	DOCUMENT	PAGE	Section	Comment/Issue	FERMI Comment/Issue Response	FSO Accept / Not Accept	FSO Response	Fermi Issue response	FSO Disposition
1	ASE Apendix A	Document	N/A	In accordance with DOE-HDBK-1163-2020, Standard Industrial Hazards(SIH) are hazards that are generally well understood and coverered by codes, standards, or other consensus standards. I am not sure if FERMI considers ODH as a SIH but since it is not covered by any codes, standards, or other consensus standard then this ASE must develop CC that will address the ODH concerns assocaietd with applicable accelerator facilities.	GENERAL COMMENT: Per ASO Guide, if hazards are fully addressed through their Integrated Safety Management program, they do not need to be controlled via Credited Controls. The Cryo hazards present for SpinQuest are fully covered by FESHM requiremetns and processes, which have been established following OSHA 1910 requirements. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Discussion regarding what is considered a Credited Control for Fermilab is being discussed in the DOE O 420.2D Implementation SAD/ASE Working Group. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not Accepted	DOEs comment was not addressed. In accordance with DOE-HDBK-1163-2020, Standard Industrial Hazards (SIH) are hazards that are generally well understood and covered by codes, standards, or other consensus standards. Since ODH is not a SIH and in accordance with DOE G 420.2-1A then this ASE must develop credited controls that will address the ODH concerns associated with applicable accelerator facilities.		
2	ASE Apendix A	Document	N/A	Radiation detectors linked to the RSIS are required in the Shielding Assessment. These are not discussed in the ASE. Are the radiation area detectors/monitors (i.e Chipmunks, Fox, TLMs, etc) a credited control? They are not listed anywhere in the ASE. Further, how do other engineered controls that are required in the SA fit into the ASE as credited controls?	GENERAL COMMENT: No, the detectors themselves are not Creidted Controls. The only Engineered Credited Control is the Radiation Safety Interlock System (RSIS), and is already incorporated into the ASE. Specific detectors for each segment of the accelerator are listed in the Running Condition. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: n/a - question answered in "General Comment" section. No change to the SAD/ASE needed.	Not Accepted	Area radiation monitors mitigate consequences to personnel and the public located outside shielded facilities by monitoring radiation levels in occupied areas outside of shielding structures and terminate beam if a radiation trip limit is exceeded. Radiation monitors are essential to ensuring the safety of workers and the public during accelerator operations. (eg. In the case of the Booster, radiation levels outside shielding structures are controlled using total loss monitors to maintain dose rates and are not completely mitigated by passive shielding per the Booster Shielding Assessment Version 6, January 17, 2017. Section 17 Conclusions, states a TLM system covering the Booster ring needs to be part of the active shielding control.)		
3	ASE Appendix A	Throughout	Throughout	The ASE discusses controls and requirements that are to be implemented and followed to ensure the level of risk to all workers, the public and the environment is maintained at acceptable levels. However, there is no risk analysis or risk matrix included in the ASE to justify this statement.	GENERAL COMMENT: All activities meet or exceed requirmentes stated in 420.2c, as documented and flowed down via FESHM and FRCM and the applicable SAD Chapter(s), these documents are continually reviewed and updated as risks throughout the lab change and fully apply to all accelerator operations. FRA intends to incorporate of risk matrices for each of the hazards discussed in SAD Chapters 1-10 into the specific accelerator, experimental, R&D, and support SAD chapters to improve our ability to increase awareness to various risks and possible mitigations to those risks. An implementation plan will be developed for systematically incorporating risk matrices into the SAD Chapters in a manner that facilitates ongoing operations. SPECIFIC FOR NM RESTART/SPINQUEST: Risk Matrices will be included for the NM and SY120 Experimental Chapters of the SAD for specific analysis for the SpinQuest experimnet. This will be addressed prior to the restart of NM Operations in support of SpinQuest. TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Additional Risk Matrices will be developed for all other SAD Chapters. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
4	ASE Appendix A	Throughout	Throughout	There is no mention of the Configuration Management Program. Does this fall under administrative credited control process?	GENERAL COMMENT: CMP would not be an administrative Credited Control, rathers it's the process used to ensure CCs are in place. CMP will be established and specified within the ASE. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Additional details of the Configuration Management Program will be established and specified within the ASE. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
5	ASE Apendix A	Throughout	Throughout	In various areas throughout the ASE, it was observed that the use of other words to describe Credited Controls (CC's) are documented (e.g., Condition, Control, Surveillance, etc.).For consistancy, please update the entire document and only use "Credited Contol".	GENERAL COMMENT: ASE updated to state "Credited Control" and clarify aspects (i.e., basis, requirement, surveillance, response) of each Credited Control. Including list of all specific elements within the ASE, will require substancial effort. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Language in the ASE will be updated to stated "Credited Control" and clarify aspects of each Credited Control. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal	Not accepted	Prior to implementing the clarification process, DOE expects to see an example. The i.e., portion of the response indicates basis, requirement, surveillance, response of each Credited Control. DOE expects that all of the credited controls are requirements. It is assumed that you will have separate CC's (i.e., engineered, administrative, configuration management, and calibration, testing and inspection schedules.		

