IAEA Review of BR2 Ageing Management Program

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Safety Review Mission on Ageing Management for Research Reactors

BR2 review mission requested by authorities

- Original proposed named: SALTO-RR (Safety Assessment of Long Term Operation of Research Reactors)
  - Name Long Term Operation not acceptable for RR’s
  - LTO supposes a pre defined life time: typical for power reactors (most common: 40 years based on ASME XI construction code)
  - RR’s have normally no pre defined life time - Alternative name used
Basis of the Peer Review

• Based on IAEA draft Guideline “Guidelines for Peer Review of “Ageing Management of Research Reactors for Continued Safe Operation”
  • Adaption of IAEA Safety Service 17 “Guidelines for peer review of long term operation and ageing management of nuclear power plants”.
• Formal request for the mission to be made by State (in practice: nuclear regulator).
• Preparatory meeting 6 to 9 months before effective mission
  • Program and choice of subjects
  • Team compositions
Subjects for Review

Choice from draft Guideline

- AREA A - Organizational aspects for ageing management and continued safe operation;
- AREA B - Scoping and screening of SSCs relevant to ageing management;
- AREA C - Ageing management and time limited ageing analyses (TLAA) of Mechanical SSCs;
- AREA D - Ageing management and time limited ageing analyses (TLAA) of Electrical and I & C SSCs;
- AREA E - Ageing management and time limited ageing analyses (TLAA) of Civil SSCs;
- Area F - Human resources, competence and knowledge management for ageing management. (Not in the current mission scope)
Team Composition

- Team leader (IAEA staff)
- Deputy team leader (IAEA staff)
- Experts (IAEA staff or from other installation – 1 per selected subject)
- Host Peer Review
  - Member of operating organization considered as team member
  - To check technical correctness of observations and gives more detailed information on installation
- Could also attend
  - Regulator
  - Observers (without any right on making remarks)
The first day (Tuesday)

• General introduction
  • Descriptions, Safety analyses, Ageing Management Program
  • Review of the mission objective, agenda, and review methodology (IAEA Team leader)
  • Presentation – General description and Ageing Management Programme – BR2

• Walk through
• Start of the reviews
# Daily work schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
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<tbody>
<tr>
<td>08:00 – 12:30</td>
<td>Review area A and B, Review area C, Review area D, Review area E</td>
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<tr>
<td>11:00 - 12:30</td>
<td>Meeting of Team Leader and RR manager</td>
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<tr>
<td>12:30 – 13:30</td>
<td>Lunch break</td>
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<tr>
<td>13:30 - 16:00</td>
<td>Review area A and B, Review area C, Review area D, Review area E</td>
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<td>16:00 – 16:30</td>
<td>Debriefing the counterpart</td>
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<tr>
<td>16:30 – 16:55</td>
<td>Daily report preparation (team)</td>
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<tr>
<td>17:00 – 17:30</td>
<td>IAEA team meeting (host peer review present)</td>
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End of the mission (Monday + Tuesday)

- **Monday**
  - Discussion of issues, good practices and evaluative part of report with counterparts
  - TL debriefing with RR manager
  - TL debriefing with regulatory authority
  - Revision of the draft issues based on counterpart’s comments
  - Agree the issues, good practices and evaluative section of report with counterparts
  - Preparation of exit meeting speeches
- **Tuesday – formal exit meeting**
  - Main findings
  - Presence of Regulatory Authority
  - Remarks by Regulator/ IAEA/Operator
Major effort for the operating organization

• Composition of Advanced Information Package (in English)
• Interviews during the mission
  • 4 parallel sessions during 4 days (4 x 2 persons that can give answers)
  • 5 working rooms (!)
• Host peer review to be appointed
• Logistics (hotel, transport, food, internet access, ....)
• A few hundred working hours!
• Still too much based on power plants (PP’s have in many cases support from engineering company)
Further IAEA Development?

• Safety Review Mission on Ageing Management for Research Reactors not mentioned on IAEA website services
  • [https://www.iaea.org/services/review-missions](https://www.iaea.org/services/review-missions)
  • BR2 mission mentioned in calendar (without report although released by FANC for public)

• Still continued by IAEA?
  • Subjects can be discussed in INSARR mission (to be discussed during preparatory meeting of the INSARR)
  • Alternative review? Operational and Maintenance Assessment for Research Reactor (OMARR). Not restricted to safety aspects.
The Report on BR2

- Available on FANC website
- Not on IAEA website (although authorization was given).
- Full report expect names and coordinates of team members removed
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