Wisconsin Electric
POWER COMPANY

231 W Michigan PO Box 2046 Milwaukee WI 53201 (414) 221 2345

VPNPD-92-194
NRC-92-053

10 CFR 50.73

May 27, 1992

U. S. NUCLEAR REGULATORY COMMISSION
Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Gentlemen:

DOCKET 50-266
LICENSEE EVENT REPORT 92-003-00
INADVERTENT START OF EMERGENCY DIESEL GENERATOR DUE TO PERSONNEL ERROR
POINT BEACH NUCLEAR PLANT, UNIT 1

Enclosed is Licensee Event Report 92-003-00 for Point Beach Nuclear Plant, Unit 1. This report is provided in accordance with 10 CFR 50.73(a)(2)(iv), "The licensee shall report...any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF)...."

This report describes the inadvertent start of emergency diesel generator G01 when an electrical supervisor and maintenance electrician inadvertently deenergized a potential transformer for a 4160 V safeguards bus. The safeguards bus undervoltage relays sensed this condition as a safeguards bus deenergization and initiated the diesel start.

Please contact us if any further information is required.

Sincerely,

Bob Link
Vice President

Enclosure

Copies to NRC Resident Inspector
NRC Regional Administrator

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES 4/30/92
ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Point Beach Nuclear Plant, Unit 1	0 5 0 0 0 2 6 6	1 OF 0 5

TITLE (4)

Inadvertent Start of Emergency Diesel Generator Due to Personnel Error

EVENT DATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR		SEQUENTIAL NUMBER		REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
												0 5 0 0 0
0 4	2 8	9 2	9 2	–	0 0 3	–	0 0	0 5	2 7	9 2		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											
	N		20.402(b)		20.405(c)	X	50.73(a)(2)(iv)		73.71(b)				
POWER LEVEL (10)	0 0 0		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)				
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)				
			20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)						
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)						
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)						

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Norm L. Hoefert, Manager - Operations	4 1 4 7 5 5 – 2 3 2 1

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

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

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-spaced typewritten lines) (16)

ABSTRACT

At 1232 on April 28, 1992, during the Unit 1 Cycle 19 refueling outage, emergency diesel generator G01 automatically started when the potential transformer (PT) for the supplied bus was deenergized. During maintenance of the Unit 1 4160 V "B" train safeguards bus 1A06, which was deenergized for maintenance, a maintenance electrician was directed to inspect the corresponding bus 1A06 potential transformer (PT) compartment. This PT, along with the PT for "A" train safeguards bus 1A05, is located inside cubicle 1A00-62. The supervisor and electrician entered the cubicle and assuming both PT compartments were associated with "B" train bus 1A06, opened the "A" train PT compartment door. This caused the bus 1A05 undervoltage relay to sense the bus as deenergized. This caused the feeder breaker to bus 1A05 to automatically open, deenergizing the bus. Emergency diesel generator G01 automatically started and reenergized bus 1A05. In addition, the undervoltage condition on bus 1A05 caused the 1B03 to 1B04 tie breaker to open, deenergizing bus 1B04. The buses were reenergized and placed in the pre-event refueling lineup at 1302. All instrumentation and control systems operated as designed. This event is an actuation of an engineered safety feature. Therefore, a four-hour notification to the NRC was made in accordance with 10 CFR 50.72(b)(2)(ii).

EVENT DESCRIPTION

Prior to this event, Unit 1 4160 volt "B" train safeguards bus 1A06 was deenergized for maintenance in accordance with Routine Maintenance Procedure (RMP) 29d. Because bus 1A06 was deenergized, "B" train 480 V safeguards bus 1B04 was tied to bus 1B03, which was being energized by its normal power supply, 4160 volt "A" train safeguards bus 1A05.

At 1232 on April 28, 1992, a maintenance electrician was directed to inspect the potential transformer (PT) compartment for "B" train safeguards bus 1A06. This PT is located inside cubicle 1A00-62. The PT for the "A" train safeguards bus 1A05 is located in the same cubicle directly below the "B" train PT compartment. Under the direction of the electrical supervisor (who was temporarily assigned to maintenance from the PBNP training group), the maintenance electrician entered the cubicle and assuming both PT compartments were associated with "B" train bus 1A06, erroneously opened the "A" train PT compartment door. This caused the bus 1A05 undervoltage relays to sense the bus as deenergized. The sensed undervoltage condition caused the feeder breaker to bus 1A05 to open, deenergizing the bus. The sensed undervoltage condition on bus 1A05 also caused emergency diesel generator G01 to start. Because bus 1A05 was deenergized, the bus automatically loaded on G01.

Buses 1B03 and 1B04 deenergized with the loss of power to bus 1A05. This resulted in the loss of power to service water pumps P32A and P32B (powered by 1B03), motor-driven auxiliary feedwater pump P38A (powered by 1B03), and spent fuel pool cooling pump P12B (powered by 1B04 through MCC 1B42). However, buses 1A05 and 1B03 were immediately reenergized when emergency diesel generator G01 started and automatically loaded. Therefore, bus 1B04 was the only bus considered inoperable during the course of the event. Spent fuel pool cooling pump P12A remained in service and operable during the event, along with motor-driven auxiliary feedwater pump P38B and service water pumps P32D, P32E, and P32F. Service water pump P32C remained operating, since it was electrically powered from its alternate shutdown supply bus B09.

