

Chapter 13 Changes From Revision 3 to Revision 4

Item	Location	Description of Change
1.	Entire Chapter	Made editorial changes in numerous locations to remove excessive spacing, correct punctuation, delete repeated words, correct misspelling, and correct grammar. Spelled out acronyms where appropriate and edited Acronym list where needed. Changed GE to GEH where appropriate.
2.	S13.1	For clarification, added new last sentence to existing paragraph, to introduce a COL requirement to read as follows: “The organizational structure consistency with the ESBWR HSI design must be documented. The COL Applicant referencing the ESBWR will submit documentation that demonstrates that their organizational structure is consistent with the ESBWR Human Factors Engineering (HFE) design requirements and complies with the requirements of 10 CFR 50.54 (i) through (m) (COL 13.1-1-A).”
3.	S13.1.1, 13.1-1-A, new title	Added title to COL Information subsection, for clarity. Title reads as follows: “13.1-1-A Organizational Structure”
4.	S13.1.1	Added clarification in response to RAI 18.6-11, to read as follows: “The COL Applicant referencing the ESBWR will submit documentation that demonstrates that their organizational structure is consistent with the ESBWR Human Factors Engineering (HFE) design requirements and complies with the requirements of 10 CFR 50.54 (i) through (m) (Section 13.1).”
5.	S13.1.2, new	Reference section added for clarity.
6.	S13.2.1, new 2 nd para	Additional information provided for clarity. New text as follows: “Reactor operator training is an operational issue. The COL Applicant will provide a description of, and the schedule for, the training program for reactor operators and senior reactor operators, and the licensed operator requalification program (COL 13.2-1-A)”
7.	S13.2.2, new 2 nd para	Additional information provided for clarity. New text as follows: “Training for non-licensed plant staff is an operational issue. The COL Applicant will provide a description of, and the schedule for, the training program for non-licensed plant staff (COL 13.2-2-A).”
8.	S13.2.3, new	Text from S13.2.3.1 relocated to S13.2.3 for clarity.
9.	S13.2.4, new	Text from S13.2.3.2 relocated to S13.2.4 for clarity.

Item	Location	Description of Change
10.	S13.2.5, 13.2-1-A renumbered	For clarity, Subsection was renumbered to 13.2-1-A, which now reads as follows: “13.2-1-A Reactor Operator Training The COL applicant will provide a description of, and the schedule for, the training program for reactor operators and senior reactor operators, and the licensed operator requalification program (Subsection 13.2.1).”
11.	S13.2.5, S13.2-2-A renumbered	For clarity, Subsection was renumbered to 13.2-2-A, which now reads as follows: “13.2-2-A Training for Non-Licensed Plant Staff The COL applicant will provide a description of, and the schedule for, the training program for non-licensed plant staff (Subsection 13.2.2).”
12.	S13.3, 2 nd para, 2 nd sent	For clarity, revised the sentence to read as follows: “Specifically, a TSC of sufficient size to support 26 people consistent with Section 2 of NUREG-0696 (Reference 13.3-2), is located in the electrical building.”
13.	S13.3, 2 nd para, 4 th sent	Changed “NEDO-33217” to “NEDE-33217P”, to signify that this is a proprietary document and appended “(Reference 13.3-1) to the NEDE document. For consistency, deleted the reference title, “ ... Man Machine Interface and Human Factor Engineering Implementation Plan.”
14.	S13.3, 5 th para, 1 st sent	Changed “main control room” to “MCR” since the acronym was introduced in the previous paragraph.
15.	S13.3, 5 th para	For clarity, added the following statement: “ The EOF is not within the scope of the ESBWR Standard Plant. It is the responsibility of the COL Applicant to identify the EOF and the communication interfaces for inclusion in the detailed design of the TSC and MCR. The design of the communications system should meet the guidance provided in Section 4 of NUREG-0696 (Reference 13.3-2). The COL Applicant is responsible for the design of the communication system located in the EOF in accordance with NUREG-0696 (Reference 13.3-2) (COL 13.3-2-A).”
16.	S13.3, 5 th para, 2 nd sent	For clarity, changed the text to read, “... the NRC Operations Centers is also provided as appropriate.”