6	ASE Apendix A	Throughout	Throughout	Consider changing the format of the ASE to a simple easy to use format. E.g., Section 1 Introduction to define the CC for the accelerator, unplanned lose of CC/ASE violations, planned and discovered USIs, USI high level process, Section 2 ALL CC (i.e, engineered, administrative, configuration management for CC, Required calibration, maintenance, and inspection schedules for CCs. I would also suggest that each of these areas allow for a brief write up documenting the Basis/Context.	GENERAL COMMENT: will update ASE layout SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: The ASE layout will be updated to a simple easy to use format. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted.	Simply stating that the ASE will be updated provides no clarity. DOE expects that FERMIs comment document specific information (e.g., Section 1 Introduction to define the CC for the accelerator, unplanned lose of CC/ASE violations, planned and discovered USIs, USI high level process, Section 2 ALL CC i.e., engineered, administrative, configuration management for CC. Required calibration, maintenance, and inspection schedules for CCs. Each of these sections will contain a brief write up documenting the Basis/Context.		
7	ASE Appendix A	7 of 15	Accel Safety Envelope	The statement "Variations beyond these limits are a violation of the ASE." is in contradiction to current practice. For example, overburden sink holes are a variation beyond the defined limit of credited passive controls defined in the current ASE (page 8 of 15). Any variation is a violation.	GENERAL COMMENT: ASE can be updated to specifically address what the requirement is, text can be updated to ensure variation from stated requirement is ASE violation. FSO expectations of including list of all specific elements within the ASE, will require substancial effort. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Discussion regarding what is considered a Credited Control for Fermilab is being discussed in the DOE O 420.2D Implementation SAD/ASE Working Group. ASE will be updated to specifically address what the requirement is and ensure variation from stated requirement is an ASE violation. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted	FSO expects the ASE to document specific controls.		
8	ASE Appendix A	7 of 15	Credited Controls	Where is the risk analysis/matrix to justify this statement and what is an acceptable level of risk? "Credited controls identified in the ASE are the primary controls that assure that the level of risk to all workers, the public, and the environment is maintained at acceptable levels."	GENERAL COMMENT: see response for #3 SPECIFIC FOR NM RESTART/SPINQUEST: same as response for #3 TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: see response for #3	Accepted			
9	ASE Appendix A	7 of 15	Credited Controls	The following statement needs clarification. "The assigned Radiation Safety Officer (RSO) may specify equivalent controls in accordance with the FRCM that do not reduce the level of safety to allow for maintenance or repairs." The use of any equivalent controls during beam operations needs to be added to the ASE and must approved by FSO prior to implementation.	GENERAL COMMENT: This statement is intended to allow RSO to implment control measures during times of maintenance or repairs, i.e., not during operations. (e.g., ensure access still controlled if rollup door shielding is removed). SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: n/a - question answered in "General Comment" section. No change to the SAD/ASE needed.	Not accepted.	Clarify that this is allowed only during maintenance periods and not during operations. Describe how conditions are returned to pre-maintenance period and what process verifies conditions return to pre-maintenance period.		
10	ASE Apendix A	7	Creditted Contorls	The last sentence of the first paragraph states in part that the RSO may specify equivalent controls that do not reduce the level of safety to allow for maintanance or repairs. Is the intent to allow for use of equivalent cotrols during beam operations?	GENERAL COMMENT: no - see response for issue #9. SPECIFIC FOR NM RESTART/SPINQUEST: n/a - see response for #9 TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: see response for #9	Not accepted.	DOE expects that the ASE contains the necessary controls to ensure safe operation of the accelerator. Discussion on how maintenance is performed when the accelerator is performed is better suited for the SAD. If captured in the SAD it would translate to a configuration management credited control in the ASE.		
