



Schweizerische Eidgenossenschaft
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Swiss Federal Nuclear Safety Inspectorate ENSI

Swiss Confederation

Rules of procedure of the International Review Panel on Beznau Reactor Pressure Vessel

These rules of procedure govern the activities of the International Review Panel (IRP) on the Beznau Nuclear Power Plant unit 1 reactor pressure vessel integrity re-assessment. The re-assessment of the Beznau NPP unit 1 reactor pressure vessel's integrity has been required from the operator based on reported findings following ultrasonic tests. The role of the IRP is to provide expert opinion as a basis for the supervisory activities of ENSI as well as advise ENSI on all matters concerning the Beznau NPP reactor pressure vessel integrity assessment.

1. Activities

The IRP shall review the documents submitted by Beznau NPP and compile reports documenting its expert opinion. On each of the two levels of the assessment IRP shall prepare statement reports. These reports will be published along with the safety assessment of ENSI.

Level 1 - Overall project plan (roadmap)

In the first stage, the operator is requested to deliver an overall project plan (so-called roadmap). This roadmap should address and justify the approach and methodology of the safety case in detail. Suitability and conservatism of the procedure employed have to be documented in clear and transparent manner. Beznau NPP has to provide a schedule for milestones, finalised testing results (non-destructive evaluations), interim reports and final summary documents.

For the assessment of the road map, the IRP shall at least:

- check the roadmap for completeness and traceability;
- identify and elaborate missing aspects, inadequate justification and potentially non-conservative approaches;
- at the end, draw a conclusion on whether the overall roadmap is considered suitable for a robust safety case;
- document its position in a joint statement report.





Level 2 - Safety case

In the second stage, the operator is expected to provide the safety case consisting of all documents and reports according to the accepted roadmap. The documents have to be in a form ready for external review. Key elements are the assessment and discussion of the results of non-destructive inspections, material investigations, fracture mechanics, PTS analysis, and the reduction in fracture toughness due to neutron embrittlement of the reactor pressure vessel material.

For the assessment of the safety case, the IRP shall at least:

- assess the safety case report and all related documents in an independent and critical manner;
- check all assumptions made by Beznau NPP for conservatism. The safety margins in the approaches have to be addressed and confirmed;
- assess and discuss the suitability of new or non-standard procedures for the specific application; identify approved statements, errors and insufficient arguments;
- identify safety-related aspects which are insufficiently justified and thus requiring further and detailed clarification. These aspects shall be separated from aspects which – in the view of the IRP – can be clarified with minor revisions and supplements. Arguable aspects that are poorly discussed but which are not a safety concern for the specific assessment shall be separated as well.
- document its position in a joint statement report.

2. Organisation

The IRP consists of members, which are internationally recognised experts in the fields of neutron embrittlement of pressure vessel steels, fabrication of heavy forgings, non-destructive testing of clad steels, fracture mechanics, and structural integrity assessment of reactor pressure vessels according to ASME code rules as well as familiar with the state-of-the-art of science and technology. Representation of an IRP member by deputy is not permitted.

The IRP shall conduct at least two meetings with a duration of two to three days between November 2015 and May 2016. As a rule, the venue for these meetings shall be at the headquarters of ENSI in Brugg.

The IRP will be led by a chairman appointed by ENSI. The chairman of the IRP will preside over the meetings and be in charge of the workflow as well as the coordination, preparation and writing of the panel's report.

The project manager of ENSI provides the main point of contact between the IRP and ENSI.

ENSI will assist the IRP in the organisation of meetings and the preparation of all documentation and records required.



3. Appointment of members and passing of resolutions

The members of the IRP are appointed for a term of office of eight months. Reappointment for a further term is possible depending on the project status. The appointment of a member takes place ad personam and not as representative of an organisation; the opinion of the member shall always represent his own personal views.

The IRP passes resolutions by way of agreement at meetings or by way of circular resolution. ENSI appreciates an amicable position of the expert team.

4. Involvement of ENSI

ENSI participates in the activities of the IRP, but IRP shall provide an independent statement representing its own expert view. The safety assessment and the decision on the admissibility of continued operation of Beznau NPP unit 1 are solely the responsibility of ENSI.

5. Confidentiality

The members are obliged to treat with the utmost confidentiality all information received or drawn up in the course of the execution of their mandate. This confidentiality obligation continues to apply beyond the termination of their activities for the IRP. This confidentiality obligation, however, does not apply to information which has already been disclosed to the public.

ENSI is permitted to use any reports and the opinions of the IRP for official purposes.

The members of the IRP shall declare their consent to the confidentiality obligations pertaining to their individual mandates for the IRP in a separate Mandate Agreement.

6. Remuneration and reimbursement of expenses

Remuneration for participation in IRP meetings shall be based upon the usual rates applicable for mandates on behalf of the Swiss federal administrative authorities, as specified in the 'Coordination Conference of the Swiss Federal Building and Real Estate Authority' [Koordinationskonferenz der Bau- und Liegenschaftsorgane der öffentlichen Bauherren] (KBOB). Further details are regulated in the separate Mandate Agreement.

7. Closing provisions

This rules of procedure shall come into effect on 1 November 2015.

Brugg, 25 September 2015

On behalf of ENSI

