DOE-STD-1104-2009 to DOE-STD-1104-2014
Requirements Matrix

No.	Section/ Page Number	DOE-STD-1104-2009 Requirement	DOE-STD-1104-2014 Requirements	Comment
Gen		DOE-STD-1104-2009 was broadly implemented but not required.	DOE-STD-1104-2014 will be required by DOE Order 420.1C, Page Change 1, soon to be approved (already concurred upon by the program offices and the Directives Review Board).	DOE-STD-1104-2014will now be a required method. For more discussion, see letter from Moniz to Winokur, October 18, 2014.
1	Guiding Principles Page Vii #2	"If a contractor uses a method other than a safe harbor method from Table 2 of Appendix A of 10 CFR Part 830, per 10 CFR 830.204, the contractor **must** obtain DOE approval of the method before developing the DSA. Likewise, if a contractor uses a safe harbor method to develop the DSA, but does not follow the method completely, per 10 CFR 830.204, the contractor **must** request DOE approval of the method with the specific deviations noted."	No corresponding requirement in DOE-STD-1104-2014. Section 4.1 [Paragraph 3, Page 11] does provide the following: "If a contractor uses a method other than a safe harbor method from Table 2 of Appendix A of 10 C.F.R. Part 830, per 10 C.F.R. § 830.204, the contractor is required to obtain DOE approval of the method. If a contractor uses a safe harbor method to develop the DSA, but does not follow the method completely, per 10 C.F.R. § 830.204, the contractor is required to request DOE approval of the method used (with the specific deviations noted) in accordance with DOE-STD-1083-2009, or successor document."	These are10 C.F.R. 830 requirements; they do not have to be repeated as requirements in DOE-STD-1104-2014.
2	Intro-duction Page 1	"This Standard utilizes the verb "**must**" to specify requirements in associated rules or DOE Orders or critical actions in performing the safety basis document reviews."	"Throughout this Standard, the word "**shall**" denotes actions that are required to comply with this Standard." [Foreword #6, Page i] "Throughout this Standard, the word "**shall**" denotes actions that are required to comply with this	"Throughout this Standard, the word "**shall**" denotes actions that are required to comply with

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			Standard." [Introduction, Paragraph 6, Page 1]	this Standard." [Foreword #5, Page 1]
3	1.4 Paragraph 6 Pages 7-8	"As stated in 10 CFR 830.202, contractors **must** incorporate in the safety basis any changes, conditions, or hazard controls directed by DOE. The regulation also states that the SER **must** document the basis for approval of the safety basis for the facility including any conditions of approval."	No corresponding requirement in DOE-STD-1104-2014. Section 3.5 [Paragraph 9, Page 9] does provide the following: "As stated in10 C.F.R. § 830.202 (c) (3), contractors are required to incorporate in the safety basis any changes, conditions, or hazard controls directed by DOE. Section 830.207 (d) of the Rule states that 'A contractor may not begin operation of the facility or modification prior to the issuance of an SER in which DOE approves the safety basis for the facility or modification."	These are10 C.F.R. 830 requirements; they do not have to be repeated as requirements in DOE-STD-1104-2014.
4		No corresponding requirement in DOE-STD-1104-2009.	"In circumstances where no viable control strategy exists in an existing facility to prevent or mitigate the offsite dose consequence of one or more of the accident scenarios from exceeding the EG, the cognizant PSO **shall** serve as the DOE approval authority and this approval may not be delegated. In such cases, the approval authority **shall** obtain concurrence from the CTA and consult with the Office of Environment, Health, Safety, and Security on the technical adequacy of the DSA submittal." [3.2, Paragraph 4, Page 5]	New requirement. DOE 2010-1 Implementation Plan issue.
5		No corresponding requirement.	"In cases where the SBRT has multiple review team members and the review is complex (such as for a new facility or major modification), at least one member of the SBRT **shall** meet the requirements of DOE-STD-1183-2007." [3.3, Paragraph 4, Page 7]	New requirement. Reflects experience and lessons learned.

