FPL Energy Point Beach, LLC, 6610 Nuclear Road, Two Rivers, WI 54241

FPL Energy
Point Beach Nuclear Plant

October 19, 2007

NRC 2007-0091
10 CFR 50.73

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

Point Beach Nuclear Plant Unit 2
Docket 50-301
Renewed License No. DPR-27

Licensee Event Report 301-2007-007-00
One Overpower Delta T Channel Setpoint Outside Technical Specification Allowed Value

Enclosed is Licensee Event Report 301-2007-007-00 for Point Beach Nuclear Plant Unit 2. This LER discusses the improper calibration of one channel of a Reactor Protection System function. This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) for, "Any operation or condition which was prohibited by the plant's Technical Specifications…..".

This letter contains no new commitments and no revisions to existing commitments.

Very truly yours,

FPL Energy Point Beach, LLC

James H. McCarthy
Site Vice President

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
PSCW

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2007

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0066), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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.

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TITLE (4)

One Overpower Delta T Channel Setpoint Outside Technical Specification Allowed Value

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
8	22	2007	2007	-- 007 --	00	10	19	2007	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR •: (Check all that apply) (11)

	20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)
	20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)
	20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)		73.71(a)(4)
	20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)
	20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER Specify in Abstract below or in NRC Form 366A
	20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		
	20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)		
	20.2203(a)(2)(v)	X	50.73(a)(2)(i)(B)		50.73(a)(2)(vii)		
	20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)		
	20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Steve Bowe, General Supervisor I&C	920-755-6418

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FA CTURER	REPORTABLE TO EPIX
A									

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT

On August 22, 2007, at 0830 hours Instrument & Control (I&C) technicians began performance of procedure 2 ICP-2.001WH, Reactor Protection & Engineered Safety Features White Channel Analog 92 Day Surveillance Test. Several steps in the procedure had been temporarily changed to accommodate the replacement of module 2TM-402V with a refurbished module, in accordance with work order 333737. The affected channel, which provides an input to the Overpower delta T Reactor Protection System (RPS), was removed from service at 0843 hours, and returned to service at 1002 hours. The technicians continued with other channel calibrations as directed by procedure. The shift manager acknowledged completion of all calibrations and restoration of instruments at 1211 hours. I&C personnel, upon reviewing the test data that had been recorded, identified as-left voltage settings for 2TM-402V that were outside Technical Specification (TS) limits. At 1417 hours the Shift Manager was notified of the inoperable channel. TS LCO 3.3.1 Required Action D.1 was subsequently met when the channel was placed in trip at 1451 hours. Recalibration activities commenced at 1549 hours and were completed satisfactorily with channel operability restored at 1632 hours on August 22, 2007.

The cause of the event was personnel error as technicians failed to identify that as-left readings did not meet specified acceptance criteria. A safety function review has determined the safety significance to be low.

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

Event Description

On August 22, 2007, Unit 2 was in MODE 1 with reactor power at 100 percent. At 0830 hours Instrument & Control (I&C) technicians began performance of procedure 2ICP 2.001WH, Reactor Protection & Engineered Safety Features White Channel Analog 92 Day Surveillance Test. The procedure was being performed to satisfy the scheduled surveillance and to replace an instrumentation module. Steps in the procedure had been temporarily changed to accommodate the replacement of delta T summer module 2TM-402V with a refurbished module, in accordance with work order 333737. The affected channel, which provides an input to the Overpower delta T Reactor Protection System (RPS), was removed from service at 0843 hours and returned to service at 1002 hours, with the technicians continuing on to other channel calibrations as directed by procedure. The shift manager acknowledged completion of calibrations and restoration of instruments contained in 2ICP 2.001WH at 1211 hours. I&C personnel, upon performing a shop review of the test data that had been recorded, identified as-left voltage settings for 2TM-402V that were outside Technical Specification (TS) limits. Technical Specification LCO 3.3.1 Required Action D.1 was met when the channel was placed in trip at 1451 hours. Recalibration activities commenced at 1549 hours and were completed satisfactorily with channel operability restored at 1632 hours on August 22, 2007.

