

Proposed Resolutions on the DPP DS484: NS-R-3 Site Evaluation for Nuclear Installations – (Rev. 1) - 4 June 2014

| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Reviewer: EC NUSSC Country/Organization: EC NUSSC Date: 22 May 2014 | | | | | | | |
| No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for modification/rejection |
| General | | | | | | | |
| 1 | 3/page 1 and 1/page 3 | The revision to the NS-R-3 publication is also intended to incorporate and complement the current revision to the NS-R-3 under the DS462..... | The text implies that there are two parallel revisions of NS-R-3 (one is through DS462 and the second through the proposed DPP). Is the scope of DPP revision of DS462 (once approved) rather than revision of NS-R-3? | <u>X</u> | <u>Explanation:</u> <u>The revision of the NS-R-3 is considered more comprehensive and is needed for many reasons in addition to Fukushima (DS462). Regardless of the starting point for the revision, the intention is to produce an NS-R-3 (SSR1) that follow the new IAEA overarching requirements format and address all needed revisions recommended by MSs.</u> <u>All DS462 revisions will be incorporated addressed under the DPP DS484.</u> | | |
| 2 | 4/page 3 | Combined external events will also be addressed. | The effects of such events are also relevant in the site evaluation process | <u>X</u> | | | |

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| Editorial | | | | | | | |
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| 3 | General | Proof reading / language checking suggested | | X | | | |
| 4 | References 5, 6 and 11 | 5. GSR Part 3 6. GSR Part 4 11. DS 462: ... GSR Part 4 | Typos (GRS in original text) | X | | | |
| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
| Reviewer: M-L Järvinen NUSSC Country/Organization: Finland/STUK | | | | Date: 23.5.2014 | | | |
| No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for modification/rejection |
| <u>1.</u> | 3. Objective third chapter. page 3 | The External events of natural and human-induced accidental origin are only considered and considerations related site physical protection of the installation against willful and deliberate actions by a third party will be outside the scope of this publication. In addition, non-radiological hazards of a nuclear installation will be outside the scope of this publication. <u>However, the site selection process and the</u> | add <u>However, the site selection process and the interface with the security will be presented.</u> It would be beneficial to show in the guide that there is interface with the security and in an early phase ensure that these requirements are adequately considered in an early phase. | X | <u>However, site related security aspects will be considered.</u> | | |

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| | | interface with the security will be presented. | | | | | |
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| <u>2.</u> | appendix topic 16) | ... Specific Requirements for Evaluation of External Events 16) Hazards specific requirements - Interface with BDB hazards safety assessment | Please clarify the content of this topic The acronyms should be opened. | | | <u>Explanation:</u> <u>Hazards evaluation provides hazard levels to derive the design bases. These hazard levels estimation are extended beyond the design basis for the purpose of safety assessment (safety margins and modes of failure) which imply BDB hazards</u> | |
| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
| Reviewer: U. S. Nuclear Regulatory Commission NUSCC Country/Organization: United States of America/NRC 2014 | | | | Date: May 23, | | | |
| No. | Para/Line No. | Proposed new text/Comment | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for modification/rejection |
| 1 | General | DS484 DPP is intended to revise NS-R-3 to serve two purposes: (a) address inputs and comments received from Member States (MS) during a technical meeting on site evaluation which was held on December 3, 2012; (b) incorporate and complement the ongoing revision of NS-R-3 under DS462. | Efficiency and avoiding duplication of efforts in review and update of standard. The DS462 doesn't involve only NS-R-3. It involves revisions of four other safety requirements | | | | |