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6	1.4 Paragraph 7 Page 8	"To ensure adequate tracking and closure of conditions of approval, the DOE site office staff **must**: • Verify that contractors have a documented process for: o tracking conditions of approval to closure (including any required compensatory measures), o verifying satisfactory closure of the condition of approval, o notifying DOE when a condition of approval has been satisfied, and o managing any conditions of approval until they are closed. • Ensure that when a condition of approval is satisfied, the basis for closure is documented in the next update of the DSA, and the closure of the condition of approval is noted in the DOE approval of that update of the DSA; and • Periodically assess the closure progress and status of conditions of approval, as well as the contractor tracking process for them."	"To ensure adequate tracking and closure of conditions of approval, the DOE site office staff **shall**: • Verify that contractors have a documented process for: o tracking conditions of approval to closure (including any required compensatory measures); o verifying satisfactory closure of the condition of approval; o notifying DOE when a condition of approval has been satisfied; and o managing any conditions of approval until they are closed. • Ensure that when a condition of approval is satisfied, the basis for closure is documented in the next update of the DSA and/or TSRs, and the closure of the condition of approval is noted in the DOE approval of that update; and • Periodically assess the closure progress and status of conditions of approval, as well as the contractor tracking process for them." [3.5, Paragraph 10, Page 9]	Comparable.
7	1.4 Paragraph	"These directed changes **must** be incorporated into the approved TSRs prior to operation under the	"SER-directed changes **shall** be incorporated into the approved TSRs prior to operation under the approved	Comparable.

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	8 Page 8	approved safety basis."	safety basis." [3.5, Paragraph 11, Page 10]	
8		No corresponding requirement.	"In circumstances where no viable control strategy exists in an existing facility to prevent or mitigate the consequence of one or more of the accident scenarios from exceeding the EG, DOE **shall** verify that information is included in the DSA, or an attachment to the DSA, that is consistent with the requirements described in Section 3.3.1 of DOE-STD-3009-2014" [4.9, Paragraph 2, Page 18]	New requirement.
9		No corresponding requirement.	"The SBAA for DSAs that include mitigated doses above the EG **shall** be at the PSO, at a minimum. The SBAA **shall** obtain concurrence from the CTA and consult with the Office of Environment, Health, Safety and Security on the technical adequacy of the DSA submittal." [4.9, Paragraph 5, Page 19]	New requirement.
10	2.6 Paragraph 1 Page 13	"While these elements **must** be addressed in the DSA, generic descriptions of these institutional programs should not be duplicated in the DSA if they can be referenced in Integrated Safety Management System documents or site-wide manuals."	No corresponding requirement. Section 4.8 [Paragraph 1, Page 17] does provide the following: "While these elements are required to be addressed in the DSA, generic descriptions of these institutional programs should not be duplicated in the DSA if they can be referenced in Integrated Safety Management System documents or in site-wide manuals."	Rhetorical; not necessary.
11	2.7 Paragraph 1 Page 14	"A defined closure date or milestone **must** be identified in the condition of approval."	"A defined closure date or milestone **shall** be identified in the condition of approval." [4.10, Paragraph 1, Pages 19-20]	Comparable.

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12	2.7 Paragraph 5 Page 15	"Fundamentally, the DSA **must** demonstrate that proposed activities have been thoroughly described and analyzed and that the hazards have been adequately identified. The DSA **must** establish the linkage between the individual hazards identified and the final control set that addresses each hazard. The functions of the controls that are relied upon for safety **must** be clearly documented and demonstrated to be adequate for the bounded hazards that they are intended to address. The selected controls **must** be documented as capable of providing the credited safety functions and appropriately captured in the TSRs."	No corresponding requirement. Section 4.10 [Paragraph 5, Page 20] does provide the following: "Fundamentally, the DSA is intended to demonstrate that proposed activities have been thoroughly described and analyzed and that the hazards have been adequately identified. The DSA establishes the linkage between the individual hazards identified and the final control set that addresses each hazard. The functions of the controls that are relied upon for safety are clearly documented and demonstrated to be adequate for the bounded hazards that they are intended to address. The selected controls are documented as capable of providing the credited safety functions and appropriately captured in the TSRs."	Rhetorical; these are DSA and SER issues, covered elsewhere. Addressed in SER Evaluation Criteria.
13	3.1 Page 16	"Because the TSRs **must** implement commitments made in the DSA, approvals and implementation of both the DSA and TSRs **must** be coordinated."	No corresponding requirement. Section 5.1 [Paragraph 1, Page 22] does provide the following: "Because the TSRs implement commitments made in the DSA, approvals and implementation of both the DSA and TSRs should be coordinated."	Rhetorical; not necessary.
14	3.2.2 Page 17	"Safety SSCs **must** be described in sufficient detail in a DSA so that their functional requirements are defined and the bases for TSR requirements are derived….In any case, safety SSCs **must** be addressed specifically in TSR provisions."	No corresponding requirement. Section 5.3 [Paragraph 1, 2nd bullet, Page 22] does provide the following: "Review criteria to assess consistency are provided below: • Safety SSCs are addressed specifically in	Rhetorical; these are DSA and TSR issues, covered elsewhere. Addressed in SER Evaluation

