Nuclear Safety Standards Committee

36th Meeting

16 – 18 October 2013

Agenda item 3.9

*DPP DS483 Safety Guide: Severe Accident Management Programme for Nuclear Power Plants*

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OUTLINE

• Background
• Objective of Revision
• Comments from NUSSC
• Resolution of Comments
• Fukushima Implications
SSG for Safety Standards for Nuclear Installations (Revision Process)
Background

• Developed 2004-2009
  - Published in 2009
  - Provides guidelines for setting up an accident management program

• Used for 5 years as basis for:
  - Preparation of SAMG in MSs
  - IAEA SAET for AM for MSs
  - IAEA OSART and RAMP services to MSs as guidance and practical tools
Objectives of Revision

• To take into account:
  - Lessons Learned identified from Fukushima Daiichi accident
  - Modification of Safety Requirements (DS462: GSR Part 4, SSR-2/1and 2/2)
  - Feedback from MSs applying guide for past 5 years

• To ensure:
  - Reflecting lessons from Fukushima Daiichi accident and current knowledge and best practices
  - Consistency with relevant Safety Requirements (DS462: GSR Part 4, SSR-2/1and 2/2)
Activities Undertaken in 2012-2013

- Review in light of response to Fukushima Daiichi accident
- Two (2) Consultants’ Meetings
- One (1) Technical Meeting on STE for severe accident
- International cooperation (i.e. OECD-NEA WGAMA)
• NUSSC comments received
  - Canada (2)
  - France (8+1)
  - Japan (9)
  - Ukraine (6)
  - United States of America (13)
  - ENISS (3)
  - WNA (2)
COMMENTS FROM NUSSC

• 44 Comments received from 5 MSs and 2 IOs
  - 12 General and 32 specific
  - Many comments are duplicated
  - Mainly clarification and editorial wording
  - Helpful to improve quality of the DPP and document

• Most accepted except following comments for which reasoning was provided
Comment 1: Change the title, “Severe Accident Management Programme for Water Cooled Nuclear Power Plants

- Modification in the title is suggested to avoid potential issue, unless there is no doubt on the applicability to all sorts of technologies.

Reason:

- Large portions can be applicable to RBMK which was verified by Review for Accident Management Programme (RAMP) for Ignalina NPP, Lithuania in 2007.
- As to applicability of LMCRs, if potential difficulties will be identified by specialists, its guidelines will be added.
Response to general comments: France

• Comment 1: Review committees includes RASSC
  - RASSC may be also relevant, considering radiation safety issues related to accident management.

• Reason:
  - In terms of source term evaluation of accident management, RASSC is relevant more or less but covers a few in the guide.
  - Postpone to be decided at WASSC-RASSC joint meeting
Response to general comments: ENISS, WNA

• Comment 2: Remove the lessons learned listed in annex 1
  - It is not clear whether they apply to a specific reactor technology or whether they are generic (some appear to be very technically oriented).

• Reason:
  - Most of lessons learned are identified in IAEA international expert meetings (IEMs) and technical reports from authorized international organizations, IAEA, OECD-NEA, INPO and national organizations, US NRC, CNSC, ENSRG, TEPCO, etc.
  - This is listed tentatively so that it will be reviewed and updated continuously.
Comment 1: Add Fukushima Daiichi lessons in Objective and Scope (1)

- “This Safety Guide will address preparation, development, implementation and review of accident management programs, which will enhance the plant and personnel capability to respond to accidents. While the focus of the Guide is on the establishment of severe accident management, the recommendations given should give considerations to all types of event”. 
- “The Safety guide will elaborate on the Defense in Depth considerations as applicable to the accident management and will consider use of the plant capabilities as well as the use of mobile emergency mitigating equipment”

Reason:

- “all types of event” proposed could be understood as including terrorist attacks explicitly so that it modifies as “all events considered credible on the basis of possible initiating events”.
- Add “mobile or portable” according to the MS’s practices.
Comment 2 and 4: Add Fukushima Daiichi lessons in Objective and Scope

- Add “Accident management guidelines should be developed to cover all operating conditions including full power and shutdown states” in Annex 1.
- Add “Correlation between severe accident management program and emergency plan (on-site and off-site) will be ensured” in Section 4, scope

Reason:
- Consistency with in NS-G-2.15 at Sections 2.17, “Severe accident management should cover all modes of plant operation…."
- “Responsibility” instead of “Correlation” for clarification according to NS-G-2.15 at Section 3.90
Comment 13: Add to the table of content

- 3.15 Periodic reviews (new)

Reason:

- Periodic review is already included in Section 3.12, “new information” of NS-G-2.15.
- Change the title of 3.12 as “Periodic reviews” accordingly
Comment 12 and 3: Delete Item 15 in Annex 1, Fukushima Daiichi lessons learned

- (15) Leadership and response under extreme duress was heroic but not systematically planned in advance. Exercise and drill focus on routine emergencies rather than catastrophic emergencies where all planned resources are not available.

  -- Leaders need to be chosen based on ability to lead under catastrophic conditions where planned capabilities are not available.

Reason:

- In the light of Fukushima Daiichi accident, leadership and management is recognized very important issues.

Choosing leaders is decided in accordance with MS’s practice.
Fukushima Implications

• Taking into consideration revisions to DS462 (GSR Part 4, SSR-2/1, SSR-2/2), DS481 (NS-G-1.9), DS482 (NS-G-1.10)

• Other issues
  - Feedback from IEM-7 on Severe Accident Management in the light of the accident at the Fukushima Daiichi NPP on March 2014
  - Interface with preparation of IAEA Comprehensive Report for Fukushima Daiichi accident
Next Step

• Approval for submission to the relevant review Committees for comments
• Approval for submission to CSS
Thanks for your attention

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