

Revision of 7 closely interrelated Safety Guides on the Operation of Nuclear Power Plants: NS-G-2.2 to 2.6, NS-G-2.8 and NS-G-2.14 (DPP DS497 indice 2)

NS-G-2.3: 107 comments / **Accepted** (fully or partially): **57** (51%) / **Rejected: 54** (49%)

Some comments are multiple: one part can be accepted and another rejected; hence, total of “accepted” and “rejected” is not equal to number of comments

| Country or Organization | Number of comments | Accepted | Rejected |
|-------------------------|--------------------|----------|----------|
| Belgium | 3 | 2 | 1 |
| Egypt | 7 | 6 | 1 |
| ENISS | 7 | 5 | 2 |
| Finland | 17 | 7 | 11 |
| Germany | 4 | 2 | 2 |
| Hungary | 6 | 3 | 3 |
| Iran | 2 | 2 | 0 |
| Russian Federation | 4 | 2 | 2 |
| South Africa | 21 | 16 | 7 |
| UK | 6 | 2 | 4 |
| Pakistan | 27 | 10 | 18 |
| India | 3 | 0 | 3 |

COMMENTS BY REVIEWER

Guide: NS-G-2.3

Reviewer: ?

Country & Organization: Belgium - FANC

Page 2

Date: 28/05/2019

RESOLUTION

| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
|-------------|---------------|--|--|------------|---|------------|--|
| 1. | 2.2.B | In case a modification cannot be implemented promptly, adequate temporary modifications should be put in place until the permanent modification is fully implemented. Use “temporary modifications that could at least partially alleviate the safety concern/ give additional safety improvement” | The aim of the text is not clear: what are “adequate temporary modifications”? If they are “adequate”, why do we need other permanent measures? | | | Yes | Following section 6 temporary modifications are characterized if an immediate modification is needed and a permanent one is not possible to be implemented in time. Adequate means in that context to have a solution, which may not have the final quality of a permanent modification, but it is acceptable to fulfil the safety objectives. |
| 2. | 4.9.A | “To reduce operational risks, implementation of such modifications should be performed in a phased sequence in order to collect operating experience and system test results on the first redundant train or part of the system, before proceeding to modify the other equivalent redundant trains, or parts of the system.” Please, nuance this statement “Nevertheless, this option is not always adequate for large modification project (i.e. SG replacement) or when the modifications address regulatory concerns, or when the | In general, this recommendation seems founded but • for large modifications needing safety studies, this could not be a correct option – a phased approach could imply the need to study some “mixed situation” (with old and new performances...) • Also, for practical reason (project | Yes | But as: “To reduce operational risks, implementation of such modifications should be performed, if practically feasible , in a phased sequence in order to collect operating experience and system test results on the first redundant train or part of the system, | | <i>The paragraph rephrased in a neutral form to allow a comprehensive view. See also comment of ENISS to 4.9.A.</i> |

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| | | present situation could not be (anymore) considered as “safe enough”. | <p>organization, length of outage, needed preparatory work...), a phased sequence could not be “practicable”/reasonable ...</p> <p>For example, all SG are replaced at the same time (for one SG-replacement project, we had to cut the reactor containment...)</p> <p>Also, if the modification is defined to correct some deficiency (safety or regulatory concern), it could be better to implement the modification as soon as possible for all trains (This was the case for the recirculation filters GSI-191/Barseback issue).</p> <p>Also, what means “phased sequence”: this could delay a modification up to 2 or 3 * 18/24 months... if it is considered to not have additional outage than the normal refuelling outage...</p> | | before proceeding to modify the other equivalent redundant trains, or parts of the system.” | | |
| 3. | 4.11 | “The modification can be carried out without significantly increasing either the doses to personnel and members of the public (in accordance with the as low as reasonably achievable (ALARA) principle) or the risk of an accident; “ | For actual safety issue, the dose concern should not discard the modification (replacement of fibers isolation in the framework of GSI-191, | Yes | But as: Dose concerns should be assessed in relation to the safety benefit and need of a modification. | | According to the fundamental safety objective to protect people and the environment from harmful effects of ionizing radiation |

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| | | Add: “Nevertheless, dose concern should not be used to discard important safety improvements”. | reinforcement of concrete basemat to avoid BMMT...) | | | | <i>dose concerns must be part of the assessment of modifications.</i> |
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| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: Moustafa Aziz Country & Organization: Egypt - ENRRA | | | | Page 4 Date: 29/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 1.3 Page 11 2.2.A and 2.2.B | The word pagination is written between para 1.2 and 1.3 without meaning | Editorial | Yes | | | |
| 2. | 1.2.A Page 11 | Most modification, ... | The letter A appear after 1.2, so para 1.2 expected to include 1.2 A and 1.2 B or delete the letter A Or to put point such as 1.2.A. | Yes | | | |
| 3. | 1.6 Page 12 | The modifications made during the design and construction phases are outside the scope of this Safety Guide. | Construction and design phases are excluded from the scope or design only? | | | Yes | As mentioned in 1.6, the modifications made during the design phase are outside the scope of this Safety Guide. |
| 4. | 4.9.B Page 20 | After the first sentence, the word LSEB which needs to be deleted. | Editorial | Yes | | | |
| 5. | 4.11 Page 21 | The need to temporarily disable... | Should be written with the same font like the text | Yes | Fonts, paragraph numbering, spelling, etc. will be checked and corrected by IAEA staff in the final editing process. | | |

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| 6. | 4.14 Page 22 | Description of the equipment qualification, ... | The word equipment should be with the same text font. | Yes | Fonts, paragraph numbering, spelling, etc. will be checked and corrected by IAEA staff in the final editing process. | | |
| 7. | 4.22 Page 24 | 4.22 ...their safety significance. | The same font like the text. | Yes | Fonts, paragraph numbering, spelling, etc. will be checked and corrected by IAEA staff in the final editing process. | | |

| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: JM Gossiaux, Valerie Bellens, Mikko Lemmetty Country & Organization: ENISS | | | | Page 5 Date: 29/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 2.2.B | In case a modification cannot be implemented promptly, adequate temporary modifications should be <u>considered, and if necessary, implemented</u> put in place until the permanent modification is fully implemented”. | The case of temporary modifications must be reserved for only really significant for safety modifications which cannot be implemented promptly. | Yes | | | |
| 2. | 2.6.C | 2.6.C Non-safety relevant modifications should be documented. <u>In cases where this is not readily apparent, the non-safety relevance should be demonstrated by the operating organization.</u> It should be demonstrated by the operating organization that these modifications do not affect safety. | The second sentence is redundant, and too stringent. If the classification of the plant systems, structures and components has been properly done, non-safety relevant modifications cannot affect safety. A categorical requirement to demonstrate non-safety relevance for all | Yes | | | |