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			TSR provisions." (note: the first sentence on describing Safety SSCs was deleted)	Criteria.
15	3.2.3 Page 17	"When SACs are used, they **must** be controlled through the TSR."	No corresponding requirement. Section 5.3 [Paragraph 1, 4th bullet, Page 23] does provide the following: "Review criteria to assess consistency are provided below: • When SACs are used, they are controlled through the TSR."	Rhetorical; these are DSA and TSR issues, covered elsewhere. Addressed in SER Evaluation Criteria.
16		No corresponding requirement.	"The basis for approval of the USQ procedure **shall** address the expectations from the DOE G 424.1-1B, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements* (or successor document in the site contract)." [6.1, Paragraph 2, Page 25]	New requirement; New section for completeness to address all DOE approvals related to safety basis.
17		No corresponding requirement.	"The bases for approval of the ESS or JCO **shall** address the expectations from the DOE Guide G 424.1-1B (or successor document in the site contract) as described below." [6.2, Paragraph 4, Page 25]	New requirement; New section.
18		No corresponding requirement.	"In these cases, DOE **shall** review and approve the final categorization based on facility-specific hazard analysis to confirm that the hazard analysis and final categorization are accurate." [6.3, Paragraph 1, Page 26]	New requirement; New section.
19	4.0 Paragraph	"The SER clearly states any conditions of approval that impose additional commitments to which	"The SER for a given facility or operation **shall** document: (1) the conduct of an appropriate review	This is the main, broad SER

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	3 Page 18	facility management **must** adhere beyond those already documented in the DSA and TSRs."	of the safety basis document (e.g., PDSA, DSA, or TSRs); (2) the bases for approving these documents (see Sections 4, 5, and 6 of this Standard for approval bases for different safety basis documents); and (3) any conditions of approval." [7.1, Paragraph 1, Page 28]	requirement that requires appropriate review against evaluation criteria.
20		No corresponding requirement.	"In such cases the letter or report **shall** address the following: • The sufficiency of the safety basis document for a hazard category 1, 2, or 3 DOE nuclear facility; • The extent to which a contractor has satisfied the requirements of Subpart B of 10 C.F.R. Part 830; and, • The basis for approval by DOE of the safety basis for the facility, including any conditions for approval." [7.1, Paragraph 10, Page 30]	New requirement for short-form SERs.
21	4.3 Bullet 1 Page 20	"For the PDSA, that it provides a reasonable basis for the preliminary conclusion that the nuclear facility can be operated safely based on the following: (1) the nuclear safety design criteria in DOE O 420.1B have been satisfied; (2) a safety analysis meeting DOE O 420.1B and DOE-STD-1189-2008 requirements to support the design has been performed; and (3) an initial listing is provided of the safety management programs that **must** be developed to address operational safety considerations."	No corresponding requirement. Section 7.2.3 [Paragraph 1, 1st bullet, Page 31] does provide the following: "For the PDSA, that it provides a reasonable basis for the preliminary conclusion that the nuclear facility can be operated safely based on the following: (1) the nuclear safety design criteria in DOE O 420.1C (or successor document in the site contract) have been satisfied; (2) a safety analysis meeting DOE O 420.1C and DOE-STD-1189-2008 requirements to support the design has been performed; and (3) an	Covered in #35.

