

Table of SAR changes for ATR FFSC SAR Revision 17

NOTE: The ATR FFSC SAR has been updated in its entirety to create Revision 17. Each change in the SAR document from Revision 16 to Revision 17 is marked by a revision bar on the right side of the page. The entries below summarize each change.

Section no. of change	Material changed	Reason for change
1.1	Clarified that the original testing was using a HEU fuel element.	Clarification.
Table 1.1-1	Revised table to show that ATR LEU fuel elements are used with the ATR FHE, the MURR LEU fuel elements with the MURR FHE, the ATR LEU CSI is equal to 4.0, and the fissile mass of the Cobra LEU fuel element is 450.0g.	Update.
1.2.1.1 and 1.2.1.2	Changed maximum gross weight of ATR FFSC package to 299 lb.	Update.
1.2.1.1.3	Revised text to show that the ATR LEU fuel element is used with the ATR FHE.	ATR LEU FHE is no longer used.
1.2.1.1.5	Revised text to show that the MURR LEU fuel element is used with the MURR FHE.	MURR LEU FHE is no longer used.
1.2.1.1.10	Removed section.	ATR LEU FHE is no longer used.
1.2.1.1.11	Removed section.	MURR LEU FHE is no longer used.
1.2.2.6	Revised figure number, and revised fissile mass of Cobra LEU fuel element.	Update.
1.2.2.7	Revised FHE type used for ATR fuel element.	ATR LEU FHE is no longer used.
1.2.2.9	Revised FHE type used for MURR fuel element.	MURR LEU FHE is no longer used.
Figure 1.2-1	Added “or LEU” to depiction.	Update.
Figure 1.2-7	Added “or LEU” to figure title.	Update.
Figure 1.2-17	Deleted figure (ATR LEU FHE).	ATR LEU FHE is no longer used.
Figure 1.2-18	Deleted figure (MURR LEU FHE).	MURR LEU FHE is no longer used.

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Section no. of change	Material changed	Reason for change
Figure 1.2-17	Renumber figure of Cobra Fuel.	Required by deletion of prior figures.
Appendix 1.3.1	Revised definition of FHE.	Update.
Appendix 1.3.2	Removed Drawings for ATR LEU FHE (60501-110) and MURR LEU FHE (60501-111). No changes to any drawings.	ATR LEU FHE and MURR LEU FHE are no longer used.
2.1.3	Revised package gross weight.	Update.
Table 2.1-2	Revise entries for ATR LEU FHE and MURR LEU FHE weights and gross package weight.	Update.
Figure 2.1-1	Revise figure title.	Update.
Figure 2.1-4	Revise figure title.	Update.
Figure 2.1-8	Delete figure of ATR LEU FHE.	ATR LEU FHE is no longer used.
Figure 2.1-9	Delete of MURR LEU FHE.	MURR LEU FHE is no longer used.
2.5.1	Revise lifting evaluation for greater package gross weight.	Update.
2.5.2	Revise tiedown evaluation for greater package gross weight.	Update.
2.6.5, 2.6.9, and 2.6.10	Revise vibration, compression, and penetration evaluations for greater package gross weight.	Update.
2.7	Revise discussion of ATR LEU fuel element post-accident configuration.	Make configuration consistent with results of finite element analysis.
2.7.1.6	Added new section to reference free drop analysis for the ATR LEU fuel element in new Appendix 2.12.4.	Reference to new appendix which discusses finite element analysis.
2.7.2	Revise for greater package gross weight.	Update.
2.7.3	Refer to new appendix 2.12.4.	Update.
2.12.3	Add clarification to introductory paragraph.	Clarification of discussion.
2.12.4	Added new appendix.	Add discussion of the finite element analysis.
3.1	Add clarification on package weight.	Clarification of discussion.

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Section no. of change	Material changed	Reason for change
3.5.3 and 3.5.3.1	Remove balsa, but retain cellulose material in sentence.	Update section for removal of balsa.
3.5.3.3	Remove balsa, recast the cellulose result for clarity (with same resultant pressure).	Update section for removal of balsa.
3.6.1	Revise package gross weight.	Update.
3.6.2	Revised to remove balsa and make consistent with Chapter 1.	Update.
3.6.9.2.6	Revised to remove balsa.	Update.
4.1.1 and 4.1.2	Add A ₂ calculation for LEU fuel.	Omitted from prior SAR.
Chapter 5	No changes.	
6.1.1	Revised text to show that the ATR LEU fuel element is used with the ATR FHE.	Update.
6.1.2	Clarified that air transport analysis for LEU fuels is contained in Section 6.14.	Clarification.
Table 6.1-6	Revise results summary table for ATR LEU fuel element.	Update results due to revised assumption that ATR LEU fuel remains structurally intact as demonstrated in Section 2.12.4.
Table 6.1-7	Revise CSI table for ATR LEU fuel element results.	Update.
6.13, Appendix E	State that Cobra LEU fuel elements have up to 450 g U-235. No change to Cobra HEU fuel elements.	Update.
6.13.11	Added section documenting results of Cobra LEU criticality evaluation.	Update.
6.14, Appendix F	Revise criticality safety index for ATR LEU fuel elements to 4.0.	Update.
Table 6.14-1	Revise results summary table for ATR LEU fuel element.	Update results due to revised assumption that ATR LEU fuel remains structurally intact as demonstrated in Section 2.12.4.
6.14.3.1 and 6.14.3.4	Discuss spacing assumption for ATR LEU fuel.	Update.

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6.14.3.1.2	Discuss modeling of ATR LEU FHE.	Update.
Figure 6.14-5	Update figure for modeling change.	Update.
Table 6.14-26	Revise NCT results table for ATR LEU fuel element.	Update.
6.14.4.3.1	Discuss revised ATR LEU modeling.	Update.
Table 6.14-30	Revise HAC single package results table for ATR LEU fuel element.	Update.
6.14.4.4.1	Discuss array size for ATR LEU fuel element.	Update.
Table 6.14-37 and Table 6.14-38	Revise HAC array results table for ATR LEU fuel element.	Update.
6.14.5.1	Revise discussion to remove balsa.	Update.
6.14.6, 6.14.6.1, Table 6.14-46, and Table 6.14-51	Discuss changes to benchmark evaluations for change to ATR LEU fuel FHE.	Update.
6.14.8	Revise sample input file.	Update.
7.0	Update section reference.	Update.
7.1.2	Revise so section is applicable to both ATR HEU and LEU fuel elements.	Update.
7.1.6	Delete section for loading of ATR LEU fuel element into the balsa FHE.	Update.
7.1.7	Renumber section (from 7.1.7 to 7.1.6) for loading of NBSR DDE.	Update.
7.1.8	Renumber section (from 7.1.8 to 7.1.7) for preparation for transport.	Update.
Table 7.1-1	Revise table for ATR LEU and MURR LEU fuel elements.	Update.
7.2.2	Revise for removal of ATR LEU balsa FHE.	Update.

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Section no. of change	Material changed	Reason for change
8.2.3.4	Remove mention of the ATR LEU and MURR LEU FHEs.	Update.
Table 9.2-1	Remove mention of the ATR LEU and MURR LEU FHE drawing numbers.	Update.