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| | | | <p>modifications is bad safety culture, as it will lead to either boilerplate demonstrations or the lack of willingness to make necessary improvements to plants. For example, the categorical requirement would affect e.g. replacements of sanitary taps, lighting fixtures and similar obviously non-safety relevant components.</p> | | | | |
| 3. | 4.9.A | <p>4.9.A Modifications affecting redundant safety related SSCs should be subjected to a comprehensive safety assessment with particular consideration given to avoiding the possibility of common cause, or common mode failures. To reduce operational risks, <u>if practically feasible</u>, implementation of such modifications should be performed in a phased sequence in order to collect operating experience and system test results on the first redundant train or part of the system, before proceeding to modify the other equivalent redundant trains, or parts of the system.</p> | <p>It might not be possible to make modifications on one train at a time due to some constraints.</p> | Yes | | | |
| 4. | 4.11 | <ul style="list-style-type: none"> - The technical or operational relationship of the modified system with each of the affected accident sequences considered in the safety analysis report has been adequately assessed; - Each identified failure-mode of the modified system has been assessed by appropriate evaluation methods. Care should be taken that not only the direct effects on the plant are included in the assessment, but also the effects on items important to safety, such as safety | <p>One bullet has to be added between the two sentences</p> | Yes | | | |

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| | | systems and safety related systems and items; | | | | | |
| 5. | 4.11 | Due account has been taken of the potential consequences <u>in the decision making process</u> if the modification is inadequately implemented | After the modification has been implemented, it is part of the design of the plant. Its potential single or common cause failures, including any new failure modes and internal hazards, should be analysed as part of the modification design, and if they affect the safety case of the plant, approved according to the national procedures. As such, there is no reason to assume that the organization modifying would be any worse or better in the design and implementation of the modification than the organization originally constructing the plant. Thus, the acceptability of the modification is not fundamentally different from acceptability of a plant design. A specific study of the inadequately implemented modification should not be needed, if the pertinent parts of safety evaluation of the plant is updated as required by the other points of requirement 4.11. | | | Yes | This bullet deals with the assessment of the consequences of an inadequately implementation of a modification before its implementation. That would mean, how is an organisation prepared to react on consequences of an inadequately implementation. The connection to the DMP is not obvious. |

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| | | | Instead, it is eminently important to consider the consequences of the incomplete modification or qualification during the decision making process, as incomplete implementation of a major modification may jeopardise the future of the plant. | | | | |
| 6. | 4.14.A | 4.14.A The results of the modification safety assessments should be reviewed by <u>design authority</u> the safety committee (or an organization with similar responsibilities) and approved by the operating organization. | The safety committee is not defined in the document: if it is kept, it should be adequately defined in the chapter 3 “Roles and responsibilities”. According to 4.16.A, the safety committee might correspond to design authority. It is already indicated in 3.17 that responsibility remains in operating organization | | | Yes | Following the IAEA Safety Glossary 2018, the Safety Committee is “A group of experts convened by the operating organization to advise on the safety of operation of an authorized facility”. From that point of view this is not congruently from the design authority. |
| 7. | 4.16.A | 4.16. A The designated entity within the operating organization that takes responsibility for the design i.e. the design authority should formally approve all design changes. Ref. The Operating Organization for Nuclear Power Plants, Safety Standards Series No. NS-G-2.4 [9]. | No change but Design authority should also be defined in chapter 3 “Roles and responsibilities. Should not this 4.16.A moved to chapter 3. | Yes | Has been moved to 3.2.A. 3.2.A. In the operating organization a designated entity should be established, that takes responsibility for the design, i.e. the design authority should formally approve all | | |

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| | | | | | modifications. Ref. The Operating Organization for Nuclear Power Plants, Safety Standards Series No. NS-G-2.4 [9]. | | |
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| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: M-L Järvinen Country & Organization: Finland - STUK | | | | Page 9 Date: 28/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | General | IAEA should consider developing a process for simultaneous development or revision of several safety guides. Lessons learned from the revision of the Safety Requirements after Fukushima Dai-ichi accident 2011 should be used in developing this process. | | Yes | The team have been working like this. Lessons learned from the revision of the Safety Requirement were followed. DPP was developed based on this experience. | | |
| 2. | General | IAEA should consider presentation of the recommendations for maintenance only in one safety guide. The new safety guide for ageing management and LTO, SSG-48 presents current, updated recommendations for maintenance. The safety guide NS-G-2.6 and SSG-48 are overlapping. | ? | | | Yes | Comment not relevant for NS-G-2.3. |
| 3. | General | Development of procedures for accidents in NS-G-2.2 is overlapping and may be conflicting with SSG-54. The new accident management guide SSG-54 should be considered also in other relevant safety guides in this set. IAEA should consider presentation of the recommendations only in one safety guide. | ? | | | Yes | Comment not relevant for NS-G-2.3. Presentation of recommendations |