Item	Location	Description of Change
17.	S13.3, 5 th para and new 6 th para	For clarity, added the following statement: “The COL Applicant is responsible for identifying the OSC and the communication interfaces for inclusion in the detailed design of the control room and TSC (COL 13.3-1-A). The detailed guidance is provided in Section 3 of NUREG-0696 (Reference 13.3-2). The OSC communications system shall have at least one dedicated telephone extension to the control room, one dedicated telephone extension to the TSC, and one telephone capable of reaching on-site and off-site locations, as a minimum. Any supplemental communications systems are also to be specified by the COL Applicant as appropriate.”
18.	S13.3, new 7 th para	For clarity, a paragraph of Subsection 13.3.3 was relocated to Section 13.3 as the new 7th paragraph. It reads as follows: “In a building adjacent to the main change rooms, decontamination facilities and supplies for use by on-site individuals are provided. The COL Applicant will provide supplies at the site for decontamination of on-site individuals in the service building adjacent to the main change rooms (COL 13.3-3-A). Showers and waste collection equipment are used to ensure spread of contamination is controlled and disposal cost of waste material is minimized. The central location is convenient to health physics support personnel who supervise their activity.”
19.	S13.3.3, 13.3-1-A renumbered	Subsection renumbered for clarity.
20.	S13.3.3, 13.3-1-A, 1 st para, 2 nd sentence	For clarity, removed the 2nd sentence that read, “The detailed guidance is provided in Section 3 of NUREG-0696 (Reference 13.3-2).” And placed in Section 13.3 for clarity.
21.	S13.3.3, 13.3-1-A, old 2 nd para	Deleted the 2nd paragraph and placed into Section 13.3 for clarity.
22.	S13.3.3, 13.3-1-A, old 3 rd para	Deleted the 3rd paragraph because it duplicated the 1st paragraph.
23.	S13.3.3, 13.3-2-A, renumbered	Subsection renumbered for clarity.
24.	S13.3.3, 13.3-2-A, 1 st para	Removed and placed in Section 13.3 for clarity.
25.	S13.3.3, 13.3-2-A, old 2 nd para	This paragraph was deleted since it duplicates the 1st paragraph.
26.	S13.3.3, 13.3-2-A	Deleted the phrase, “... and the backup power supply for non-portable communication equipment...” “...10CFR 73.55(e), 10 CFR 73.55(f) and ...”, in response to RAI 13.3-7. Also added “(Section 13.3)” for clarity.

Item	Location	Description of Change
27.	S13.3.3, 13.3-3-A renumbered	Subsection renumbered for clarity.
28.	S13.3.3, 13.3-3-A, old 1 st para	The 1st paragraph of this section was relocated to new paragraph 6 of Subsection 13.3.
29.	S13.3.3, 13.3-3-A	For clarity, revised paragraph to read: “The COL Applicant will provide supplies at the site for decontamination of on-site individuals in the service building adjacent to the main change rooms (Section 13.3).”
30.	S13.3.4, reference 13.3-1	Updated Reference 13.3-1 to read, “GE Energy, “ESBWR Man-Machine Interface System and Human Factors Engineering Implementation Plan,” NEDE-33217P, Class III (Proprietary), Revision 3, July 2007, and NEDO-33217, Class I. (Non-Proprietary), Revision 3, July 2007.”
31.	S13.4	For clarity and to also update Draft DG-1145 to Regulatory Guide 1.206, revised the paragraph to read: “Operational Programs are specific programs that are required by regulation. The COL Applicant should fully describe Operational Programs, as defined by SECY-05-0197 (Reference 13.4-1) and Regulatory Guide 1.206 (Reference 13.4-2), in an application for a combined license. The COL Applicant shall develop a description of the Operational Programs (COL 13.4-1-A). The COL Applicant will also provide implementation milestones for Operational Programs that are required by NRC Regulation (COL 13.4-2-A).”
32.	S13.4.1, revision	For clarity, revised the paragraph to read as follows: “13.4-1-A Operation Programs The COL Applicant shall develop a description of the Operational Programs (Section 13.4). 13.4-2-A Implementation Milestones The COL Applicant will provide implementation milestones for Operational Programs that are required by NRC Regulation (Section 13.4).”
33.	S13.4.2, new	Reference section added for clarity.
34.	S13.4-1 new	Added new reference, “13.4-1 SECY-05-0197, “Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspection, Tests, Analyses, and Acceptance Criteria,” October 2005.”
35.	S13.4-2 new	Added new reference, “13.4-2 Regulatory Guide 1.206, “Combined License Applications for Nuclear Power Plants,” June 2007.”

