

**ESBWR DCD Chapter 3.G-3L**

**26A6642AN Revision 9 to Revision 10 Change List**

<b>Item</b>	<b>Location</b>	<b>Description of Change</b>
1.	Cover Page	Added GE Hitachi Logo per GEH branding requirements. Changed date from December 2010 to April 2014. Copyright date also changed to 2014.
2.	Entire Chapter	Header changed from Revision 9 to Revision 10.
3.	S3L.1, 8 <sup>th</sup> sent	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted Reference 3L-9 (NEDC/NEDO-33408, Supplement 1).
4.	S3L.2.2, 2 <sup>nd</sup> para, 2 <sup>nd</sup> sent	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted Reference 3L-9 (NEDC/NEDO-33408, Supplement 1).
5.	S3L.3.3, last para, last sent	Per response to RAI 3.9-285 (final markups provided in response to RAI 3.9-292 S03), changed “allowable vibration peak stress amplitude” to “allowable vibration highest stress amplitude”.
6.	S3L.4.4, 3 <sup>rd</sup> para, 3 <sup>rd</sup> sent	Per response to RAI 3.9-269 and RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted Reference 3L-9 (NEDC/NEDO-33408, Supplement 1).
7.	S3L.4.4, last para	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted entire paragraph.
8.	S3L.4.6, 1 <sup>st</sup> para, new 2 <sup>nd</sup> to last sent	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), added new sentence: The instrumentation and startup testing program for the ESBWR steam dryer follows NRC regulatory guidance in Reference 3L-10, as described below.
9.	S3L.4.6, 5 <sup>th</sup> para, 1 <sup>st</sup> sent	Per markup provided in response to RAI 3.9-292 S03, changed sentence from: Two types of impact tests are performed on the steam dryer:... To: Two types of frequency response tests are performed on the steam dryer:...

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10.	S3L.4.6, 6 <sup>th</sup> para, former 8 <sup>th</sup> and 9 <sup>th</sup> sentences	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted sentences in their entirety.
11.	S3L.4.6, 6 <sup>th</sup> para, last sent	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted Reference 3L-9 (NEDC/NEDO-33408, Supplement 1).
12.	S3L.4.6, 8 <sup>th</sup> para, 1 <sup>st</sup> sent	Per response to RAI 3.9-292 (final markups provided in response to RAI 3.9-292 S03), made editorial correction by changing “Each of the sensors are...” to “Each of the sensors is...”.
13.	S3L.4.6, 9 <sup>th</sup> para, 4 <sup>th</sup> sent	Per response to RAI 3.9-292 (final markups provided in response to RAI 3.9-292 S03), made editorial correction by changing “The dome cover plate with the pressure transducer are welded...” to “The dome cover plate with the pressure transducer is welded.....”.
14.	S3L.4.6, 10 <sup>th</sup> para, several new sentences prior to last sentence	Per response to RAI 3.9-272 (final markups provided in response to RAI 3.9-292 S03), added information addressing calibration, location, installation, surface preparation, and welding of gauges.
15.	S3L.4.6, 11 <sup>th</sup> para, former 1 <sup>st</sup> sent	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted sentence.
16.	S3L.4.6, 11 <sup>th</sup> para, new 1 <sup>st</sup> sent	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted sentence fragment, “..main steamline pressure measurements with the ...”.

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<b>Item</b>	<b>Location</b>	<b>Description of Change</b>
17.	S3L.4.6, new 12 <sup>th</sup> , 13 <sup>th</sup> , and 14 <sup>th</sup> paragraphs	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), addressed regulatory guidance in Reference 3L-10 (Regulatory Guide 1.20, Rev. 3), and its application to the ESBWR.
18.	S3L.4.6, now 15 <sup>th</sup> para, several new sentences prior to former 1 <sup>st</sup> sent.	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), addressed regulatory guidance in Reference 3L-10 (Regulatory Guide 1.20, Rev. 3), specifically Position 2.2, and its application to the ESBWR.
19.	S3L.4.6, former 2 <sup>nd</sup> to last para	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted paragraph: It is expected that subsequent ESBWR units will be monitored using the main steam lines pressure data. Additional information on power ascension testing, acceptance criteria, benchmarking loads, and benchmarking of the FE model for the first and subsequent ESBWR units is included in references 3L-5 and 3L-6.
20.	S3L.4.6, former last para, 1 <sup>st</sup> sent	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), added lead-in, “Position 2.3:” to denote this paragraph addresses regulatory guidance in Reference 3L-10 (Regulatory Guide 1.20, Rev. 3), specifically Position 2.3, and its application to the ESBWR.
21.	S3L.4.6, former last para, new last two sentences	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), added: According to NRC guidance, a description of the inspection phase would be included in the submittal with a description of the vibration measurement program. This description would identify any inspections that are to be performed prior to and following operation during power ascension, and describe procedures and method of inspections, if any, of the steam dryer.