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			initial listing is provided of the safety management programs that have been or will be developed to address operational safety considerations."	
22	4.8 Page 22	"However the safety function of SACs **must** be clearly defined so that the decision to use an SAC rather than a safety SSC can be evaluated."	No corresponding requirement. Section 7.2.8 [Paragraph 1, Page 33] does provide the following: "The safety function of SACs is clearly defined so that the decision to use an SAC rather than a safety SSC can be evaluated."	Rhetorical; this is a DSA issue, covered elsewhere, such as safe harbor standards. Addressed in SER Evaluation Criteria.
23		No corresponding requirement.	"Whenever a compensatory measure is needed to ensure appropriate safety levels are maintained while a temporary condition of approval is in effect, that compensatory measure **shall** be clearly articulated in the SER. It then becomes part of the facility safety basis." [7.2.12, Paragraph 2, Page 34]	Clarification. New requirement.
24		No corresponding requirement.	"Design basis accidents (DBAs) identified for new facilities and major modifications **shall** be prevented or have mitigated offsite dose consequences below the EG." [8.1, Paragraph 3, Page 35]	New require-ment. DOE 2010-1 Imple-mentation Plan issue. See also #4 above.
25		No corresponding requirement.	"DOE **shall** document the review of the SDS either in an SVR or in a letter (with a basis for approval attached) for approval by the SBAA and the Federal Project Director."	New requirement. Clarified expectation, based on experience and lessons learned.
26		No corresponding requirement.	"DOE **shall** review and approve updates of the	New

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			SDS."	requirement. Clarified expectation, based on experience and lessons learned.
27	5.2 Paragraph 1 Page 27	"The CSDR **must** reflect the project configuration at conceptual design; however, the design at this phase is not fully defined and the CSDR may (1) propose more than one possible approach to some aspects of the design and (2) identify some areas that will need more research and development at later stages."	No corresponding requirement. Section 8.4 [Paragraph 2, Page 38] does provide the following: "As described in DOE-STD-1189, the CSDR reflects the project configuration at conceptual design; however, the design at this phase is not fully defined and so the CSDR may (1) propose more than one possible approach to some aspects of the design and (2) identify some areas needing more research and development at later stages."	Unnecessary requirement statement, relative to safety basis expectations
28	5.2 Paragraph 2 Page 27	"Although some of the decisions and selections may be preliminary at this phase of design, the CSDR reviewer **must** confirm that the following are adequate and sufficiently conservative to proceed from the conceptual design phase to the preliminary design phase:"	"Although some of the decisions and selections may be preliminary at this phase of design, the CSDR reviewer **shall** confirm that the following are adequate and sufficiently conservative to support proceeding from the conceptual design phase to the preliminary design phase: • Hazard categorization (hazard category-1, -2 or -3) of the facility; • Preliminary identification of the facility DBAs; • Assessment of the need for safety class and safety significant facility-level safety	Comparable requirement.

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			controls based on the preliminary hazard analysis, preliminary fire hazard analysis and analysis of the DBAs; • Application of the principles of the hierarchy of controls; • Preliminary assessment of the appropriate natural phenomena hazards (NPH) design criteria for the facility; and Compliance with the safety design criteria of DOE O 420.1C, Facility Safety (or successor document), or any alternate criteria proposed." [8.4, Paragraph 3, Page 38]	
29	5.2 Paragraph 4 Page 28	"As part of the review of the CSDR, the reviewer **must**:" (followed by list of 14 items)	"As part of the review of the CSDR, the reviewer **shall** perform the following review activities: • Assess whether the identified facility level DBAs appear to be a complete set; • Determine if the safety function/NPH classifications from Appendices A and B of DOE-STD-1189-2008 were appropriately applied; • Assess the adequacy of the preliminary hazard analysis against the expectations in Section 4.2 of DOE-STD-1189-2008; • Evaluate the technical adequacy of the basis of the chosen confinement strategy (i.e., active confinement ventilation is preferred	Comparable.

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			over passive confinement systems per DOE O 420.1C, which states that "Alternate confinement approaches may be acceptable if a technical evaluation demonstrates that the alternate confinement approach results in very high assurance of the confinement of radioactive materials" and includes a footnote stating that "The safety classification (if any) of the ventilation system is determined by the facility documented safety analysis."); • Review the risk and opportunity assessment1 to confirm that technical uncertainties related to safety are identified; • Confirm that the current safety design basis is conservative and the risk of significant redesign related to major or costly changes in safety controls is minimized or properly documented in the CSDR and addressed as discussed in items 7 and 8; • Confirm that the CSDR contains a summary of the risks and opportunities associated with the safety design basis strategies; • Confirm that the CSDR identifies risk handling strategies that bound each identified risk; • Confirm that the hazard analysis is complete to the degree appropriate for the stage of	