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| | | We note that NS-R-3 standard is going through a final review, under DS462, by the IAEA Committees (e.g.; Step 11). It would be prudent and more efficient if NS-R-3 revision under DS484 is initiated after completion of its revision under DS462. An alternate option is to have DS484 revision as a continued activity under DS462. | In addition, It is expected to have the DS462 approved by the time the DPP DS484 is approved and the start of drafting a revised NS-R-3. | | | | |
| 2 | General | The revised safety requirements will be used in site evaluation of existing and new nuclear installations. The Table of contents on page 6 should allocate a Section to address corrective actions for existing facilities to respond to hazards that were not accounted for in the early siting and design of the nuclear installation. | Clarification corrective action requirements to address hazards mitigation for existing facilities when applicable. | | | <u>X</u> | <u>Site evaluation is required throughout the life time of nuclear installations for both new and existing facilities.</u> <u>Corrective actions that need to be taken for existing facilities based on new hazards information are not siting issues. They are facilities' and design related issues.</u> |
| 3 | General | The document indicated that a key issue in the proposed revision of safety requirement is “the multi-unit installations and the associated multi-hazards combination. The Table of contents (Page 6) should allocate a Section to address update of requirements associated with collocated multi-units and associated combined hazards. | Completion and consistency with scope and purpose of revising NS-R-3 | <u>X</u> | <u>Although the multi –units and associated combined hazards is covered, a dedicated sub-section can be useful.</u> | | |
| 4 | Page 1, | Spell out “ISSC”: International | ISSC abbreviated term | <u>X</u> | | | |

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| | Background Line 6 | Seismic Safety Center.” | was not provided early in the document. | | | | |
| 5 | Page 4, line 4 (Section 4) | Change “TEPCO’s Fukushima Daiichi accident” to “Japan Fukushima Daiichi accident.” | Consistency with CSS recommendations. | | | <u>X</u> | <u>TEPCO is the utility/owner of the Daiichi NPP and the use of TEPCO’s Fukushima Daiichi accident was recommended by the Japanese counter part</u> |
| 6 | Page 4, Interface Documents | Several of the listed interface documents are underdevelopment or update. The schedule for developing DS484 presented on page 7 needs to be in harmony with the schedules of the listed interface documents. | Harmony and coordination with development of interface documents. | <u>X</u> | <u>The referenced DS documents is expected to be published by the time we proceed with the drafting of DS484</u> | | |

COMMENTS BY REVIEWER

RESOLUTION

Reviewer: **Federal Ministry for the Environment, Nature Conservation and Nuclear Safety**

(**BMU**) (with comments of GRS) **NUSSC/WASSC**

Country/Organization: **Germany/BMU/GRS**

Date: 2014-05-02

| Relevance | Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for modification/rejection |
|-----------|-------------|---------------|--|---------------|----------|-----------------------------------|----------|-----------------------------------|
| 2 | 1 | General | Germany welcomes the IAEA secretariat’s intention to revise and update the Safety Requirements publication NS-R-3 comprehensively. The German experts for nuclear safety and waste safety fully support the objective to incorporate the | Comment only. | <u>X</u> | | | |

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| | | | topical issues addressed in the feedback summary into the future SSR-1. | | | | | |
| 2 | 2 | Chapter 1 | Document Category: “ Specific Safety Requirements” | Clarification regarding the new classification system for publications issued in the IAEA Safety Standards Series. According to the long term structure of safety standards (http://www-ns.iaea.org/committees/files/CSS/205/status.pdf), the revision of NS-R-3 will be established as SSR-1. | <u>X</u> | | | |
| 2 | 3 | Chapter 2 | 2 nd para, 1 st sentence: “... technical meeting on “Revision of the Safety Requirements Publication NS-R-3” which was organized by the International Seismic Safety Centre (ISSC) in December, 2012 at IAEA in Vienna.” | The abbreviation ISSC should be explained here because it is not introduced elsewhere in the document. | <u>X</u> | | | |
| 3 | 4 | Chapter 2 | 3 rd para: “... to incorporate the results of the gap analysis on the safety requirements based on the feedback and lessons learned from the TEPCO’s Fukushima Daiichi nuclear power plant accident.” | Wording. | <u>X</u> | | | |
| 3 | 5 | Chapter 2 | 4 th para: “... the new style used in recently updated and revised Safety Standards ...” | Grammar. | <u>X</u> | | | |
| 2 | 6 | Chapter 2 | 5 th para, 1 st sentence: “ Section 2 on The general requirements will | To make clear that this para relates to the | | | | |