Item	Location	Description of Change
36.	S13.5.1, new 1 st and 2 nd para	Revised for clarity and added the following, "An Administrative Procedures Plan shall be generated and describe administrative procedures that provide administrative control over activities that are important to safety of the facility. These procedures include those, which provide the administrative controls in respect to procedures, and those, which define and provide controls for operational activities of the plant staff. The COL Applicant shall develop the Administrative Procedures (COL 13.5-1-A)."
37.	S13.5.2, 1 st para	Revised for clarity to read: "The development of Operating Procedures is generally described in Section 18.9 Procedure Development."
38.	S13.5.2, 2 nd and 3 rd para	Paragraphs moved from Subsection 13.5-2-A for clarity. Also edited text content for clarity.
39.	S13.5.2, 4 th and 5 th para	Paragraphs moved from Subsection 13.5-4-A for clarity. Also edited text content for clarity and revised ANSI/ANS reference to the ANSI standard. Revised HFE V&V reference to NEDE-33217P.
40.	S13.5.2, 6 th through 16 th para	Paragraphs moved from Subsection 13.5-5-A to conform to DCD/COL guidelines. Also edited for clarity. References also added to ANSI/ANS-3.2-1994;R1999 for further clarification.
41.	S13.5.2, 14 th para	Paragraphs added in response to RAI 11.5-46. RAI 11.5-46 referenced Subsection 5.3.4.4, which should have been Subsection 5.3.7.4.
42.	S13.5.2, 15 th para	DCD Subsection 9.1.5.8 Operational Responsibilities describes critical heavy load handling in the plant. DCD Section 13.5 did not specifically address procedures to control heavy loads. Added new paragraph to address procedures to control heavy loads.
43.	S13.5.2, 17 th and 18 th para	Paragraphs moved from Subsection 13.5-3-A for clarity. Also edited text content for clarity.
44.	S13.5.3, 13.5-1-A through 13.5-6-H renumbered	Subsections renumbered for clarity.
45.	S13.5.3, S13.5-1-A, new	There is no COL Information item associated with Administrative Procedures. Under present subsection 13.5.3 COL Information, new COL item 13.5-1-A added to read as follows: "13.5-1-A Administrative Procedures Development Plan The COL Applicant shall develop the Administrative Procedures (COL 13.5-1-A)."
46.	S13.5.3, S13.5-2-A	Subsection moved to 13.5.2 for clarity. New statement revised to read, "The development of Operating and Maintenance Procedures is the responsibility of the COL Applicant (Subsection 13.5.2)."
47.	S13.5.3, S13.5-3-A	Subsection moved to 13.5.2 for clarity. New statement revised to read, "The COL Applicant shall develop Emergency Procedures (Subsection 13.5.2)."