11	ASE Apendix A	7	Accelerator safety Envelope	This section contains background information, some questionable, that is better captured in the SAD. Please see comment 6 and an example in comment # 10.	GENERAL COMMENT: will update SAD/ASE layout SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: The ASE/SAD layout will be updated to ensure information is in the correct document. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted.	Simply stating that the ASE and SAD will be updated provides no clarity. DOE expects that FERMIs comment document specific information (e.g., Section 1 Introduction to define the CC for the accelerator, unplanned lose of CC/ASE violations, planned and discovered USIs, USI high level process, Section 2 ALL CC (i.e., engineered, administrative, configuration management for CC. Required calibration, maintenance, and inspection schedules for CCs. Each of these sections will contain a brief write up documenting the Basis/Context.		
12	ASE Apendix A	7	Creditted Contorls	This section contains background information, some questionable, that is better captured in the SAD. Please see comment 6 and an example in comment # 10.	GENERAL COMMENT: will update SAD/ASE layout SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: The ASE/SAD layout will be updated to ensure information is in the correct document. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted.	Simply stating that the ASE will be updated provides no clarity. DOE expects that FERMIs comment document specific information (e.g., Section 1 Introduction to define the CC for the accelerator, unplanned lose of CC/ASE violations, planned and discovered USIs, USI high level process, Section 2 ALL CC (i.e., engineered, administrative, configuration management for CC. Required calibration, maintenance, and inspection schedules for CCs. Each of these sections will contain a brief write up documenting the Basis/Context.		

13	ASE Appendix A	7 of 15	Credited Controls	Where is the risk assessment to justify this statement and what is an acceptable level of risk? "Compliance with the requirements of the Beam Permit and Running Condition ensures that the level of risk to all workers, the public, and the environment is maintained at an acceptable level."	GENERAL COMMENT: see response for #3 SPECIFIC FOR NM RESTART/SPINQUEST: see response for #3 TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: see response for #3	Accepted			
14	ASE Apendix A	8	Credited Passive Controls	Permanent Shielding including labyrinths Controls :The is a vague CC that could be interpreted differently. The CC states in part that the shielding encompases the strucural elements. What is meant by structural elements? Additionally it states that it includes built in design features such as. Use of "such as" could lead personnel to believe that these are simply examples. Lastly, listing the earthen berms and overburden indicates to DOE that if there is ANY change to the lanscape (e.g., sinkhole, runoff, etc.) would be an ASE violation.	GENERAL COMMENT: FRA will clarify what is considered permanent shielding, and will further specify required permanent shielding for various segments of the accelerator complex. Discussions regarding what is considered a Credited Control for Fermilab is being discussed in the DOE O 420.2D Implementation SAD/ASE Working Group, and specifically how overburden is or is not incorporated. Structural elements include enclosure walls/floors/ceilings/labyrinths/stairwells/etc. ASE layout updated to have general description of the various CCs, which can include "such as" examples, with separate section for each segment stating specific requirements. See response #7. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Discussion regarding what is considered a Credited Control for Fermilab is being discussed in the DOE O 420.2D Implementation SAD/ASE Working Group. ASE will be updated to specifically address what the requirement is and ensure variation from stated requirement is an ASE violation. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not Accepted	FSO expects that the ASE will document specific controls.		
15	ASE Apendix A	8	Credited Passive Controls	Permanent Shielding including labyrinths Surveillance: This CC should not refer personnel back to a procedure. This should simply state the requirement from the procedure (e.g., Inspect the integrety of the shielding prior to initial start up of the accelerator facility and every 12 months).	GENERAL COMMENT: Will update ASE SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Pending clarification of #39, ASE can be updated to state requirements rather than refernece a procedure. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not Accepted.	Simply stating that the ASE will be updated provides no clarity. DOE expects that FERMIs comment documents the specific information (e.g., the ASE will be updated to require inspection of the integrity of the shielding prior to initial start up of the accelerator facility and every 12 months).		
