

## IPRenewal NPEmails

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**From:** Blizard, Andrea J <ablizar@entergy.com>  
**Sent:** Friday, April 08, 2016 3:29 PM  
**To:** Nappi, Jerry  
**Subject:** [External\_Sender] For stakeholders  
**Attachments:** Larry Coyle Comments - Apr 8 Stakeholder Briefing.pdf

As discussed on this morning's conference call, attached is information on the Indian Point Unit 2 baffle bolt inspections.

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**Subject:** [External\_Sender] For stakeholders  
**Sent Date:** 4/8/2016 3:28:37 PM  
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**From:** Blizard, Andrea J

**Created By:** ablizar@entergy.com

**Recipients:**  
"Nappi, Jerry" <jnappi@entergy.com>  
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## **Indian Point Unit 2 Baffle Bolt Inspections April 8, 2016 Stakeholder Briefing**

Entergy identified issues with the reactor vessel insert liner bolts as a result of a specialized, robust inspection of the Unit 2 reactor vessel internals implemented in accordance with the plant's license renewal programs, going well beyond normal inspections performed during prior refueling outages. The issues identified with the reactor vessel insert liner bolts did not have an impact public health or safety.

This comprehensive inspection of the reactor vessel and internal components was scheduled to be conducted during the current refueling outage at Unit 2 in accordance with our long-standing license renewal commitments to the NRC. Contrary to some statements you may have seen in the press, we did not conduct these inspections due to intervention or criticisms expressed in our ongoing NRC proceeding. All other inspections are complete and show critical components at Unit 2 continue to perform safely.

Of those more than 2000 bolts that were inspected, 227 of those bolts were found to have issues that require further analysis. Bolt heads were missing on two of those 227 bolts, with the stem remaining in place. Ultrasonic testing found signs of degradation or other issues, such as missing lock-bars.

We performed visual inspections of 1,232 bolts, and both visual and ultrasonic inspections of more than 832 bolts located on the reactor vessel's removable insert liner – called a baffle core – for a total of 2,064 bolts inspected. Each bolt, about two inches long and made of stainless steel, secures vertical plates to horizontal plates to form the perimeter of the liner. The bolts with identified issues were found only on the face of the removable liner, while bolts along the edges showed no issues. The plates give the fuel assemblies their geometry layout within the reactor.

Of the total 227 bolts with identified issues, we visually identified 31 as slightly protruding. Another 14 couldn't be inspected with the ultrasonic testing device because we were unable to get the device to connect onto the bolts due to a configuration issue interface with our equipment. The remaining 182 bolts (of the 227) were identified as ultrasonic testing (UT) failures.

Each UT test consists of ten passes of the UT. If any of the UT passes indicated a spike – even if it was just one of the ten passes – we called that a UT failure. If a bolt had 10 of 10 passes, indicating all ten failed, it was also a UT failure.

We are sending out for further analysis some of the bolts with different test failures to get us more information. An analysis will be conducted by Westinghouse and a qualified independent engineering firm. The bolt issues will be corrected prior to returning Indian Point Unit 2 to operation. We are also analyzing potential impacts on Unit 3. In addition to being three operating cycles younger than Unit 2, Unit 3 also underwent a modification years ago that

resulted in fewer high energy neutrons affecting bolts than Unit 2. As a result, bolt wear at Unit 3 would be expected to be less than at Unit 2, but our detailed review is ongoing.

This work is expected to add several weeks to the refueling and maintenance outage that began March 7. The schedule and work plan are still under development. Due to federal regulations and business-sensitive information, we are restricted in the level of detail we can provide about when we expected to return the plant to service.

The bottom line is we will not operate the plants if we couldn't do so safely.