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			development; • Confirm that the process in DOE-STD-1189-2008, as tailored in the SDS, was used for the selection of safety controls at the facility level; • Evaluate the decisions made with respect to the safety classification of the safety controls and associated functions, and adequate implementation of defense-in-depth; • Ensure that any open Conditions of Approval from the DOE review of the SDS are resolved; • Ensure that any safety issues that require further study are identified in the CSDR; • Confirm that the safety design aspects of the project support moving ahead to the preliminary design phase and all DBAs considered for new facilities have been prevented or have mitigated offsite dose consequences below the EG; and, • Evaluate the CSDR to ensure that the hazard controls were selected consistent with the principles of the hierarchy of hazard controls: • passive engineering features; • active engineering features; • administrative controls; and	

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			• personal protective equipment." [8.4, Paragraph 4, Page 38]	
30	5.3 Paragraph 3 Page 29	"The reviewer of the PSDR **must** also confirm that it adequately addresses the following safety design basis aspects for the preliminary design phase:"	"The reviewer of the PSDR **shall** also confirm that it adequately addresses the following safety design basis aspects for the preliminary design phase: • The nuclear facility design requirements of DOE O 420.1C. • A viable design solution (e.g., safety SSCs) to provide the safety functions assessed to be necessary by the hazard and accident analysis, as follows: o The unmitigated accident consequence assessment properly indicates the required functional classification (i.e., safety class versus safety significant) and seismic and other NPH design requirements (i.e., the proper seismic design criteria for seismic design and performance criteria for other NPH design). o The analysis of DBAs identifies the functional requirements that the safety SSCs and SACs perform and the conditions (e.g., normal and accident) under which these functions are required to be performed. As discussed in DOE-STD-1189-2008 Section 4.3, "SACs should only be selected if engineered	Comparable.

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			controls cannot be identified or are not practical." Where SACs are included in lieu of an SSC, an explanation should be provided in the PDSR for DOE to determine the adequacy of that rationale. Other expectations for the discussion of SACs in the PSDR are included in Appendix I of DOE-STD-1189-2008. ○ The safety systems can meet the functional requirements and any unique technology development that may be needed has been identified. • Appropriate supplemental design criteria (DOE O 420.1C, Attachment 3) as specified for safety SSCs, as follows: ○ General requirements for safety class and safety significant SSCs are specified (e.g., conservative design features, design against single failure, environmental qualification, safe failure modes, as appropriate). ○ Based on the functional classification and the safety SSC design function, appropriate codes and standards are specified and tailored, as needed, or alternate codes and standards are identified and justified. • Descriptions of the technical studies needed	

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			to complete the safety design. • Safety design risks and risk mitigation strategies for the final design phase. • Resolution of any open Conditions of Approval identified in the CSVR." [8.4, Paragraph 4, Page 40]	
31	5.3 Paragraph 3, 2b Page 30	"The analysis of DBAs identifies the functional requirements that the safety SSCs and SACs **must** perform and the conditions (e.g., normal and accident) under which these functions **must** be performed."	No corresponding requirement. Section 8.5 [Paragraph 3, 2nd bullet, 2nd sub-bullet, Page 40] does provide the following: "The analysis of DBAs identifies the functional requirements that the safety SSCs and SACs perform and the conditions (e.g., normal and accident) under which these functions are required to be performed."	Rhetorical.
32	5.3 Paragraph 4 Page 30	"The PSDR **must** demonstrate the adequacy of the hazard analyses and the selection and classification of the safety controls, including consideration of the application of the principles associated with the hierarchy of controls."	No corresponding stand-alone requirement. Section 8.5 [Paragraph 4, Page 41] does provide the following: "As described in DOE-STD-1189, the PSDR is intended to demonstrate the adequacy of the hazard analyses and the selection and classification of the safety controls, including consideration of the application of the principles associated with the hierarchy of controls. [9]"	Unnecessary requirement. Covered by #30.