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| | | | include modifications and clarifications, as necessary, to the Safety Requirements ...” | prospective Section 2 of the revised NS-R-3 (see table of contents). | <u>X</u> | | | |
| 2 | 7 | Chapter 2 | 6 th para: “ Section 3 on The specific requirements for Evaluation of External Events will include elaborating on the Safety Requirements, as necessary, ...” | To make clear that this para relates to the prospective Section 3 of the revised NS-R-3. | <u>X</u> | | | |
| 2 | 8 | Chapter 2 | 7 th para: “ Section 4 on The Site Characteristics and Potential Effects on of the Nuclear Installations in the Region will also include clarification ...” | To make clear that this para relates to the prospective Section 4 of the revised NS-R-3. The title of this section was adjusted to the one given in the table of contents. Section 4 of NS-R-3 establishes specific requirements for site related evaluation of the effects of the installation on the regional environment, the atmosphere, the hydrosphere and biosphere, and the population. | <u>X</u> | | | |
| 2 | 9 | Chapter 2 | 8 th para: “ Section 5 on The Monitoring of Hazards Requirements will also be evaluated and include elaboration ...” | To make clear that this para relates to the prospective Section 5 of the revised NS-R-3. | <u>X</u> | | | |
| 2 | 10 | Chapter 2 | 9 th para: “ Section 6 on The Quality Assurance | To make clear that this para relates to the | <u>X</u> | | | |

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| | | | Requirements will also be evaluated and include elaboration ...” | prospective Section 6 of the revised NS-R-3. | | | | |
| 2 | 11 | Chapter 2 | last para: “... comprehensive and up-to-date safety requirements which satisfy and reflect the general consensus among States.” | Grammar. | <u>X</u> | | | |
| 3 | 12 | Chapter 3 | 1 st para: “The objective of this revision is to incorporate the input, feedback and recommendations ... into a revised Safety Requirements document that is consistent with the whole set of requirements ...” | Grammar. | <u>X</u> | | | |
| 3 | 13 | Chapter 3 | 2 nd para, last sentence: “Monitoring of external hazards and quality management system requirements will also be covered.” | The term ‘management system’ reflects and includes the initial concept of ‘quality control’ and its evolution through ‘quality assurance’ and ‘quality management’, as stated in the IAEA Safety Requirements GS-R-3 (see Para 1.4). | <u>X</u> | | | |
| 2 | 14 | Chapter 3 | 3 rd para, 1 st sentence: “ The External events of natural and human-induced accidental origin are only considered, while and considerations related site physical protection of the installation against willful and deliberate actions by a third party will be outside the scope of this publication.” | Modify the conjunction to clarify the scope of the publication unambiguously. | <u>X</u> | | | |
| 2 | 15 | Chapter 4 | 2 nd para: | Streamlining of text with | | | | |

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| | | | <p>“The completion of a revised and comprehensive NS-R-3 publication by December 2016 will be useful to Member States to implement updated safety requirements in their site evaluation activities and use the publication in updating their own regulations and safety requirements related to site evaluation for new and existing nuclear installations.”</p> | <p>the aim to improve the readability and comprehensibility of the whole sentence. The deleted clause is already mentioned in the last sentence of Chapter 3. Unnecessary doubling of information should be avoided.</p> | X | | | |
| 2 | 16 | Chapter 5 | <p>“The revised publication document will be part of established as the Specific Safety Requirements <u>publication No. SSR-1</u> in the long term structure of the IAEA <u>Safety Standards Series</u>. This document will interface with the following documents <u>IAEA publications (the list is not intended to be final or exhaustive)</u>:</p> <p>...</p> <p>3. <u>SSR-2/2: Safety of Nuclear Power Plants: <u>Commissioning and</u> Operation</u>; (2011);</p> <p>...</p> <p>5. <u>GRSR Part 3: (Interim) Radiation Protection and Safety of Radiation Sources, Revision of the International BSS, Interim Edition, (2011)</u>;</p> <p>6. <u>GRSR Part 4: Safety Assessment for Facilities and Activities, (2009)</u>;</p> <p>...</p> <p>8. <u>NS-R-4: Safety of Research Reactors, (2005) (under revision, DS476)</u>;</p> <p>9. <u>NS-R-5: Safety of Nuclear Fuel Cycle</u></p> | <p>1st sentence: Wording. According to the long term structure of the IAEA Safety Standards Series, the complete revision of NS-R-3 will be established as SSR-1.</p> <p>2nd sentence: The current wording suggests that the subsequent list of publications is complete. This misunderstanding should be avoided by the insertion in brackets.</p> <p>List of publications: 1.) Please note that the IAEA Safety Standards NS-R-4, NS-R-5 and NS-G-3.2 are currently</p> | X | | | |

