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Swiss Confederation

Swiss Federal Nuclear Safety Inspectorate ENSI

ENSI, CH-5200 Brugg

**A Post**

To whom it may concern

Classification: none

Your reference:

Our reference: [REDACTED]

Contact person: [REDACTED]

Brugg, 16 July 2015

**Reactor Pressure Vessel in Swiss NPP Beznau 1:  
Detection of flaw indications similar to those identified in Belgium**

Dear Sir or Madam,

The Swiss Federal Nuclear Safety Inspectorate ENSI herewith informs you about the detection of flaw indications at the Swiss NPP Beznau 1 similar to those identified in the Belgian reactors of Doel 3 and Tihange 2.

Because of the 2012 discovered material defects in the base material of the pressure vessels in the Belgian nuclear power plants Doel 3 and Tihange 2 the Western European Nuclear Regulators' Association WENRA recommended that all forged reactor pressure vessels in Europe should be inspected as part of the normal weld seam inspections. Therefore, ENSI decided that during the next recurring RPV welds inspection of the reactor pressure vessels, the Beznau nuclear power plants should also inspect the base material.

In January 2013, ENSI ordered that the manufacturing documents for the Swiss nuclear power plants should be inspected. The documents for the reactor pressure vessel of Beznau 1 did not indicate that there were any faults in the material.

While carrying out ultrasonic measurements of the reactor pressure vessel of the Beznau 1 nuclear power plant (PWR, 2-Loop Westinghouse design, commissioned in 1969) the operator detected flaw indications similar to that of the Belgian reactors but smaller in number, size and extension. ENSI is now awaiting an assessment of these findings by the licensee. The operation of Beznau 1 may only be started again if the safety of the reactor pressure vessel is confirmed.

Swiss Federal Nuclear Safety Inspectorate  
Industriestrasse 19, 5200 Brugg  
Tel. +4156 460 8400, Fax +4156 460 8499  
www.ensi.ch





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ENSI has now instructed the operator to examine and assess the ultrasonic indications in more detail. This examination has to include the following steps:

- A detailed evaluation of the ultrasound results is the precondition for the fracture mechanics analysis and the safety case of RPV Beznau 1. In particular, the size and location of the ultrasound indications has now to be examined more closely.
- In the second phase of the examination, the aim is to characterise the type and cause of the findings.
- Finally, it has to be examined, how the reactor pressure vessel may have been weakened because of the findings, and whether it still meets the regulatory requirements.

The condition of the reactor pressure vessel in the Beznau 2 nuclear power plant will also be examined during the main annual overhaul in 2015, which starts at the beginning of August 2015. The planning of the shutdown of Beznau 2 for the overhaul makes provision for the same measurements of the reactor pressure vessel to be carried out as those for Beznau 1.

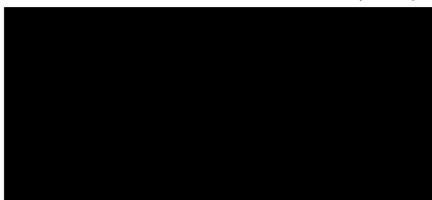
Should you need further information in this regard, please refer to our website (<http://www.ensi.ch/en/?p=17655>), or contact [REDACTED]

[REDACTED] or [REDACTED]  
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***Please observe the press embargo until Thursday, 16 July 2015 at 14.00 CET.***

Yours sincerely

Swiss Federal Nuclear Safety Inspectorate ENSI



**Copies**

- To the relevant international nuclear regulatory authorities