

Response to Review Comments

Title: Small Modular Reactors- A Regulatory Perspective

Authors are grateful to reviewer(s) for reviewing the article and furnishing valuable comments and recommendations. We believe that their constructive suggestions have significant contribution in enhancing the quality of the paper. Manuscript is revised according to suggestions and recommendations of reviewers. A point wise response to the queries of each reviewer has been enclosed in the current file. For convenience of reviewers, any new information added to the paper as a response to reviewers would be highlighted as *blue color* in the response and revised paper.

Comment #1: The paper studies the applicability of existing IAEA Safety Standards by a WG; it would be more worthwhile to study the Pakistani regulations and discuss what needs to be changed. An assessment of the IAEA Safety Standards was already thoroughly done by the IAEA, and some of your points are based on the IAEA's document SRS-123.

Response: As highlighted by the reviewer (Judge), this paper provides the study of the Working Group. The text added in section 1:

The study is conducted with the objective to highlight need to address these challenges in revision of IAEA standards so that subsequently national regulations may be made consistent with IAEA Safety Standards and international practices.

The information related bullet 1 & 2 are described in the paper. However, the study related to bullet #3 is progress and working group is preparing its recommendations for submission to PNRA Management. Nevertheless, pertaining to reviewer comment, authors updated the article to include some of aspects in section 1 (paragraph 2) and section 4(b).

The working group prepared recommendations and it is expected that some national regulations may change in order to make their applicability for SMRs. For instance, some aspects related to design such as multi-module interaction, control rooms, human factors engineering and likewise highlighted in Table 2 may be considered in the regulations related to design of nuclear power plants in order to make these regulations applicable for SMRs. It is also highlighted that the specific areas (section 2.2 bullet i to ix of this article) may need to be addressed in regulations dealing with operation of Nuclear Power plants. The licensing stages, submission requirements, periodic reviews and validity of license in case of SMRs may need to be considered in national licensing process defined in regulations for licensing of nuclear installations.

Comment # 2: In addition, there are some errors in references (e.g. Figure 1 refers to reference [17] but there are only 16 references listed in the reference section.

Response: Agreed with reviewer and rectified in revised paper.