 20 00			LER NUMBER (6) YEAR SEQUENTIAL NUMBER REVISION NUMBER 2 0 0 0 0 0 4 0 0			REPORT DATE (7) MONTH DAY YEAR 04 20 2000				
			OTHER FACILITIES INVOLVED (8) FACILITY NAME DOCKET NUMBER 0 5 0 0 0							
			FACILITY NAME DOCKET NUMBER 0 5 0 0 0							
OPERATING MODE (9) 6		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)								
		20.2201(b)		20.2203(a)(2)(v) <input checked="" type="checkbox"/>		50.73(a)(2)(i)		50.73(a)(2)(viii)		
POWER LEVEL (10) 0 0 0		20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)		
		20.2203(a)(2)(i)		20.2033(a)(3)(ii)		50.73(a)(2)(iii)		73.71		
		20.2203(a)(2)(ii)		20.2033(a)(4)		50.73(a)(2)(iv)		OTHER		
		20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below		
		20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		or in NRC Form 366A		
LICENSEE CONTACT FOR THIS LER (12)										
NAME L. M. Stinson, General Manager Nuclear Plant						TELEPHONE NUMBER (include area code) 3 3 4 - 8 9 9 - 5 1 5 6				
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION DATE (15)		MONTH DAY YEAR		
YES (if yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO										
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-space typewritten lines) (16)										
<p>On March 23, 2000 at 0830, it was determined that Unit 1 had been operated in a condition contrary to Technical Specification (TS) 3.7.15, in that three spent fuel assemblies were loaded in the Spent Fuel Pool in configurations contrary to TS Figures 4.3-1 through 4.3-5. This condition first occurred during the core offload for the current refueling cycle on March 13, 2000 at 1449.</p> <p>Manual verification of the acceptability of proposed offload configuration on March 11, 2000 failed to identify that three assemblies had insufficient burnup for their planned storage locations. On March 23, 2000, while Reactor Engineering personnel were loading the fuel location data into a Special Nuclear Materials tracking software package being developed for use, three fuel assemblies that did not meet the Technical Specification storage configuration requirements were identified. On March 23, 2000 at 0933, relocation of the three affected assemblies into acceptable locations was completed.</p> <p>This event was caused by personnel error in that personnel responsible for developing, performing, and verifying the SFP configuration failed to assure that three fuel assemblies met the Technical Specification configuration requirements. Contributing causes were lack of detail in the procedure, experience level of personnel performing this evolution, and insufficient independent review in the verification process. The procedure will be changed to provide sufficient detail to ensure correct configuration determinations. Responsible personnel will be trained on revisions to this procedure and the independent review requirements prior to moving fuel.</p>										

LICENSEE EVENT REPORT (LER)
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TEXT (If more space is required, use additional copies of NRC Form 366A)(17)

Westinghouse -- Pressurized Water Reactor
Energy Industry Identification Codes are identified in the text as [XX].

Description of Event

On March 23, 2000 at 0830, it was determined that Unit 1 had been operated in a condition contrary to Technical Specification (TS) 3.7.15, in that three spent fuel assemblies were loaded in configurations contrary to TS Figures 4.3-1 through 4.3-5. This condition first occurred during the core offload for the current refueling cycle on March 13, 2000 at 1449.

On March 10 and 11, 2000, Reactor Engineering personnel reviewed the proposed configuration for the Spent Fuel Pool (SFP) for the Sixteenth Refueling Outage core offload against the TS.

The following combination of circumstances created an error likely situation for performance of this evolution: As the SFP approaches capacity with time, the complexity of the task of determining acceptable storage configurations has increased, however, the procedure had not been strengthened to address this additional complexity. The performance of this evolution was initially started using conservative fuel burnups. This resulted in excessive conservatism being applied to the determination of acceptable configurations, and the evolution was restarted using actual end of cycle burnups. This reduced the time available for completion of the activity. As a result, personnel performing the verification and review chose to perform the activity together instead of sequentially, resulting in a reduction in quality of the review.

Manual verification of the acceptability of proposed offload configuration failed to identify that the proposed configuration would not meet the acceptable configurations defined in TS Figures 4.3-1 through 4.3-5, for three spent fuel assemblies. The review of this verification process also failed to identify this condition. The assemblies in question had burnups of up to 3300 Megawatt-days per Metric Ton Uranium (MWD/MTU) less than the minimum required for the proposed storage locations. The core offload was performed from March 11 through 14, 2000.

On March 23, 2000, while Reactor Engineering personnel were loading the fuel location data into a Special Nuclear Materials tracking software package being developed for use, these three fuel assemblies that did not meet the acceptable loading patterns were identified. On March 23, 2000 at 0933, relocation of these three affected assemblies into acceptable locations was completed.

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TEXT (If more space is required, use additional copies of NRC Form 366A)(17)

Cause of Event

This event was caused by personnel error in that personnel responsible for developing, performing, and verifying the SFP configuration failed to assure that three fuel assemblies met the Technical Specification configuration requirements. Contributing causes were lack of detail in the procedure, experience level of personnel to perform this evolution, and insufficient independent review in the verification process.

Safety Assessment

Analysis shows that a boron concentration of 700 ppm would have kept Keff below the limit of 0.95. Since the Technical Specifications require a minimum boron concentration in the SFP of 2000 ppm, and actual boron concentration was 2435 ppm, the Keff of the SFP remained less than 0.95 throughout this event. In addition, this analysis conservatively took no credit for the Boraflex neutron adsorber located in the SFP racks

Therefore the health and safety of the public were unaffected by this event.

This event does not represent a Safety System Functional Failure.

Corrective Action

On 3/23/2000 the three assemblies were relocated to acceptable configurations.

The Unit 2 SFP was checked for fuel in incorrect storage configurations. None was identified.

The applicable procedure will be changed to provide sufficient detail to ensure correct configuration determinations and define independent review requirements prior to moving fuel.

Responsible personnel will be trained on lessons learned from this event, review requirements, and revisions to the procedure prior to moving fuel.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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TEXT (If more space is required, use additional copies of NRC Form 366A)(17)

Additional Information

As an enhancement, a computerized SFP configuration verification system will be placed in service prior to September 30, 2000. The configuration verification procedure will be revised to reflect the computerized verification process, and optimize the manual verification process, by September 30, 2000. Reactor Engineering personnel and supervision will be trained on the software additions and related procedure changes by October 30, 2000.

A voluntary 4-hour nonemergency notification was made to the NRC at 1215 on March 23, 2000.

The following LER has been submitted in the past 2 years on a combination of personnel error and inadequate procedure:

LER 1998-003-00 Unit 1, Waste Gas Decay Tank Hydrogen and Oxygen Exceeded Concentration Limits