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| | | | | | | | only in one guide is not possible and not recommended. |
| 4. | General | Core management section is overlapping in NS-G-2.5 and in DS488. IAEA should consider presentation of the recommendations only in one safety guide. | ? | | | Yes | Comment not relevant for NS-G-2.3. |
| 5. | General | It is not clear from the guidance which safety requirements are covered by each safety guide. There should be a transparent and systematic way of presented the covered safety requirements in each safety guide. As a part the allocation of the requirements made for DPP DS497 should be utilized. | | Yes | But reference to requirements 10 and 11 is made in paragraph 1.1 according to the DDP. | | |
| 6. | General | Safety-security interface should be implemented to all of the safety guides in a systematic manner. Some guides do not even mention the word security. The set of safety guide demonstrate the need for guidance on the management of the safety-security interface. Presently the safety guides give references to security guides and vice versa. However, there is not always a suitable guide to reference for instance for safety-security interface in change management. The utilization of the synergies of implementation of safety security interface should be emphasized. There is need for a specific guidance on safety security interface management. | | | | Yes | Addressed consistently with the DPP scope. In addition, it is in contrary with comments No. 2, 3, 4 and 5. Please, see paras 2.9.A and 4.11, and answer in the resolution table of the NS-G-2.4 for this comment. |
| 7. | General | The terminology should be harmonized. There are several examples of the harmonization needs in the safety guide specific comments. The examples concerning the term risk are collected for safety guide NS-G-2.6. However similar review should be made for all of the safety guides and the use of term risk should be systemized. | | | | Yes | This is out of the scope of the DPP. The word "risk" (or risks) is used eight times in the NS-G-2.3, all without any conflict with the |

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| | | | | | | | <p>interpretation of the term in the IAEA Safety Glossary. In the IAEA Safety Glossary, “risk” is mentioned 93 times!</p> <p>Words used have to the extent possible been checked against the IAEA Safety Glossary.</p> |
| 8. | General | IAEA should consider adding GSR Part 4 into the reference list of NS-G-2.3 and checking the content of the safety guide against relevant GSR Part 4 requirements. | There are several requirements concerning operating organization in GSR Part 4. | | | Yes | <p>This is out of the scope of the DPP.</p> <p>However, TO will discuss (at the step 10) with NSOC in order to know if the following references must be added:</p> <ul style="list-style-type: none"> • GSR Part 4: <ul style="list-style-type: none"> • Scope: 1.8 (g). • Fundamental Safety Principles 3 (3.16): 2.4. • Requirement 4: Purpose of the safety assessment: 4.6; 4.15. • Requirement 24: Maintenance of the safety assessment: 5.2; 5.10 (d). |
| 9. | General | Changes to security systems are not included in the guide. Also interface between safety and security is only mentioned in paras 2.9.A and 4.11. | Modifications in security systems or arrangements can have important influence on safe | | | Yes | See answer to comment 6. |

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| | | Change is an opportunity to do safety and security by design. This should be mentioned. This point of view is more and more important in light of increased use of digital programmable systems and items relevant to overall safety and security of the NPP. | operation of the plant. These modifications should be handled similarly to other modifications according to their safety significance. Change is an opportunity to do safety and security by design. This should be mentioned. This point of view is more and more important in light of increased use of digital programmable systems and items relevant to overall safety and security of the NPP. | | | | |
| 10. | General | Chapter 5 about modifications to operating organization should be moved to NS-G-2.4. | Guide NS-G-2.4 is about operating organization and it should also include guidance for doing modifications of organization. | | | Yes | Request from DPP: “Organizational changes, outsourcing and downsizing aspects, load following regimes and other new operational practices”. |
| 11. | 1.2 | 8. replacing systems, structures and components that have reached the end of their service life and a like for like replacement is not available. | As the NPP ages, the frequency of this task increases. As such, it should be considered a good example of a likely modification not really covered by the other 7 points. | Yes | | | |
| 12. | 1.2.A | Change last sentence to “However, if modifications are not rigorously controlled | The suggested modification makes it broader. | Yes | But as: However, the benefits of regularly | | |

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| | | throughout the lifetime of the plant, there is a risk of unwanted consequences.” | | | updating the plant design can be jeopardized if modifications are not kept under rigorous control throughout the lifetime of the plant <u>there is a risk of unwanted consequences and</u> the benefits of regularly updating the plant design can be jeopardized.” | | |
| 13. | 1.3 | <p>Remove and replace with a more comprehensive definition of a modification, e.g., “Modifications can be defined as a change to a system, structure or component so that it no longer corresponds to previous specifications. For clarity, this can also include:</p> <ul style="list-style-type: none"> - Changes to the operating organization - Temporary modifications - Changes to site instructions (e.g., operating and maintenance) | <p>Please consider revising the para. 1.3. and considering comment 34 on the presentation of organizational changes in NS-G-2.4.</p> <p>If the organizational changes are covered by this safety guide please consider clarification.</p> <p>The para only really clarifies that organization changes are a modification. This is a limited definition of a modification and may lead to end users forgetting about other modifications (e.g., temporary modifications, operating instructions). Section 1.5 already has a definition of the scope,</p> | Yes | <p>But as:</p> <p>1.2. 9. changes to the structure of the operating organization due to the need of cost reduction and efficiency improvement without compromising safety of the plant, caused by changes to the electricity generation sector in many countries.</p> | | |

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| | | | which includes organizational change, so Section 1.3 might actually be unnecessary. | | | | |
| 14. | 1.4 | <p>Move following text to Section 8.0 or to NS-G-2.4 as appropriate.</p> <p>“The main purpose of the recommendations concerning organizational changes is to give general guidance on performing those changes, in such a way that the safety of the plant is not compromised.”</p> | <p>This is specific focus on organizational change, but the overall objective of this document should actually encompass all modifications. As such, recommend this is moved to the ‘Organisational Change’ section.</p> | Yes | <p>But as: “The main purpose of the recommendations Concerning organizational changes <u>section 5 and 8 are providing</u> is to give general guidance on performing those changes, in such a way that the safety of the plant is not compromised.</p> | | |
| 15. | 1.6 | <p>The modifications made during the design phase of a new build nuclear power plant (NPP) are outside the scope of this Safety Guide.</p> <p>IAEA recommends that modifications during that phase follow SSG-XXX (author to identify if such an IAEA doc exists or will exist)</p> | <p>Please add justification why not. This seems to be a weakness in the document as design changes may occur during design development which, if not properly assessed, leads to safety issues. Even though the changes during the primary design are not covered please reconsider the scope to include modifications of design for the specific operator, construction and commissioning phases or adding appropriate references for these.</p> | | | Yes | <p>This is out of the scope of the DPP and this Safety Guide scope.</p> <p>Modifications during the Design and construction phase are in the scope of SSR-2/1 Requirement 2, paragraph 3.3.</p> |