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22.	S3L.4.6, new 3 <sup>rd</sup> to last para.	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), addressed regulatory guidance in Reference 3L-10 (Regulatory Guide 1.20, Rev. 3), specifically Position 2.4, and its application to the ESBWR.
23.	S3L.4.6, new 2 <sup>nd</sup> to last para.	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), addressed regulatory guidance in Reference 3L-10 (Regulatory Guide 1.20, Rev. 3), specifically Position 2.5, and its application to the ESBWR.
24.	S3L.4.6, new last para.	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), added: With the detailed description above and implementation of COL Information Item 3.9.9-1-A, the instrumentation and startup testing program elements are consistent with NRC regulatory guidance and adequately ensure steam dryer structural integrity.
25.	S3L.5.2, 4 <sup>th</sup> sent	Per response to RAI 3.9-285 (final markups provided in response to RAI 3.9-292 S03), changed “peak stresses at other locations” to “highest stresses at other locations”.
26.	S3L.5.2, 6 <sup>th</sup> sent	Per response to RAI 3.9-285 (final markups provided in response to RAI 3.9-292 S03), changed “peak stresses to be calculated at other locations” to “highest stresses to be calculated at other locations”.
27.	S3L.5.5.1.3, last par, new last sent	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), added: The final as-built structural predictive vibration analysis is performed prior to startup testing for correlation to final measurement results of acoustic loads measured on the steam dryer during startup testing, as elements of a comprehensive vibration assessment program described in Subsection 3L.4.6.
28.	S3L.5.5.2.1, step (3), 2 <sup>nd</sup> full para, 1 <sup>st</sup> sent	Per response to RAI 3.9-285 (final markups provided in response to RAI 3.9-292 S03), change “peak stress of each mode occurs at the same physical location” to “highest stress of each mode occurs at the same physical location”.

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<b>Item</b>	<b>Location</b>	<b>Description of Change</b>
29.	S3L.5.5.2.1, last para, 1 <sup>st</sup> sent	Per response to RAI 3.9-285 (final markups provided in response to RAI 3.9-292 S03), change “peak stress of each mode occurs at the same time” to “highest stress of each mode occurs at the same time”.
30.	S3L.5.5.2.2, 3 <sup>rd</sup> to last para, 1 <sup>st</sup> sent	Per response to RAI 3.9-285 (final markups provided in response to RAI 3.9-292 S03), change “peak stress of each mode occurs at the same physical location on the structure and at the same time” to “highest stress of each mode occurs at the same physical location on the structure and at the same time”.
31.	S3L.6, Ref. 3L-5	<p>Per response to RAIs 3.9-301 through 3.9-303:</p> <p>Changed reference from:</p> <p>GE Hitachi Nuclear Energy, “Steam Dryer - Acoustic Load Definition,” NEDE-33312P-A, Revision 2, Class III (Proprietary), October 2010, and NEDO-33312, Revision 2, Class I (Non-Proprietary), October 2010.</p> <p>To:</p> <p><i>[GE Hitachi Nuclear Energy, “Steam Dryer - Acoustic Load Definition,” NEDE-33312P, Revision 5, Class III (Proprietary), December 2013, and NEDO-33312, Revision 5, Class I (Non-Proprietary), December 2013.]*</i></p>

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32.	S3L.6, Ref. 3L-6	<p>Per response to RAIs 3.9-301 through 3.9-303:</p> <p>Changed reference from:</p> <p>GE Hitachi Nuclear Energy, “Steam Dryer – Structural Evaluation,” NEDE-33313P-A, Revision 2, Class III (Proprietary), October 2010, and NEDO-33313, Revision 2, Class I (Non-Proprietary), October 2010.</p> <p>To:</p> <p><i>[GE Hitachi Nuclear Energy, “Steam Dryer – Structural Evaluation,” NEDE-33313P, Revision 5, Class III (Proprietary), December 2013, and NEDO-33313, Revision 5, Class I (Non-Proprietary), December 2013.]*</i></p>
33.	S3L.6, Ref. 3L-8	<p>Per response to RAIs 3.9-301 through 3.9-303:</p> <p>Changed reference from:</p> <p>GE Hitachi Nuclear Energy, “ESBWR Steam Dryer – Plant Based Load Evaluation Methodology,” NEDC-33408P-A, Revision 1, Class III (Proprietary), October 2010, and NEDO-33408, Revision 1, Class I (Non-Proprietary), October 2010.</p> <p>To:</p> <p><i>[GE Hitachi Nuclear Energy, “ESBWR Steam Dryer – Plant Based Load Evaluation Methodology, PBLE01 Model Description,” NEDE-33408P, Revision 5, Class III (Proprietary), December 2013, and NEDO-33408, Revision 5, Class I (Non-proprietary), December 2013.]*</i></p>
34.	S3L.6, Ref. 3L-9	<p>Per response to RAI 3.9-269, as modified by response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted Reference 3L-9 (NEDC/NEDO-33408, Supplement 1).</p>

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Item	Location	Description of Change
35.	S3L.6, new Ref. 3L-10	Per response to RAI 3.9-291 (final markups provided in response to RAI 3.9-292 S03), added Reference 3L-10: Regulatory Guide 1.20, “Comprehensive Vibration Assessment Program For Reactor Internals During Preoperational and Initial Startup Testing,” Revision 3, March 2007.
36.	S3L.6, end of section	Per response to RAI 3.9-271 S01 (final markups provided in response to RAI 3.9-292 S03), added new note for Tier 2*: * References that are bracketed and italicized with an asterisk following the brackets are designated as Tier 2*. Prior NRC approval is required to change Tier 2* information.
37.	T3L-5, note (2), 2 <sup>nd</sup> sent	Per response to RAI 3.9-270 (final markups provided in response to RAI 3.9-292 S03), deleted “and the main steamlines”.