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33	5.4 Paragraph 1, #3 Page 31	"An initial listing of the safety management programs that **must** be developed to address operational safety considerations."	No corresponding stand-alone requirement. Section 8.6 [Paragraph 1, #3, Page 42] does provide the following: "An initial listing of the safety management programs [to] be developed to address operational safety considerations."	Unnecessary requirement. Covered by #35.
34	5.4 Paragraph 2 Page 31	"When a PDSA is required, it **must** be approved by DOE before the contract or can procure materials or components or begin construction, unless DOE provides relief under the provisions of the Rule."	"When a PDSA is required, it **shall** be approved by DOE before the contractor can procure materials or components or begin construction, unless DOE provides relief under the provisions of the Rule." [8.6, Paragraph 2, Page 42]	Comparable.
35	5.4 Paragraph 4 Page 32	"The PDSA **must** identify any changes that were made to the decisions and commitments in the PDSR."	"The review of the PDSA **shall** confirm that: • The design safety analysis is complete and demonstrates the adequacy of the design from the safety perspective. The PDSA does not need to show the progression of the design that led to the final choices, only the final choices and the justification for their adequacy; • The safety design requirements specified at the end of the preliminary design have been met; • The hazards and accident analysis is consistent with DOE-STD-1189-2008, Section 4.4; • The description of the final design of the	Comparable.

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			facility is adequate with respect to safety SSCs and safety design features; • Safety SSCs, SACs, and other hazard controls are identified and their performance requirements are clearly stated. In addition to the review consideration presented in Section 8.4 of this Standard regarding SACs, expectations for the discussion of SACs in the PDSA are included in Appendix I of DOE-STD-1189-2008; • The description of how the selected safety controls prevent and/or mitigate identified hazards and accidents is adequate; • The description of how selected safety controls provide defense-in-depth is adequate, based on mitigated accident frequency and on control reliability;[11] • The initial list of safety management programs is complete; • The description of how the nuclear safety design criteria of DOE O 420.1C (or applicable version) have been satisfied by the design is adequate; • Any technical issues that required research or other data collection to finalize the design have been resolved;[12] • Preliminary approaches to startup and operations management have been documented; and	

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			• Any open Conditions of Approval identified in the PSVR have been resolved. ” [8.6, Paragraph 5, Page 43]	
36	Footnote 11 Page 32	“The technical issue(s) giving rise to the need for research or other data collection **must** be identified in the project.”	No corresponding stand-alone requirement. Section 8.6 [Footnote 12, Page 43] does provide the following: “The technical issue(s) giving rise to the need for research or other data collection should be identified in the project Risk and Opportunity Assessment, including the plan and rationale for resolution of the issue(s).”	Unnecessary requirement. Covered by #35.
37	Footnote Page 33	“DOE reviewers **must** evaluate the risk and opportunity evaluation to ensure that it is robust in identifying unknowns and potential technical issues related to the results of the hazard analysis; specifically, the selection of hazard controls.”	No corresponding stand-alone requirement. Section 8.6 [Footnote 12, Page 43] does provide the following: “DOE reviewers should evaluate the risk and opportunity evaluation to ensure that it is robust in identifying unknowns and potential technical issues related to the results of the hazard analysis; specifically, the selection of hazard controls.”	Unnecessary requirement. Covered by #35.
38	5.5.2.7 Paragraph 1 Page 36	“For the CSVR (Conceptual Design Phase), this section **must** document how the hazard and accident analyses are consistent with DOE-STD-1189-2008, Section 4.2, and follow the format of Appendix H of that Standard or the format that is defined and approved in the SDS.”	No corresponding requirement. Section 8.7.2.7 [Paragraph 1, Page 47] does provide the following: “For the CSVR (Conceptual Design Phase), this section documents how the hazard and accident analyses are (a) consistent with DOE-STD-1189-2008, Section 4.2, and (b) follow the format of Appendix H of that standard, or the format defined and approved in the SDS.”	Unnecessary documentation requirement. Essential elements captured in CSDR review criteria.