16	ASE Apendix A	8	Credited Passive Controls	Movable Shielding Control: The CC states in part that movable shielding is any shielding that can be moved. Does this include moved by hand and an euqipment (e.g., crane, for lift, etc.)?	GENERAL COMMENT: yes - any shielding that is able to be moved to allow for access to areas or equipment. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: n/a - question answered in "General Comment" section. No change to the SAD/ASE needed.	Accepted	Question was answered see comment # 18 for additional thoughts.		
17	ASE Apendix A	8	Credited Passive Controls	Movable Shielding Control: The CC states in part that movable shileding shall be used as necessary in accordance with the Fermillab shielding policies specified in the FESHM and FRCM. The CC should document something that shielding must be installed in its proper configuration and list the type of shielding(e.g., steel, concrete blocks, etc.) This followed up with the addition of a configuration management CC would ensure consistancy.	GENERAL COMMENT: ASE will be updated. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to state requirement for proper install and configuration for movable shielding. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted	Simply stating that the ASE will be updated provides no clarity. DOE expects that FERMIs comment will document the specific information (e.g., the ASE will be updated to document that shielding must be installed in its proper configuration and list the type of shielding(e.g., steel, concrete blocks, etc.) This followed up with the addition of a configuration management CC would ensure consistency.		
18	ASE Apendix A	8	Credited Passive Controls	Movable Shielding Control: The CC states in part that movable shielding shall be locked in place or equivalent controls placed to assure correct placement. How is shielding locked and what would be an example of equivalency?	GENERAL COMMENT: shielding is configured in such a way that it would require a tool for removal. (locked using chains and Shielding Configuration Control locks, bolting unistrut to blocks to inhibit movement, cover plates over penetration holes, etc.) Shielding is also posted as required shielding. The term "equivalent controls" referred to the unistrut, coverplates, etc. where chains/locks are not feasible. Will update text and remove term "equivalency". SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to describe acceptable controls for movable shielding and remove the term "equivalent". This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted	The response is adequate, however, DOE expects that the term equivalent be removed and add the text that was used to explain equalency to the CC in the ASE. Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		

19	ASE Apendix A	8	Credited Passive Controls	Movable Shielding Surveillance: This CC should not refer personnel back to a procedure. This should simply state the requirement from the procedure (e.g., Inspect the integrety of the shielding prior to initial start up of the accelerator facility and every 12 months).	GENERAL COMMENT: will update ASE SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Pending clarification of #39, ASE can be updated to state requirements rather than refernece a procedure. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted.	Simply stating that the ASE will be updated provides no clarity. DOE expects that FERMIs comment will document the specific information (e.g., Inspect the integrity of the shielding prior to initial start up of the accelerator facility and every 12 months).		
20	ASE Apendix A	8	Credited Passive Controls	Penetrating Shielding Control: This CC is vague, can be interperted differently and needs clarity such as listing the penetrations that can be tracked in configuration management process and also labled as cc.	GENERAL COMMENT: will update ASE. See response to #21 for effort needed to accomplish. SPECIFIC FOR NM RESTART/SPINQUEST: n/a - see response for #21 TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: see response for #21	Not Accepted.	Fermi must define and understand required shielding for all aspects of the accelerator as defined in credited controls.		
21	ASE Apendix A	8 of 15	Credited Passive Controls: Permanent shielding & labyrinths	Control section: Only list the minimum required shielding for the specific facility here. Any deviation from the ASE (sink hole of earthen berm or overburden) will be considered an ASE violation.	GENERAL COMMENT: FRA will clarify what is considered permanent shielding, and will further specify required permanent shielding for various segments of the accelerator complex. Discussions regarding what is considered a Credited Control for Fermilab is being discussed in the DOE O 420.2D Implementation SAD/ASE Working Group, and specifically how overburden is or is not incorporated. (similar to resonse for #14) Including a listing of all required shielding for each segment of the accelerator would take extensive effort. SPECIFIC FOR NM RESTART/SPINQUEST: ASE can be updated to list required permanent shielding & labyrinths for NM/SpinQuest. This will be addressed prior to the restart of NM Operations in support of SpinQuest. TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Discussion regarding what is considered a Credited Control for Fermilab is being discussed in the DOE O 420.2D Implementation SAD/ASE Working Group. ASE will be updated to specifically address what the requirement is and ensure variation from stated requirement is an ASE violation. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not Accepted.	ASE must be updated to include required shielding as a credited control. Fermi must define and understand required shielding for all aspects of the accelerator as defined in credited controls.		
