

Comment #	Document Name	Page	Section	FSO Comment/Issue	Fermilab Response	DOE FSO Response
1	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Format	The updated format of the ASE improved. Much better flow of the document.		
2	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	18-19	Section 4: Violations	This section does not meet the expectations of O420.2D. FSO expects this to be rewritten accordingly.		
3	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	44	Booster Credited Controls - fencing	Controlled Area Fencing around Booster Tower(s) is not listed here.		
4	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	ASE Intensity Determination	In the SAD, the credible accident scenario at the maximum operating intensity limit needs to be evaluated.		
5	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	Fluorinert: The credited control needs to be stated clearly.		
6	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	Required shielding is less than current shielding, for example BNB (217-233). FSO expects shielding assessments are analyzed and clearly documented in the SAD with the necessary credited controls being carried forward in the ASE.		
7	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	The ASE does not consistently document the required shielding in this section. Sometimes the reader is referred back to the shielding assessment. FSO expects that all required shielding be documented in this ASE. Furthermore, the shielding assessment should be listed as a reference to the ASE.		
8	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Response	This section states in part that beam operation will be terminated and will not resume until approval is granted, however, it does not specify when beam will be terminated and level of approval needed to restart.		
9	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	The term "Requirement" is used in lieu of "Credited Control" to keep the ASE consistent with DOE O 420.2D FSO expects Fermi to replace "Requirement" with "Credited Control".		
10	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	FSO expects that Fermi will create a new section within the credited control section of the ASE to capture the required calibration, maintenance, and inspection schedules for ALL engineered credited controls.		
11	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	If there are no credited controls associated with the process (e.g., Active Engineered for ODH) and all sections are listed as NA, FSO expects that it would be removed from the ASE.		
12	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	When a table is used in the ASE it must have a title (e.g., Table 1) and the paragraph that refers the reader to the table must use that reference.		
13	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	When documenting the configuration/size of something (e.g., height of fence) as a credited control, Fermi needs to understand that any variation from that height (e.g., 4ft 1 inch) would be considered an ASE violation. When an exact number is not needed, consider use of approximate.		
14	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	The credited control states in part that the required fencing is listed in the shielding assessment. Under that sentence it states that there are no fences required for radiation or controlled areas. Furthermore, the SAD states in part that fencing is NOT required. This is misleading/confusing. FSO expects that the ASE will only list actual credited controls that are required.		
15	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	The ODH evaluations that support the analysis need to be part of the SAD and reviewed to ensure that it meets FSO's expectations.		
16	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Requirement	Some of the tables list controls and configuration of the controls in a conflicting way (e.g., see table top of pg. 45. Stanchions or postings as able, stanchion, building or equipment posted.). When used, these tables must list the specific requirement that is clear and understandable by all.		

17	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Shielding Assessments	Shielding assessments establish the required shielding at the nominal operating intensity, however the contractor stated that that is NOT the maximum intensity that the machine could operate at. Furthermore, the contractor stated that routinely the machine fluctuates 5% above the nominal intensity. 1. In order to determine the necessary credited controls (e.g., RSIS, shielding, postings, etc.) Fermi must perform the evaluation at the maximum intensity limits of the machine. If not then they must perform the evaluation at a certain limit and establish an engineering control that prevents exceeding this limit.		
18	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Shielding Assessments	Many of the shielding assessments are over 20 years old. Fermi could not provide objective evidence that the shielding has not been modified or that beam intensity has not increased over the years. FSO expects that Fermi will perform updated shielding assessments for each of the individual accelerators using the current shielding and ASE limit intensities.		
19	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	Basis	This section needs to provide the reader with the necessary factors that justifies the specific credited control. It cannot refer the reader to another document.		
20	Fermilab National Accelerator Accelerator Safety Envelope (Main Accelerator)	Throughout	COMP Measures	The ASE contains compensatory measures that can be used if the credited control cannot be met, however, there is no analysis to support the measures. FSO expects that if compensatory measures are used the SAD they will contain the same level of analysis that establishes credited control. Any deviations from ASE approved credited controls need to be approved by FSO SOM.		