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| 16. | 1.7 | <p>“If the proposed modification and/or refurbishment is to extend the design lifetime of the plant, please refer to Periodic Safety Review of Operational Nuclear Power Plants, Safety Standards Series No. SSG-25 [2]. If there is any conflict between this guide and SSG-25, SSG-25 shall take priority”.</p> <p>Like the organizational change, please consider having a completely new section which provides a paragraph about this type of PSR/plant extension modification covering SSG-48 (ageing management and LTO). This could be minimal as it could just refer to SSG-25.</p> | <p>This guide provides some beneficial advice which can be used during this specific type of modification and therefore should be considered in parallel with SSG-25.</p> <p>Please consider adding SSG-48 reference for completion.</p> | Yes | Reference to SSG-48 included. | | |
| 17. | 4.9.A | <p>“To reduce operational-risks, ...”</p> | <p>Common cause or common mode failures do not pose risks only for operation but also to safety of the plant. Suggest deleting “operational”</p> | | | Yes | <p>IAEA Safety Glossary defines Operation as follows: <i>All activities performed to achieve the purpose for which an authorized facility was constructed.</i> In this case, a comprehensive application applies.</p> |

COMMENTS BY REVIEWER

Guide: NS-G-2.3

Reviewer: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)
(with comments of RSK and GRS)
Country & Organization: Germany

Page 15
Date: 30/04/2019

RESOLUTION

| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
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| 1. | Several | | The term “design intent” or “intent of the design” is used in several | | | Yes | SSR-2/2 Revision 1 |

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| | | | paragraphs. Should be defined. | | | | |
| 2. | Content | 1. INTRODUCTION 2. MODIFICATION PROGRAMME 3. ROLES AND RESPONSIBILITIES 4. MODIFICATIONS RELATING TO PLANT CONFIGURATION 5. MODIFICATIONS TO THE OPERATING ORGANIZATION 6 5. TEMPORARY MODIFICATIONS 7 6. IMPLEMENTATION OF MODIFICATIONS RELATING TO PLANT CONFIGURATION <u>7. MODIFICATIONS TO THE OPERATING ORGANIZATION</u> 8. IMPLEMENTATION OF ORGANIZATIONAL CHANGES 9. APPLICATION OF MANAGEMENT SYSTEM TO MODIFICATION PROCESS 10. TRAINING 11. MANAGEMENT OF DOCUMENTATION | Order of chapters is not logical Chap. 5 should be just before Chap- 8 It makes much more sense to read the para. about plant modifications, temporary modification and implementation of modifications one after the other. The same is with organizational modifications and implementation of organizational modifications. | | | Yes | The chapters are arranged according to the description of the kind of the modification and their implementation. |
| 3. | Title for paras 3.17-3.19 | <u>RELATION TO</u> CONTRACTORS AND OTHER EXTERNAL ORGANIZATIONS | The role of contractors is not really described in paras belonging to this title. The text in paras describes the role of the operating organization in the cooperation with contractors and other external organizations. If that is intended, the title has to be changed – we made a suggestion. Otherwise a more detailed description of the responsibilities of contractors, designers etc. has to be given. | Yes | | | |

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| 4. | 6.2 Foot-note 1 | Urgent needs can occur where a change must be implemented immediately to provide for the safety of personnel or protection of important equipment. In an emergency the normal processing of a modification may not be possible due to the urgency of the situation. These emergency changes are not exempt from the change control process. Emergency changes may be implemented after verbal approval of the responsible department manager. They should be reviewed and processed appropriately <u>as soon as possible, at latest on the next working day.</u> | Clarification | Yes | | | |
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| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: Bence Cseri Country & Organization: Hungary / HAEA | | | | Page 17 Date: 20/03/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 1.2 | 8. Modifications due to procurement problems or modernizations. | | Yes | But as: 8. replacing systems, structures and components that have reached the end of their service life and a like for like replacement is not available. | | |
| 2. | 3.11-3.16 | I suggest to not delete this section. | Even though the movement of the regulatory bodies can be different, these paragraphs contain good descriptions. | | | Yes | Please, see DDP: "All references to the involvement of regulators in the operational activities (commissioning, maintenance, operation, modification, etc.) currently available in |

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| | | | | | | | the operational safety guides should be deleted.” |
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| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: Marianna Haraszti-Papp Country & Organization: Hungary / HAEA | | | | Page 18 Date: 23/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 2.2.B | When the need for a modification is established based on safety reasons, the modification should be designed and implemented in a time frame that is consistent with the safety significance. Reasonably practicable or achievable safety improvements should be implemented in a timely manner. In case a modification cannot be implemented promptly, adequate temporary modifications should be put in place until the permanent modification is fully implemented. Procedure of the temporary modification should be the same as that for a permanent modification. | In my opinion, the point needs to be supplemented by the fact that the procedure of the temporary modification should be the same as that for a permanent modification (in accordance with point 6). | | | Yes | As correctly mentioned, this is already included in paragraph 6.4. There is no need for duplication. |
| 2. | 2.6 (a) | 2.6. Modifications which may affect safety should be distinguished into: (a) Modifications directly relating to plant configuration, i.e.: — Modifications to structures, systems and components or process software, including the relevant documentation; — Modifications to the operational limits and conditions; — Modifications to operating procedures; — Modifications to connecting to In-service Inspection documentation; — A combination of these. | In my opinion, the point should be added. | | | Yes | Results from in-service inspections are a trigger to start a modification process which finally ends in one of the mentioned categories. They are not a separate category. |
| 3. | 7.14 | 7.14. Putting modifications into operation should be under the control of the | This is not line with Appendix II. | Yes | But as: | | |

