



May 8, 2015

NRC 2015-0022  
10 CFR 50.73

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

Point Beach Nuclear Plant, Unit 1 and 2  
Docket 50-266 and 50-301  
Renewed License Nos. DPR-24 and DPR-27

Licensee Event Report 266/2015-003-00  
D-107 Battery Charger Failure to Limit Current Results in Operation or Condition Prohibited by  
Technical Specifications

Enclosed is Licensee Event Report (LER) 266/2015-003-00 for Point Beach Nuclear Plant, Units 1 and 2. NextEra Energy Point Beach, LLC, is providing this LER to report an operation or condition prohibited by Technical Specifications.

This letter contains no new regulatory commitments.

If you have any questions please contact Mr. Michael Millen, Licensing Manager, at 920/755-7845.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in black ink that reads "Eric McCartney". The signature is written in a cursive style with a large, looped "y" at the end.

Eric McCartney  
Site Vice President

Enclosure

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



**LICENSEE EVENT REPORT (LER)**

(See Page 2 for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollections.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), 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.

**1. FACILITY NAME**

Point Beach Nuclear Plant Unit 1

**2. DOCKET NUMBER**

05000266

**3. PAGE**

1 OF 3

**4. TITLE**

D-107 Battery Charger Failure to Limit Current Results in Operation or Condition Prohibited by Technical Specifications

**5. EVENT DATE**

**6. LER NUMBER**

**7. REPORT DATE**

**8. OTHER FACILITIES INVOLVED**

MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	Rev NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	09	2015	2015	003	00	05	08	2015	Point Beach Unit 2	05000301
									NA	NA

**9. OPERATING MODE**

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

Mode 1

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

**12. LICENSEE CONTACT FOR THIS LER**

**FACILITY NAME**

Thomas P. Schneider, Senior Licensing Engineer

**TELEPHONE NUMBER (Include Area Code)**

920-755-7797

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	EJ	CON	P319	Y	NA	NA	NA	NA	NA

**14. SUPPLEMENTAL REPORT EXPECTED**

YES (If yes, complete 15. EXPECTED SUBMISSION DATE)  NO

**15. EXPECTED SUBMISSION DATE**

MONTH	DAY	YEAR
NA	NA	NA

ABSTRACT (Limit to 1400 spaces i.e., approximately 15 single-spaced typewritten lines)

At approximately 1730 on March 9, 2015 with both units at full power, it was discovered that the current limit feature of Battery Charger D-107 was not functioning as expected. Subsequent troubleshooting identified a defective crimp on a wire which was causing an intermittent open circuit that disabled the current limit function.

Evaluation determined that the capability to restore the battery charger to the DC electrical power subsystem to recover a discharged battery following a load shed of the charger may not have been able to be performed as designed. This condition may have resulted in an actual plant condition prohibited by Technical Specifications, Technical Specification 3.8.4. DC Sources-Operating.

No other plant systems were affected by this condition.

This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B), Operation or Condition Prohibited by Technical Specifications.



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

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), 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.

1. FACILITY NAME Point Beach Nuclear Plant Unit 1	2. DOCKET 05000266	6. LER NUMER			3. PAGE		
		YEAR 2015	SEQUENTIAL NUMBER - 003	REV NO. - 00	2	OF	3

**NARRATIVE**

**Description of the Event:**

At approximately 1730 on March 9, 2015 during the performance of maintenance, it was determined that the as found current limit check of the D-107 Battery Charger did not limit current. Troubleshooting on D-107 Battery Charger sensing and current limit board identified a defective crimp on a wire in a connector which caused an intermittent open circuit that disabled the current limit function.

The crimp on the wire in the connector was repaired, tested and the battery charger was returned to service.

This 60-day licensee event report is being submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B).

**Cause of the Event:**

The cause of the plant condition prohibited by Technical Specification LCO 3.8.4. was a defective crimp from original construction of the battery charger.

**Analysis of the Event:**

The safety-related 125 VDC system consists of four main distribution buses, in addition to two swing buses, each capable of supplying one of the four 125 VDC buses. Each of the four main distribution buses is powered by a battery charger and a station battery. The function of the battery chargers is to supply their respective DC loads while maintaining the batteries at full charge. All of the battery chargers are powered from the 480 VAC Engineered Safety Feature (ESF) system.

The battery chargers are interlocked such that a loss of offsite power will disconnect the battery chargers from their 480 VAC source. A coincident safety injection signal would prevent restoration of the battery chargers unless offsite power is restored to the safeguards buses or safety injection is reset. This limits the loading on the standby emergency power supply during the period immediately following a safety injection signal. During this period, the 125 VDC loads are supplied by their associated station battery until such time as power to the chargers is restored. Two swing battery chargers are available through one of the swing DC distribution buses. The swing battery is capable of being aligned to any one of the four main distribution buses to take the place of the normal battery.

Each battery charger has sufficient capacity to restore the battery from the design minimum charge to its fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads while staying within the capacity of the supply breakers. Additionally, the battery charger is required to be restored and aligned to the DC Bus within one hour of the onset of an accident with a loss of offsite power to provide adequate voltage and current to all components fed from the system. The charger is normally restored by closure of a contactor from the Control Room. If the battery charger is not restored within one hour, components fed from the system may not have adequate voltage to operate.

The battery charger current limiter is relied upon to limit DC current when the battery charger is restored within one hour after the onset of an accident with a loss of offsite power to carry the DC bus. The DC current must be limited to prevent blowing the fuses in the DC output bus disconnect and tripping the charger 480V AC input transformer supply breaker. Thus, the current limit function is needed to support design basis requirements.

Evaluation of the data provided that all possible variables could not be bounded to ensure that tripping of the supply breaker would not occur under worst case conditions. Therefore, it was determined that the capability to restore the battery charger to the DC electrical power subsystem to recover the discharged battery while carrying connected loads may not have been able to be performed as designed. This condition may have resulted in an actual plant condition prohibited by Technical Specifications, Technical Specification 3.8.4. DC Sources-Operating.

**Corrective Actions:**

The crimp on the wire of the battery charger sensing and current limit board connector was repaired. The review for 10 CFR Part 21, Reporting of Defects and Noncompliance is being evaluated in the corrective action program. It is not anticipated that a supplemental LER will be required.



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

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), 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.

1. FACILITY NAME  Point Beach Nuclear Plant Unit 1	2. DOCKET  05000266	6. LER NUMER			3. PAGE  3 OF 3		
		YEAR	SEQUENTIAL NUMBER	REV NO.			
		2015	003	00			

**Safety Significance:**

During an event in which the affected battery charger supply breaker may have tripped, station operators would either align the swing charger or take actions to locally restart the battery charger with the failed current limiter. The swing charger was available except for maintenance and testing activities. Should operators have needed to use battery charger D-107 with the failed current limiter, plant procedures provide appropriate guidance to manually lower the oncoming charger voltage to match the running bus voltage, thus preventing a high current condition. High current would have been avoided and the charger could have been used to provide the minimum required safety function within the capacity of the AC supply breaker.

Based on these redundant methods to recover power to the DC Bus and the high percentage of swing charger availability, this issue is of very low safety significance. There was no impact on the health and safety of the public as a result of this event.

**Similar Events:**

There have not been similar events of operation or conditions prohibited by Technical Specifications.

**Component Failure Data:**

D-107 Battery Charger Sensing and Current Limit Board Connector - Power Conversion Products