Bus 1B04 was reenergized at 1239. Normal power was restored to bus 1A05 at 1242, and emergency diesel generator G01 was secured at 1302.

EQUIPMENT DESCRIPTION

Potential transformers are utilized in electrical bus circuitry to sense voltage on the buses. When a potential transformer is deenergized, it initiates an undervoltage actuation on the associated bus. Because of the high voltage associated with these buses, an industrial safety interlock will deenergize the potential transformer when the door to the transformer is opened. In this event, the door of a potential

transformer associated with an energized bus was inadvertently opened. Thus, the transformer became deenergized, causing the associated undervoltage relays to actuate. Emergency diesel generator G01 fast started and loaded to supply power to the bus.

CAUSE

The cause of this event was personnel error. The maintenance electrician, as directed by the electrical supervisor, opened the potential transformer's door without adequately reading the labels inside the cubicle. In addition, several other factors contributed to this event:

1. Interface Design: The labels for the potential transformers failed to adequately identify the two separate trains of equipment in the bus potential transformer cubicle.

2. Written Communication: The preventive maintenance procedure did not have a caution statement to warn procedure users of the impacts of opening the door to the energized potential transformer.

3. Environmental Conditions: The existing labels inside the cabinet door were not prominent and were not adequately illuminated.

4. Resource Management: The electrical supervisor was temporarily assigned to maintenance from the PBNP training group. While he was qualified to perform as an electrical supervisor and generally familiar with the equipment, he was not specifically familiar with the potential transformer cubicles.

5. Attentiveness: The electrical supervisor and electrician assumed that both PT compartments inside cubicle 1A00-62 were associated with "B" train bus 1A06 and did not stop to read the labels attached to them. If they would have paused to read the labels and performed self-checking, this event would likely not have occurred.

CORRECTIVE ACTIONS

Immediate:

1. Additional loads on bus 1B04 were secured and isolated.

2. Buses 1B03 and 1B04 were reenergized. Normal power was restored to bus 1A05. Emergency diesel generator G01 was secured.

Short Term:

1. Human Performance Enhancement System (HPES) Evaluation 92-02 was conducted to determine the cause and contributing factors to this event. The HPES concluded that the event was caused by personnel error.

2. The event was discussed with the individual involved, who is also responsible for training on this equipment. Consequences of the event will be included in future training sessions on operation and maintenance of switchgear.

3. The plant manager issued a statement to plant personnel and contractors summarizing the event, its precursors, and the importance of self-checking.

Long Term:

1. A caution statement will be added to Routine Maintenance Procedures (RMP) 29c, 29d, 29e, and 29f to alert personnel that opening a PT door will result in deenergization of the associated bus. These procedures will be revised by Maintenance personnel by June 12, 1992 (before the next scheduled refueling outage). A general bus inspection procedure is being developed which will include this caution statement.

2. Caution labels have been installed on the PT compartment doors for Unit 1 and 2 buses A01, A02, A03, A04, A05, and A06 to alert personnel of the consequences of opening a PT door. Labels have also been installed on the PT compartment doors for the main generator and on the A, B, and C phases for metering, voltage regulation, and surge suppression. The advisability of assigning safeguards train colors to PT labels will be evaluated. This evaluation will be conducted by the CHAMPS group and completed by June 30, 1992.

3. New labels will be applied to the outside of cubicles 1A00-62 and 2A00-71 indicating that equipment from safeguards trains "A" and "B" are located inside. These labels will be installed by Operations personnel by June 5, 1992.

REPORTABILITY

This event is being reported under the requirements of 10 CFR 50.73(a)(2)(iv), "The licensee shall report...any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF)...." A four-hour notification to the NRC was made in accordance with 10 CFR 50.72(b)(2)(ii). The NRC Resident Inspector was also notified.

SAFETY ASSESSMENT

All systems functioned as designed during this event. The safety of the plant and the health and safety of the public and plant employees were not jeopardized.

GENERIC IMPLICATIONS

No generic implications were identified.

SIMILAR OCCURRENCES

On May 23, 1983, a modification engineer was investigating a design change. During the investigation, the potential transformer compartment door to safeguards bus 2A05 was opened. The potential transformer became deenergized, initiating a fast start of emergency diesel generator G01 (designated emergency diesel generator 3D in 1983). This event was reported in the Point Beach Nuclear Plant Monthly Report dated June 6, 1983.

On January 20, 1992, during post-maintenance testing of 4160 V tie breaker 1A52-61, workers were required to install a jumper between two terminal points in cubicle 1A00-62. However, the jumper was improperly installed in adjacent cubicle 1A52-61, resulting in a loss of power to 120 V instrument bus 1Y06. This loss of power caused a 20% turbine runback to occur. This event was reported in LER 266/92-001-00 dated February 8, 1992.