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| | | <p>management and should be conducted in accordance with the procedures governing the entire modification process. Putting modifications into the operational state is the final stage of the modification process.</p> <p>7.14.A Correct alignment of the concerned systems and components should be verified independently (within the operating organization) after the modification is implemented and the commissioning tests have been performed.</p> | | | <p>7.14. Putting modifications into operation means to finally handover for using the implemented and tested modification in the daily operation and is so the final stage of the mods process. The assessment is one precaution for this step. Please see modification in Appendix II.</p> | | |
| 4. | 7.16 | <p>7.16. Before a modification is put into operation, the following should be ensured:</p> <ul style="list-style-type: none"> — All the documentation affected by the plant modification, such as the safety analysis report, operational limits and conditions, drawings, operating and emergency procedures, periodic maintenance and testing procedures, and equipment indexes (commonly used for system operation, tag-outs and maintenance) have been updated and are available. Documents should not be released for use until the modification has been completed; — The as-built configuration of modified systems has been verified and the design basis document has been updated; — Personnel have been trained; — Records for design, commissioning, application of the management system, testing and installation have been reviewed for completeness and accuracy. <p>- schedule of put into operation</p> | In my opinion, the point should be added. | Yes | | | |

| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: Mohammad Zare Country & Organization: Iran / INRA | | | | Page 20 Date: 13/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 2.8 /line 6: It should be ensured that the various steps shown in Fig. AII. 1 have been completed | | The wrong reference to Fig. AII. 1 in the text | Yes | | | |
| 2. | Sec. 3 roles and responsibilities. Operating organization | The operating organization shall establish a formal system for informing relevant personnel in good time of temporary modifications and of their consequences for the operation and safety of the plant. | Suggestion to add: Requirement 11 of SSR-2/2 Revision 1 | Yes | | | See 3.2.B. |

| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: ? Country & Organization: South Africa / National Nuclear Regulator | | | | Page 20 Date: 13/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 1.5 1 st sentence | This Safety Guide deals with the intended modification of structures, systems and components, structure and components of the operating organization, safety related documentation (e.g. operational limits and conditions), software, and the management | Propose to delete components from organizational structure. | | | Yes | Positions, staffing and others could be components. |

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| | | systems for the operation of a nuclear power plant. | | | | | |
| 2. | 1.7 | 1.7. The modification and/or refurbishment of nuclear power plants for the purpose of extending the design lifetime could necessitate many major design modifications and special re-evaluation of plant safety, Ref. Periodic Safety Review of Operational Nuclear Power Plants, Safety Standards Series No. SSG-25 [2], and is therefore outside the scope of this publication. | Propose to reword to not exclude modifications done for the purpose of extending the design life from the process in this publication; ie The same process would be used but initiated from within the end of life LTO review phase. | Yes | But as: 1.7. The modification and/or refurbishment of nuclear power plants for the purpose of extending the design lifetime could necessitate many major design modifications and special re-evaluation of plant safety and are not excluded in this publication. | | |
| 3. | 2.6 (b) | — Modifications relating to safety re-assessment tools and processes | Propose to reword safety assessment to safety re-assessment. | | | Yes | Assessment covers re-assessment. |

| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
|--|---------------|--|---|-----------------------------|---|----------|----------------------|
| Guide: NS-G-2.3 Reviewer: ? Country & Organization: South Africa / National Nuclear Regulator | | | | Page 21 Date: 17/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 1.6 | The modifications made during the design phase are outside the scope of this Safety Guide and are dealt with in Safety Guide no. xxxx. | Adding this specificity is helpful to quickly direct member states to the relevant IAEA references that they may not be aware of. | Yes | But as: 1.6. The modifications made during the design and construction phase of a Nuclear Power Plant are outside the scope of this Safety Guide. Modifications during the design and construction Phase are in the scope of | | |

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| | | | | | SSR-2/1 Requirement 2. . | | |
| 2. | 1.7 | The modification and refurbishment of nuclear power plants for the purpose of extending the design lifetime could necessitate many major design modifications and special re-evaluation of plant safety, Ref. Periodic Safety Review of Operational Nuclear Power Plants, Safety Standards Series No. SSG-25 [2], and are therefore outside the scope of this publication. | grammar | Yes | But as: 1.7. The modification and/or refurbishment of nuclear power plants for the purpose of extending the design lifetime could necessitate major design modifications and re-evaluation of plant safety <u>and are not excluded in this publication.</u> Ref. Periodic Safety Review of Operational Nuclear Power Plants, Safety Standards Series No. SSG-25 [2], Ref. Ageing Management and Development of a Programme for Long Term Operation of Nuclear Power Plants, Safety Guide SSG-48, IAEA Vienna (2018) [15]. | | |

COMMENTS BY REVIEWER

Guide: NS-G-2.3

Reviewer: ?

Page 23

Country & Organization: South Africa / National Nuclear Regulator

Date: 03/06/2019

RESOLUTION

| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
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| 3. | 1.2 Page 11 | A. Most modifications, made on the basis of operating experience... | If this is Section 12.1, A full stop is needed between 12 and A. | Yes | At the time being this is a step to keep the original numbers of the paras. The paras will be renumbered finally. | | |
| 4. | 1.6 Page 12 | The modifications made during the design phase of new nuclear power plants are outside the scope of this Safety Guide. | Proposed wording for clarification, as modifications in itself also include a design phase. | Yes | But as: 1.6. The modifications made during the design <u>and construction</u> phase of a Nuclear Power Plant are outside the scope of this Safety Guide. <u>Modifications during the design and construction Phase are in the scope of SSR-2/1 Requirement 2</u> | Yes | The life cycle of a NPP includes design, construction, commissioning, operation, decommissioning and dismantling. In that context the design in this cycle is meant. |
| 5. | 1.7.A And 2.2.A | | Consistency of full stop. E.g. for 1.7.A, there is no full stop after but for 2.2.A. there is a full stop after the A. | Yes | Fonts, paragraph numbering, spelling, etc. will be checked and corrected by IAEA staff in the final editing process. | | |
| 6. | 2.4 Page 13 | Management of the modification should be the responsibility of the operating organization.. | Delete the second full stop. | Yes | | | |
| 7. | 2.8 Page 15 | It should be ensured that the various steps shown in Fig. AII.1 | The figure in Appendix II does not have a number | Yes | Has been corrected. | | |
| 8. | 2.9.A | interfaces to with security | Editorial | Yes | | | |