Item	Location	Description of Change
48.	S13.5.3, S13.5-4-A	Subsection moved to 13.5.2 for clarity. New statement revised to read, “The COL Applicant shall establish a Plant Operating Procedures Development Plan (Subsection 13.5.2).”
49.	S13.5.3, S13.5-5-A	Subsection moved to 13.5.2 for clarity. New statement revised to read, “The COL Applicant shall include the above-mentioned procedures in the scope of the Plant Operating Procedures Development Plan (Subsection 13.5.2).”
50.	S13.5.3, new 13.5-6-H	New COL item added for clarity. New statement to read, “13.5-6-H Procedures for Calibration, Inspection and Testing The COL Holder shall develop Calibration, Inspection and Testing Procedures (Subsection 13.5.2).”
51.	S13.5.4, reference 13.5-1	Revised reference to reflect the top hierarchy HFE reference. Changed Reference 13.5-1 to read, “GE Energy, “ESBWR Man-Machine Interface System and Human Factors Engineering Implementation Plan”, NEDE-33217P, Class III (Proprietary) Revision 3, July 2007, and NEDO-33217, Class I (Non-Proprietary), Revision 3, July 2007.”
52.	S13.5.4, new reference 13.5-4	Added new reference to support addition of Subsection 13.5.3, 10th para to read as follows: “NUREG-0612, “Control of Heavy Loads at Nuclear Power Plants,” July 1980.”
53.	S13.5.4, new reference 13.5-5	Added new reference to support addition of Subsection 13.5.2, to read as follows: “Regulatory Guide 1.33, “Quality Assurance Program Requirements (Operation,” Revision 2, February 1978.”
54.	S13.5.4, new reference 13.5-6	Added new reference to support addition of Subsection 13.5.2, to read as follows: “Generic Letter Number 96-01, “Testing of Safety-Related Logic Circuits,” January 1996.”
55.	S13.5.4, new reference 13.5-7	Added new reference to support addition of Subsection 13.5.2, to read as follows: “NUREG-0737 Supplement 1, “Clarification of TMI Action Plan Requirements,” January 1983.”
56.	S13.6.1, old 1 st para	Removed reference to COL action item, as it is no longer present.
57.	S13.6.1, 1 st para	Edited acronym for clarity.
58.	S13.6.1, 2 nd para	Edited to fix tense.
59.	S13.6.1.1	Edited for clarity; acronym previously defined.
60.	S13.6.1.1.1, old	Removed reference to COL action item, as it is no longer present.
61.	S13.6.1.1.1, 1 st para	Additional information provided for clarity.
62.	S13.6.1.1.1, new 1 st bullet	New text added to provide supporting statements within Tier 2, which are needed to support the new Tier 1 material.

Item	Location	Description of Change
63.	S13.6.1.1.1, 2 nd bullet	Removed “Protected Area” and replaced with “PA” as acronym was previously defined. Also added information to provide supporting statements within Tier 2, which are needed to support the new Tier 1 material.
64.	S13.6.1.1.1, 3 rd and 4 th bullets	New text added to provide supporting statements within Tier 2, which are needed to support the new Tier 1 material.
65.	S13.6.1.1.1, 5 th bullet	Removed “Protected Area” and replaced with “PA” as acronym was previously defined.
66.	S13.6.1.1.1, 6 th bullet	Removed the following COL reference as it was no longer present: “...as determined by the COL applicant.”
67.	S13.6.1.1.1, last sentence	Removed the following COL reference as it was no longer present: “Design of site physical barriers is the responsibility of the COL applicant.”
68.	S13.6.1.1.2, new	New subsection provided to respond to RAI 13.6-1 Sup 01. Additions clarify that the CAS and Security Power Supply are located in Vital areas.
69.	S13.6.1.1.3	Edited text for tense usage, acronym usage, and clarity. Also removed last sentence as it referenced a COL action that was no longer present.
70.	S13.6.1.1.4	Edited text for tense usage and clarity. Also removed last sentence as it referenced a COL action that was no longer present. Note: the text originally added in response to RAI 13.3-7 was also removed since the regulatory basis cited was not appropriate.
71.	S13.6.1.1.5	Edited text for tense usage, acronym usage, and clarity. Also removed last sentence as it referenced a COL action that was no longer present.
72.	S13.6.1.1.6	Text was edited to provide consistency between the languages in Tier 2 with that of the new Tier 1 material.
73.	S13.6.1.1.7	Added additional information to respond to RAI 13.6-1 S01. Additions clarify that the CAS and Security Power Supply are located in Vital areas. Also removed last sentence as it referenced a COL item that was no longer present.
74.	S13.6.1.1.8, removed	Removed section as it referenced a COL item that was no longer present.
75.	S13.6.2, old Subsection relocated	Subsection 13.6.2 was material provided under separate cover and has been re-located to a separate Topical Report.
76.	S13.6.2, new	Added new section outlining the requirement to submit the necessary documents for the security plan. The wording added is identical to the NPSTF developed language.
77.	S13.6.3	The Subsection 13.6.3 COL Information items were deleted because the items previously summarized in this section were eliminated in the text of the main body of this section.