3rd Meeting of EPReSC

29 November 2016- 1 December 2016

Agenda item 2.2
DS492
Human Factors Engineering in Nuclear Power Plants

- For Approval for submission to: Member States -

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Background

• This is the new IAEA safety guide

• The DS 492 was initiated to:

  – Provide a structured approach and guidance on Human Factors Engineering (HFE) in the design and modification of human machine interface in order to minimize the risk of human errors, and optimize human performance to ensure safe operation of the nuclear power plant

  – Ensure coherency and consistency with the other relevant IAEA Safety Standards (GSR Part 2, GSR Part 4, GSR Part 7, SSR-2/2, GSG-3.1, GS-G-3.5)

  – Incorporate experience on application of the documents, and the operating experience feedback from the IAEA Incident reporting systems, and the feedback from the accident at the Fukushima-Daiichi NPP
Overview of the Document

• The main topical areas for which this Safety Guide provides guidance are the following:
  – Considerations specific to HFE, including the human machine interface(s) for achieving compliance with the requirements established in SSR 2/1
  – Competences needed for integrating human factors engineering into the design of nuclear facilities throughout the plant lifecycle for achieving compliance with the requirements established in GSR Part 2
  – The HFE process to be considered in achieving human machine interface design across plant states
  – A consideration of HFE aspects for several important processes and applications linked to design
This Safety Guide considers relevant Fukushima accident lessons:

- Availability of the information and displays giving to plant operators and other critical personnel during accidents
- Optimal layout of displays and controls reducing possibility of erroneous operation
- Human machine interface in the field (e.g. accessibility during accident states, equipment status, local controls and measurement devices)
- Human and organizational factors
Status of the Document

• The DPP was approved by the Committees in April 2015
• The first draft was developed in three Consultancy Meetings during 2016
• Submission to the Committees for approval to MS comments
  – The first draft was submitted to the Committees for comments in September 2016
  – Table of resolution of Committees comments including revised draft Safety Guide posted on the website November 2016
• 36 comments from South Africa*
  – The comments suggested to improve clarity of statement of recommendations, consistent use of terminology
  – 21 comments were addressed
  – Reason for rejection of comments was always provided
  – Detailed resolution to general comments annexed to comment form of South Africa provided in a separate document (follows the same format)
  – **There are no unresolved comments**

*South Africa provided same comments to NUSSC
Requested Action

Approval by EPReSC to submit draft Safety Guide for Member States comments
Thank you!