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|-----|--------|--|--|-----|--|-----|---|
| 9. | 2.9.A | witness and hold points, and reporting. | Editorial | Yes | | | |
| 10. | 2.10.B | A defence in depth approach should... A graded approach or The defence in depth layers should be considered during all operational activities related to modifications of the plant... | It is unclear if “A defence in depth approach” means an approach that takes into account the layers of defence in depth during all activities, or if it is meant to be a generic reference to “A defence in depth approach” meaning “Graded approach”. | | | Yes | “A defence in depth approach” means an approach that takes into account the layers of defence in depth during all activities. If a grading is recommended is depending on the risk of the operational activity. |
| 11. | 3.4 | Where an independent safety review of the scope and safety implications of proposed modifications is needed it should be carried out by personnel who are not involved in the design and implementation of the modifications. | Consider “singular” for modification, since also in Section 3.3. above, reference is made to “modification” | Yes | | | |
| 12. | 3.18 | When contractors are involved in making modifications, the professional competence, experience and qualifications of all personnel involved should be confirmed, and it should be ensured that the contractor’s quality assurance complies with the standards in effect at the plant. | Recommendation | Yes | | | |
| 13. | 3.19 | In assessing the consequences of a specific modification for the design and for safety, the original design organization, architect engineers and or constructing organization should be consulted as appropriate in order to provide assurance that the design basis is preserved following the modification. | It is recommended to add “original” for enhanced reading and clarity. | Yes | In assessing the consequences of a specific modification for the design and for safety, the original design organization, architect engineers and/or constructing organization should be consulted as appropriate, and if possible , in order to | | |

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| | | | | | provide assurance that the design basis is preserved following the modification. | | |
| 14. | 4.1 | ... because since it meets the same design requirements. | Recommendation | | | Yes | Do not see an added value. |
| 15. | 4.8 | ...has any consequences for on safety... | Recommendation | | | Yes | Do not see an added value. |
| 16. | 4.9 | The extent and complexity of the additional assessment that is necessary will depend on the nature and extent of the consequences of the modification for on safety. If the initial assessment has clearly demonstrated that the modification will have no <u>adverse</u> consequences for on safety, | Recommendation and for clarification | Yes | But as: If the initial assessment has clearly demonstrated that the modification will have no <u>adverse</u> consequences for safety, | Yes | Do not see an added value. |
| 17. | 4.9 | ...either as or after the modification is made, ... | It is not clear what is meant by "either as". Suggestion, "either as is". | Yes | But as: If the initial assessment has clearly demonstrated that the modification will have no adverse consequences for safety, <u>either during its implementation,</u> as or after the modification is made, then further safety assessment may not be necessary. | | |
| 18. | APPEND IX II, First block of figure: | New requirement Others, | Should it be two separate lines? <u>New requirement</u> <u>Others</u> | Yes | | | |

COMMENTS BY REVIEWER

Guide: NS-G-2.3

Reviewer: Rogatov D., Sviridov D.

Country & Organization: Russian Federation / SEC NRS

Page 26

Date: 29/04/2019

RESOLUTION

| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
|-------------|----------------|--|-----------------------------------|----------|-----------------------------------|----------|---|
| 1. | 1.2 | The reasons for carrying out modifications to nuclear power plants may include: 1. Maintaining, or strengthening existing safety provisions and thus maintaining consistency with or improving on the current design (taking into account actual state of art science, technology, and production); 2. Addressing the findings from analysis of compliance with new regulatory requirements that are brought in force after the commissioning of NPP... | Text enhancement | | | Yes | This is out of the scope of the DPP. |
| 2. | 2.9, 3.19, 4.7 | A term “specific modification” is used in the text: It is proposed to delete the word “specific” or give an explanation of the term. | Incorrect or unexplained term | Yes | | | |
| 3. | 3.19 | “In assessing the consequences of a specific modification for the design and for safety, the design organization, architect engineers and constructing organization should be consulted as appropriate in order to provide assurance that the design basis is preserved following the modification. ” Contrary to Appendix I: “... Modifications in Category 1... may involve an alteration of the principles and conclusions on which the design and the licensing of the plant were based. ” | Contrary requirements in the text | | | Yes | Appendix I provides information about the categorisation of modifications in 3 categories. The most challenging category 1 is the one, that would change the design basis. Although the design basis should be preserved inputs from several processes (OPEX, events, progress in science) may initiate |

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| | | | | | | | related modifications. |
| 4. | 4.14 | Proposals for modifications submitted for independent assessment...: — Design documents or amendments to initial design documents, including: 1. A description of the design and justification of the proposed modification; 2. Sketches, drawings and list of materials; 3. Specifications for parts and materials; ... | Text enhancement | Yes | But as: Design documents or amendments to initial design documents <u>for the area affected by the modification.</u> | | |

| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: ? Country & Organization: UK - ONR | | | | Page 27 Date: 18/04/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 3.4 | Additional text. "Where possible, such review panels should include experts who are independent of the plant owners." | This ensures there are no biases towards generation/financial issues. | | | Yes | Already included in paragraph 4.13 under section REVIEW OF PROPOSED MODIFICATIONS: "The latter may also include independent external advisors particularly for major modifications, as necessary to ensure that a full and adequately informed discussion of the modification, including all its safety implications for the plant, can be held." |

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| 2. | 3.9 | Additional text "... personnel training, analysis and safety justifications..." | Staff should be assessed to ensure they understand the impact of the modifications. | | | Yes | New proposed text does not reflect its justification. - Please see paragraph 10.1 and NS-G-2.8 Recruitment... paragraph 4.8. |
| 3. | 4.10 | In addition to radioactive arising from the modifications, should there be an extra bullet requiring consideration of the decommissioning implications of the proposed modifications? | Self-explanatory | Yes | But as: 4.10. The comprehensive safety assessment should include an evaluation of the effect of the modification on radiological hazards during its implementation and during subsequent commissioning, testing, maintenance, operation <u>and decommissioning</u> of the modified plant. | | |
| 4. | 4.14.A | Additional sentence. "As part of a graded approach, the safety committee should consider the categorization attributed to the modification, and require changes as necessary. This could result in a need for additional safety justifications for the modification". | Categorization is part of the process which can have significant implications. It should be reviewed. | Yes | | | |
| 5. | 4.17 | | Should the list include decommissioning considerations? | | | Yes | Not relevant to add in the list. |
| 6. | 6.3 | Additional text. "The cumulative effects of several concurrent temporary modifications should be reviewed by competent personnel or a safety committee." | Ensures cumulative effect of changes is reviewed and endorsed. | | | Yes | Included in paragraph 3.6 and 6.4. |

COMMENTS BY REVIEWER

Guide: NS-G-2.3

Reviewer: ?