At the start of the event there were no structures, components or systems inoperable that contributed to the event. During the event, no structures, components or systems became inoperable to contribute to the event.

Cause

The cause of the event was determined to be personnel error. Upon recording as-left data personnel failed to observe that the values recorded were outside the TS limits displayed in the procedure. The peer checking during procedure performance failed to identify the unacceptable values. During a shop review of the procedure, the personnel who had done the work did identify that TS limits were not met. Operations personnel and I&C supervision were informed of the situation.

A causal evaluation identified the failure of personnel to use proper verification/validation practices during the performance of testing, and improper peer checking practices by other personnel. The evaluation also identified problems had been encountered by personnel during bench calibration of the replacement module causing them to become narrowly focused on the final two digits of voltage readings rather than the entire voltage reading value.

Corrective Actions

The immediate corrective action was to place the improperly calibrated channel in the trip condition, which satisfied TSAC 3.3.1.D. The channel was subsequently recalibrated, declared operable and placed in-service which allowed TS LCO 3.3.1 to be met.

Immediately following the event I&C management emphasized expectations of standards to be used during instrument calibration activities for data verification/validation and peer checking with involved personnel.

An additional action is for I&C supervisors to focus human performance observations on the areas of verification/validation and peer checking and for I&C management to evaluate the results of the observations. The actions are being tracked in the site's corrective action program.

Analysis and Safety Significance

The safety significance of the event is low. There was not a safety system functional failure because three of the four Overpower delta T channels remained operable during the event. The duration the single channel was incorrectly calibrated was less than six hours. The channel inoperability was caused by incorrect calibration, thus the channel would have actuated at a higher differential temperature value as opposed to not actuating at all. The as-left setpoint was 4.0% higher than the Technical Specification limit The plant equipment configuration during the event resulted in a core damage probability color of green, with the actual calculated value being 4.07E-5.

The combination of conditions which existed supports the conclusion that safety significance is low.

Component/System Description

The Overpower delta T trip function ensures that protection is provided to ensure the integrity of the fuel defined as no fuel pellet melting and less than 1 percent cladding strain under all possible overpower conditions. This trip function also limits the required range of the Overtemperature delta T trip function and provides a backup to the Power Range Neutron Flux High Setpoint reactor trip. The Overpower delta T trip function ensures that the allowable heat generation rate of the fuel is not exceeded Although the protection described above is ensured by the Overpower delta T trip function only a single transient analysis credits the Overpower delta T trip as a primary trip function; that analysis is for a steamline break outside containment.

The Overpower delta T trip function uses the delta T of each loop as a measure of reactor power with a setpoint that is automatically varied for reactor coolant average temperature and rate of change of reactor coolant average temperature.

The Overpower delta T trip function is calculated for each channel as per Note 2 of Table 3.3.1-1 of the Technical Specifications. A trip occurs if Overpower delta T is indicated in two channels. Because the temperature signals are used for other control functions the actuation logic must be able to withstand an input failure to the control system, which may then require the protection function actuation and a single failure in the remaining channels to provide the protection function actuation.

The LCO requires four channels of the Overpower delta T trip function to be operable.

In MODE 1 or 2, the Overpower delta T trip function must be operable. These are the only times that enough heat is generated in the fuel to be concerned about the heat generation rates and overheating of the fuel. In MODE 3, 4, 5, or 6, this trip function does not have to be operable because the reactor is not operating and there is insufficient heat production to be concerned about fuel overheating and fuel damage.

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

Previous Occurrences

License event reports submitted during 2006, and to-date during 2007, were reviewed to determine if there were other occurrences that identified the human performance issues of verification and validation and peer checking as the causes. One additional occurrence was identified:

LER 301/2006-002-00; Fuel Assemblies In Spent Fuel Pool Do Not Meet Technical Specification Requirements