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39	5.5.2.7 Paragraph 2 Page 36	"For the PSVR (Preliminary Design Phase), this section **must** document how the hazard and accident analyses are consistent with DOE-STD-1189-2008, Section 4.3 and follow the format of Appendix I of that Standard or the format that is defined and approved in the SDS."	No corresponding requirement. Section 8.7.2.7 [Paragraph 2, Page 47] does provide the following: "For the PSVR (Preliminary Design Phase), this section documents how the hazard and accident analyses are (a) consistent with DOE-STD-1189-2008, Section 4.3 and (b) follow the format of Appendix I of that standard, or the format defined and approved in the SDS."	Unnecessary documentation requirement. Essential elements captured in review criteria.
40	5.5.2.8 Page 36	"This section **must** identify the designated nuclear facility hazard category level (hazard category 1, 2 or 3) and assess whether the designated level is appropriate. This section **must** be used to address any issues related to any uncertainties in the nuclear facility hazard category level and the potential costs and opportunities if the level is revised at a later date."	No corresponding requirement. Section 8.7.2.8 [Paragraph 1, Page 47] does provide the following: "This section identifies the designated nuclear facility hazard category level (hazard category 1, 2 or 3) and assess whether the designated level is appropriate. This section addresses any issues related to any uncertainties in the nuclear facility hazard category level and the potential costs and opportunities if the level is revised at a later date."	Unnecessary documentation requirement. Essential elements captured in review criteria.
41	5.5.2.9 Page 37	"This section **must** address the identified safety SSCs in the CSDR or the PSDR, their bases and their functions, and any issues related to the identified set."	No corresponding requirement. Section 8.7.2.9 [Paragraph 1, Page 48] does provide the following: "This section addresses the safety SSCs identified in the CSDR or the PSDR, their bases and their functions, and any issues related to the identified set."	Unnecessary documentation requirement. Essential elements captured in review criteria.

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42	5.5.2.10 Page 37	"This section **must** address any identified SACs in the CSDR or the PSDR, their bases and their functions, and any issues related to the identified set."	No corresponding requirement. Section 8.7.2.10 [Paragraph 1, Page 48] does provide the following: "This section addresses any identified SACs in the CSDR or the PSDR, their bases and their functions, and any issues related to the identified set."	Unnecessary documentation requirement. Essential elements captured in review criteria.
43	5.5.2.11 Page 37	"This section **must** address any issues with the hazard controls identified in the CSDR or PSDR."	No corresponding requirement. Section 8.7.2.11 [Paragraph 1, Page 48] does provide the following: "This section addresses any issues associated with other hazard controls identified in the CSDR or PSDR."	Unnecessary documentation requirement. Essential elements captured in review criteria.
44	5.5.2.12 Page 37	"This section **must** provide the basis for approval of the design codes and standard(s) identified in the CSDR or PSDR, including any exceptions to the design codes and standards listed in DOE O 420.1B, DOE G 420.1-1, and DOE G 420.1-2. This section does not constitute an exemption to the requirements of DOE O 420.1B, which **must** be requested separately if needed."	No corresponding requirement. Section 8.7.2.12 [Paragraph 1, Page 48] does provide the following: "This section provides the basis for approval of the design codes and standards identified in the CSDR or PSDR, and identify any exceptions to the design codes and standards listed in DOE O 420.1C and DOE G 420.1-1A. This section does not constitute an exemption to the requirements of DOE O 420.1C, which are required to be requested separately if needed."	Unnecessary documentation requirement. Essential elements captured in review criteria.

No.	Section/ Page Number	DOE-STD-1104-2009 Requirement	DOE-STD-1104-2014 Requirements	Comment
45	5.5.2.13 Page 37	"If the contractor used design criteria other than that documented in DOE O 420.1B, this section **must** document the evaluation of the alternate criteria and assess the acceptability of those criteria."	No corresponding requirement. Section 8.7.2.13 [Paragraph 1, Page 48] does provide the following: "If the contractor used design criteria other than those documented in DOE O 420.1C, this section documents the evaluation of the alternate criteria and assess the acceptability of those criteria."	Unnecessary documentation requirement. Essential elements captured in review criteria.
46	5.5.2.14 Page 37	"This section **must** document any conditions for proceeding to the next stage of design. The section **must** also document any recommendation that the project is not ready to proceed to the next phase of design."	No corresponding requirement. Section 8.7.2.14 [Paragraph 1, Page 48] does provide the following: "This section documents any conditions for proceeding to the next stage of design. The section also documents any recommendation that the project is not ready to proceed to the next phase of design."	Unnecessary documentation requirement. Essential elements captured in review criteria.
47	5.5.2.15 Page 37	"This section **must** summarize the significant issues in the review and document whether the CSDR or the PSDR is acceptable."	No corresponding requirement. Section 8.7.2.15 [Paragraph 1, Page 48] does provide the following: "This section summarizes the significant issues in the review and document whether the CSDR or the PSDR is acceptable."	Unnecessary documentation requirement. Essential elements captured in review criteria.