Country & Organization: Pakistan / PAEC - DNS/DOS

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Date: 26/06/2019

Deadline: 31/05/2019

RESOLUTION

| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
|-------------|---------------|--|---|----------|--|----------|--|
| 1 | 3.4 | Independent review of the scope and safety implications of proposed modifications should be carried out <u>by independent oversight organization</u> personnel who are not involved in the design and implementation of the modifications. | The proposed personnel should be clearly identified and mentioned. | | | Yes | Depending on the significance of the modification the needs for independent internal/external safety reviews/ assessment or experts are mentioned in several paragraphs. It is the task of licensee's organisation to determine the appropriate positions and personnel for this task. |
| 2 | 3.9 | The operating organization should ensure that the appropriate revisions to plant procedures, personnel training and plant simulators necessitated by the modifications are implemented in a complete, correct and timely manner as part of the implementation process. <u>The modification at plant simulator should be implemented on priority commensurate with their safety significance. However, a one year time limit should be considered appropriate for completing any types of modification at simulator</u> | Modification at simulator should be time bounded so they may implementation well in time (one year). This will help instructors to train the operators. | Yes | But as: The operating organization should ensure that the appropriate revisions to plant procedures, personnel training and plant simulators necessitated by the modifications are implemented in a complete, correct and timely manner as part of the implementation | Yes | For this item: To determine a one-year time limit may lead to a reverse effect for the implementation of modifications. |

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| | | | | | process. <u>The modification at plant simulator should be implemented on priority commensurate with their safety significance.</u> <u>However, a one year time limit should be considered appropriate for completing any types of modification at simulator</u> | | |
| 3 | 4.5 | Modifications in Category 2 include changes in safety related items or systems and in operational approaches and/or procedures, <u>make shift, temporary or permanent safety enhancement based on Fukushima lesson learnt</u> and usually necessitate an update of the safety analysis report or other licensing documents. | Safety enhancements under Fukushima improvement plans should be addressed under Category 2 or others as appropriate. | | | Yes | Para. 4.5 has been deleted because of the creation of Appendix I. Modifications in Category 2 are characterized by a minor influence on safety and no significant alteration to the principles on which plant licensing has been based. The categorization of modifications from Fukushima lessons learned may be different to this. |
| 4 | 6.9 | —Requirements for technical reviews, in particular safety reviews to be performed before temporary modifications are made. Temporary modifications to structures, systems and components and process software | The proposed personnel should be clearly identified and mentioned | | | Yes | Depending on the effect of the modification the needs for independent |

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| | | important to safety should be independently reviewed by <u>independent oversight organisation</u> personnel not involved in the design or implementation of the temporary modification and should be submitted for regulatory approval, as required, before implementation | | | | | internal/external safety reviews/ assessment or experts are mentioned in several paragraphs. It is the task of licensee's organisation to determine the appropriate position and personnel. |
| 5 | 7.12 | Final approval of the modification for routine operation should be based on successful completion of the commissioning stage and verification of all information and experience obtained with regard to the design intent. A commissioning report, including the acceptance criteria and the results of <u>commissioning, routine test, along with details of problems (if any) encountered during commissioning and their remedial actions</u> , should be produced to assist in this task. The report should be approved by the plant management, the plant safety committee and/or the commissioning committee and/or the regulatory body, as appropriate, as a basis for permitting the normal operation of the modified plant. | The problems encountered during commissioning of equipment and component should be clearly described in the report along with the remedial actions. Same is important and should be reflected in equipment / component history for reference. | | | Yes | The mentioned information is usually specific part of a commissioning report. There is no need to be so specific in this in the guide. |

Pakistan/PAEC - Fahad Khalil - 26/06/2019 - Deadline: 31/05/2019

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| 6 (1) | 3.5 | Modification executing personnel must be qualified and experienced for the assigned job. | Most important part of modification from conceptual design to operation is the execution of modification in the existing design. | | | Yes | Already covered by paragraph 7.3. |
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| 7 (2) | 3.10.B | In case no feedback is available related to the said modification and modification is related to Safety class system then designer consent may be acquired. | Relevant designer is in better position to guide the plant management about the modification. | | | Yes | paragraph 3.10.B does not exist in this version. |
| 8 (3) | ? | Urgent modifications related to safety class systems that are requested during the refuelling outage and needs implementation in the narrow window of RFO. These types of modification may be addressed under separate title in this document. | | | | Yes | Urgent modifications as mentioned should be managed in the permanent or temporary process. As mentioned in paragraph 6.4. "The procedure for obtaining approval to implement a temporary modification should be the same as that for a permanent modification." |
| 9 (4) | 4.23 | Any other documents affected by the modifications should be revised and operators should be trained in the revised documents, especially operating procedures & PID's. | PID's are vital part of plant documents. | | | Yes | PID's are of course a vital part of plant documents. But in that frame electrical functional diagrams and interlock are also important. Because they are comprehensively covered by "Revised documents" this term should be used. |