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| | | | <p>Facilities (2008) (under revision, DS478); ... 11. DS462: Revision through addenda of GSR- Part 1, NS-R-3, SSR-2/1, SSR-2/2 & GSR SR Part 4; ... 17. NS-G-3.2: Dispersion of Radioactive Material in Air and Water and Consideration of Population Distribution in Site Evaluation for Nuclear Power Plants, (2002) (under revision, DS427); 18. NS-G-3.5 Flood Hazard for Nuclear Power Plants on Coastal and River Sites (2003) ... 21. SSG-15: Storage of Spent Nuclear Fuel (2012); ... 24. Nuclear Security Series: NSS No. 13, Nuclear security recommendations on physical protection of nuclear material and nuclear facilities (INFCIRC/225/Revision 5, 2011); ... 26. Nuclear Security Series: NSS No. 20, Objective and Essential Elements of a State's Nuclear Security Regime (2013).”</p> | <p>under revision. The Safety Requirements should reflect the latest draft documents. 2.) In some cases, erroneous series number, incomplete publication title or missing publication year was detected in the list. Full information is given at the left. 3.) Delete the Safety Guide NS-G-3.5 as it has been replaced and superseded by SSG-18 which is included in the list. See also Para 1.3 of SSG-18.</p> | | | | |
| 3 | 17 | Chapter 6 | <p>1st para: “... to reflect the new style and standard sections used in the most recently updated Safety Requirements publications.”</p> | Grammar. | X | | | |
| 3 | 18 | Chapter 6 | <p>2nd para:</p> | Editorial. All SSCs are | | | | |

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| | | | <p>“The content of the proposed new or modified paragraphs will be based on the review of the Safety Standards Committees, the Member States and the Commission on Safety Standards ...”</p> | <p>involved in the revision process.</p> | <p><u>X</u></p> | | | |
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| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
|--|---------------|--|--|------------|-----------------------------------|----------|-----------------------------------|
| Reviewer: ASN NUSSC Country/Organization: France /ASN May 2014 | | | | Date: 23 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for modification/rejection |
| 1. | §3 | The scope of work will cover general and specific siting requirements, site characterization requirements and the impact of the nuclear installation on the region. Monitoring of external hazards and quality management system requirements will also be covered, <u>as well as management system requirements (while not duplicating already applicable requirements on that topic).</u> | There are already several Safety Standards dealing with management system. As noted, quality assurance is art of the management system... | <u>X</u> | | | |
| 2. | §5 | | DS427 should be added. (see (see feedback summary of technical meeting – 19 to 22 para) | <u>X</u> | | | |

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| Reviewer: ASN NUSSC Country/Organization: France /ASN May 2014 | | | | Date: 23 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for modification/rejection |
| 3. | Contents | 6 Management System | Is such section needed (see feedback summary of technical meeting) | | | <u>X</u> | <u>The management system section is intended to stress the need to implement a management system based on GS-R-3.</u> <u>This is needed to cover specific requirements in this section that are directly related to site evaluation activities.</u> |
| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
| Reviewer: NRA NUSSC Country/Organization: Japan/NRA 2014 | | | | Date: 26 May. | | | |

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| No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for modification/rejection |
|-----|--|---|--|----------|-----------------------------------|----------|--|
| 1 | 6. OVERVIEW CONTENTS 3. SPECIFIC REQUIREMENTS FOR EVALUATION OF EXTERNAL EVENTS | Earthquakes and surface faulting Meteorological events Flooding <u>and Tsunami</u> Geotechnical hazards External human induced events Other important considerations <u>(e.g. Volcano ?)</u> | Memo. They are unclear where Tsunami and Volcano are included. Stating clearly of Tsunami is one of the lessons from Fukushima Event. | <u>X</u> | | | |
| 2 | 1.7 c & 4.7 b | Earthquakes and surface- faulting <u>(surface and seismogenic)</u> Meteorological events Flooding Geotechnical hazards External human induced events Other important considerations | Clarification. Stating only “surface” lead to overlooking of deep seismogenic faulting. If “Earthquakes” include deep seismogenic faulting, this comment will be resolved. User of this Requirement might misinterpret that “Earthquakes” is only historical Earthquakes. | | | <u>X</u> | <u>Earthquakes can be produced by all types of faults, and the intention in not to link it to earthquakes. The intention here is to give surface faulting special attention due to its safety implications if it create permanent ground deformation at the site</u> |