22	ASE Appendix A	8 of 15	Credited Passive Controls: Movable shielding	Control section: Only list the minimum required shielding for the specific facility here, in this case Spinquest.	GENERAL COMMENT: see response for #21 for effort needed to list all specifics. Can provide an updated ASE with specifics listed for NM initially, while specifics for remaining segments of the accelerator are added. SPECIFIC FOR NM RESTART/SPINQUEST: ASE can be updated to list required movable shielding for NM/SpinQuest. This will be addressed prior to the restart of NM Operations in support of SpinQuest. TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to include required movable shielding for the remainder of the accelerator complex separate from requirements for NM/SpinQuest. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted	ASE must be updated to include required shielding as credited control. Fermi must define and understand required shielding for all aspects of the accelerator as defined in credited controls.		
23	ASE Appendix A	8 of 15	Credited Passive Controls: Penetration shielding	Control section: Only list the minimum required shielding for the specific facility here, in this case Spinquest.	GENERAL COMMENT: see response for #22. SPECIFIC FOR NM RESTART/SPINQUEST: ASE can be updated to list required penetration shielding for NM/SpinQuest. This will be addressed prior to the restart of NM Operations in support of SpinQuest. TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to include required penetration shielding for the remainder of the accelerator complex separate from requirements for NM/SpinQuest. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not Accepted	ASE must be updated to include required shielding as a credited control. Fermi must define and understand required shielding for all aspects of the accelerator as defined in credited controls.		
24	ASE Appendix A	8 of 15	Credited Passive Controls: Penetration shielding	Surveillance Section: The penetration surviellance requirements need to be defined in this section. Do not point the reader to another document.	GENERAL COMMENT: will update ASE SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to state requirements for surveillance of penetration shielding rather than refernece a procedure. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		

25	ASE Apendix A	9	Credited Passive Controls	Radiation Fencing: This CC is ONLY applicable to radiation areas. What controls are in place for controlled areas? Since FERMI is open to the public, this CC needs to be more broad and include controls that ensure minors/members of the public and untrained employess do not receive 100mrem in a year.	GENERAL COMMENT: Will clarify fencing Credited Control requirements to consider both Radiaion Area and Controlled Area fencint. SPECIFIC FOR NM RESTART/SPINQUEST: ASE will be updated to list required fencing, for employees and members of the public, for NM/SpinQuest. This will be addressed prior to the restart of NM Operations in support of SpinQuest. TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to include fencing requirement, for employees and members of the public, for the remainder of the accelerator complex separate from requiremetns for NM/SpinQuest. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
26	ASE Apendix A	9	Credited Passive Controls	Radiation fencing Surveillance: This CC should not refer personnel back to a procedure. This should simply state the requirement from the procedure (e.g., Inspect the integrety of the shielding prior to initial start up of the accelerator facility and every 12 months).	GENERAL COMMENT: will update ASE SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to state requirements for surveillance of fencing rather than refernece a procedure. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted	Simply stating that the ASE will be updated provides no clarity. DOE expects that FERMIs comment will document the specific information (e.g., Inspect the integrity of the fencing prior to initial start up of the accelerator facility and every 12 months).		
27	ASE Apendix A	9	Credited Active Engineered Controls	Radiation Safety Interlock ControlSafety Envelope- Surveillance:This CC is vague and needs clarity. Additionally, the control needs to specify where interlocks are located to prevent beam during inadvertant accesses; ie are they located at all gates/doors/windows/emergency exit hatches/etc. An example could be the following - Access controls- During beam opertions, where beam is present to..... the access controls system must prevent enrty to the	GENERAL COMMENT: will update ASE to specify areas where access is prevented during beam operations. SPECIFIC FOR NM RESTART/SPINQUEST: ASE can be updated to specify areas where access is prevented during NM beam operations. This will be addressed prior to the restart of NM Operations in support of SpinQuest. TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to specify areas where access is prevented during beam operations in various locations for the rmained of the accelerator complex separate from requirements for NM/SpinQuest. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accept	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
28	ASE Appendix A	9 of 15	Credited Active Engineered Controls: RSIS	Control Section: The statement " All circuits are designed in such a way that if a circuit fails, the failure would most likely initiate a system shutdown resulting in a safe condition." needs to be clarified. The wording "would most likely initiate" implies there is a chance the circuits are not fail safe.	GENERAL COMMENT: ASE will be updated to clairify statemenet SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to clarify RSIS circuit design with regards to failures. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accept	Clarify if in the case of a circuit failure, the RSIS system will initiate shutdown resulting in a safe condition or not.		