Pakistan/PAEC - Wahija Zahid - 26/06/2019 - Deadline: 31/05/2019

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| 10 (1) | 1.5 | This safety guide deals with the intended modification of structures, systems and components, structure and components of the operating organization, safety related documentation (e.g. operational limits and | The scope of the guide NS-G-2.3 may include the duration/phase of the nuclear power plant in | | | Yes | This guide covers the time frame from commissioning to decommissioning. |
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| | | conditions), software, and the management systems <u>during the design life</u> for the operation of a nuclear power plant. | which the modifications are implemented. | | | | |
| 11 (2) | 2 | The heading “Modification Programme” may be modified as “Modification <u>Management Programme</u> ”. | As section 2 provides the guidance to the management of modifications. | Yes | | | |
| 12 (3) | 2.6.A | The process distinguishes between plant configuration (technical, document and procedural that <u>may or may not be safety related! modifications related</u>) to NPP design and management system (safety. related organizational) changes | As mentioned in section 2.6, the plant configuration modifications may also affect safety. | | | Yes | paragraph 2.6 describes modifications which may affect safety. paragraph 2.6.C describes Non-safety relevant. |
| 13 (4) | 2.8 | It should be ensured that the various steps shown in <u>Appendix II</u> have been completed | There is no mention of the <u>Fig. AII.1</u> in the document. | Yes | | | |
| 14 (5) | 3.5 | The operating organization should arrange for the availability of competent personnel <u>and essential tools</u> to assist in design studies and development work for modifications on plant items important to safety. | In addition to competent personnel, tools for analysis of new modifications are important for design work. | Yes | | | |
| 15 (6) | 4.14.A | The results of the modification safety assessments should be reviewed by the safety committee (or an organization with similar responsibilities) and approved by the operating organization <u>as well as the regulatory authority.</u> | The regulatory authority should also be involved in safety assessment of modifications related to safety | | | Yes | Please, see DDP: “All references to the involvement of regulators in the operational activities (commissioning, maintenance, operation, modification, etc.) currently available in the operational safety guides should be deleted.” |
| 16 (7) | 6.2 | Any alteration should be reviewed by competent persons <u>before its implementation.</u> | Here, “as soon as possible” may be | Yes | | | |

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| | | | replaced by “before implementation” to provide clarity to the statement. | | | | |
| 17 (8) | 7.14 | It has been mentioned in section 7.14 “Putting modifications into the operational state is the final stage of the modification process.” | This statement quoted from section 7.14 is not reflected in Appendix II. | Yes | | | |
| 18 (9) | Appendix I/Category 3 | <u>The modification need not to be approved by the regulatory authority.</u> | Proposed text may be added to Category 3 of modifications for more clarity. | | | Yes | Please, see DDP: “All references to the involvement of regulators in the operational activities (commissioning, maintenance, operation, modification, etc.) currently available in the operational safety guides should be deleted.” |
| 19 (10) | 7. | <u>Post-modification testing should be performed to verify overall svstem operability in addition to specific components or sub-svstems involved in modification.</u> | Proposed text may be added to section 7 regarding post-modification testing. | Yes | 7.8. <u>Post-modification testing should be performed to verify overall svstem operability in addition to specific components or sub-svstems involved in modification.</u> The ability to operate... | | |

Pakistan/PAEC - Dr. Basit Khalid, PE, DNPES - **26/06/2019** - Deadline: 31/05/2019

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| 20 (1) | 1.2/9 | Lesson learnt from the Fukushima Daiichi accidents or other events in nuclear industry. | 8 th reason may be added in section 1.2. | | | Yes | Implicitly included in bullet 1. |
| 21 (2) | 1.2/7 | 7 th point in section 1.2 may be deleted as extending the design life could necessitate major design modifications and special re-evaluation of plant safety. | It is out of the scope of this document (DS-497b). | | | Yes | Original text of the safety guide and no request to remove it in the DPP. |

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| 22 (3) | 1.4/5 | The main purpose of the recommendations concerning organisational changes is to give general guidance on performing those changes, in such a way that the safety of the plant is not compromised. | Shift this text from section 1.4 to the end of section 1.3 because it is more relevant to organisational changes rather than objectives. | | | Yes | While paragraph 1.3 provides information from the background paragraph 1.4 explains the objectives. The objective of this guide is to provide guidance also on organisational changes. |
| 23 (4) | 2.9/6 | A full review should therefore be performed before defining the type and extent of areas for which modification should be applied. | Add proposed new text for explicit definition of concerned areas. | | | Yes | Paragraph 2.9 request a full review before the final definition of the concerned areas. The proposed modification does not add clarity. |
| 24 (5) | 4.11/4 | Special consideration should be given to ensure the following: | Replace the word “showing” with “ensure”. | Yes | But as: Special consideration should be given to <u>demonstrate</u> ensure the following: | | |
| 25 (6) | 4.12.A/2 | The results of the re-evaluation <u>both</u> from deterministic and probabilistic analysis should then be used <u>for</u> conservative decision-making process. | Add word “both” to consider results of both deterministic and probabilistic analysis. Replace the word “to inform the” with “for” | Yes | | | |
| 26 (7) | 7.16/10 | All the relevant personnel have been informed and well-trained to handle the modified system. | Personnel training needs to be more elaborated. | Yes | But as: All the relevant personnel have been informed and well- trained to handle the modification. | | |

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| 27 (8) | 8.1/3 | Proposed organisational changes should be clearly defined and their safety implications should be assessed | The word “should be” is missing in the sentence I | | | Yes | Original text is correct. |
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| COMMENTS BY REVIEWER | | | | RESOLUTION | | | |
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| Guide: NS-G-2.3 Reviewer: ? Country & Organization: India - ? | | | | Page 36 Date: 08/08/2019 Deadline: 31/05/2019 | | | |
| Comment No. | Para/Line No. | Proposed new text | Reason | Accepted | Accepted, but modified as follows | Rejected | Reason for rejection |
| 1. | 2.6.C | Clarification required: the statement regarding accessibility of non-safety relevant modifications to the regulatory body has been removed. | Reason for the same unclear. | | | Yes | Please, see DDP: “All references to the involvement of regulators in the operational activities (commissioning, maintenance, operation, modification, etc.) currently available in the operational safety guides should be deleted.” |
| 2. | 3.11 | Clarification required: roles, responsibilities and guidance for regulatory body has been removed. Similar guidelines regarding requirements for access of documents, review & approval by regulatory body has been removed throughout the document. | Reason for the same unclear. | | | Yes | Please, see DDP: “All references to the involvement of regulators in the operational activities (commissioning, maintenance, operation, modification, etc.) currently available in the operational safety guides should be deleted.” |
| 3. | 7.8 | Testing and commissioning, which may include pre-installation tests of equipment and | Modifications may be necessary in systems that | | | Yes | Please, see 2.13.A and 4.9.B. |

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| | | mock-ups, including equipment qualification, should be aimed at demonstrating that modifications meet their design specifications for all anticipated operational occurrences, in design basis accidents and design extension conditions. | are designed to handle DECs. | | | | |
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