29	ASE Appendix A	10 of 15	Credited Administrative Controls: Accelerator Operational Approvals	Control: List the specific elements that are captured in the Beam Permit and Running Condition for clarification. Each element and associated admin control needs to be clearly stated in the ASE. Ie. List the beam power & operating parameters for Spinquest and required admin control. List theree are CDCs for Spinquest and associated administrative credited control in ASE. Do not point reader to an internal procedure. Summarize/define these in the ASE.	GENERAL COMMENT: Most can be done with updated ASE. Additional discussion will be needed between ESH/AD/FSO to determine if appropriate to include Operating Limit in ASE, to avoid confusion with the ASE Limit. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE will be updated to specify elements included in the Beam Permit and Running Condition. ASE will be updated to state requirements for surveillance of fencing rather than refernece a procedure. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted.	The specific elements that will be controlled by administrative credited controls need to be understood and defined in the ASE.		
30	ASE Appendix A	10 of 15	Credited Administrative Controls: Accelerator Operations Staffing	Safety Envelope: List the number of required Operators for Spinquest and their required location in ASE, in the remote control room or MCR?	GENERAL COMMENT: There is no requirement for experimenters during beam operation, as they do not perform beam operation/manipulation. MCR Operation Staffing is the only needed Credited Control, as they are the individuals who operate beam. Updated ASE layout to clafiry MCR Operation Staffing requirement. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: n/a - question answered in "General Comment" section. No change to the SAD/ASE needed.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
31	ASE Apendix A	11	Credited Administrative Controls	Accelerator Beam Intensity Limits - Safety Envelope: The CC states in part that beam intensities are monitored. Who monitors the beam intensities? If monitoring is being performed then it appears as though an added CC should be for personel oversight where you list the # of operators required in the control room during operations.	GENERAL COMMENT: Beam intensities are monitored by MCR Operators. MCR Operation Staffing is a listed Credited Control, see item #30. Responsibility of monitoring beam intensities will be added to basis for MCR Staffing CC. SPECIFIC FOR NM RESTART/SPINQUEST: n/a - see response for #30 TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: see response for #30	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		

32	ASE Appendix A	11 of 15	Credited Administrative Controls: Accelerator Beam Intensity Limits	Why are all limits listed in this ASE for Spinquest? Only list the intensity limits for the Spinquest beamline that is being reviewed.	GENERAL COMMENT: The ASE is for the Fermilab Main Accelerator, which includes all segments (i.e., machines and beamlines, including the NM beamline which supports the SpinQuest experiment). Upstream segments are necessary for NM/SpinQuest operation. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: n/a - question answered in "General Comment" section. No change to the SAD/ASE needed.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
33	ASE Appendix A	12 of 15	ASE Violation Determination and Actions	This section is confusing. The statement "Determining whether a condition is a violation of the ASE may be subjective." contradicts the statement on Page 7 that states "Variations beyond these limits are a violation of the ASE." This section needs to be clarified to state that any variations from the bounds defined in this ASE is an ASE violation. This section needs to list the actions that will be taken if an ASE violation is identified (e.g., stop the activity causing the violation, work with DOE, etc). Do not point readers to an internal procedure, list the steps in the ASE specific to Spinquest.	GENERAL COMMENT: Will update ASE with clarity on what constitutes an ASE violation. Adding in Response section specifying actions to be taken. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: Discussion regarding what is considered a Credited Control for Fermilab is being discussed in the DOE O 420.2D Implementation SAD/ASE Working Group. ASE will be updated to specifically address what the requirement is and ensure variation from stated requirement is an ASE violation. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
34	ASE Appendix A	12 of 15	ASE Violation Determination and Actions	Clarification is needed. This statement, "Any deficiencies found in a credited control that are not an ASE violation are handled in accordance with FESHM and FRCM requirements." contradicts the statement on Page 7 "Variations beyond these limits are a violation of the ASE."	GENERAL COMMENT: will update the ASE to ensure clarity on what is a violation and the appropriate response SPECIFIC FOR NM RESTART/SPINQUEST: n/a - see response to #33 TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: see response to #33	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
35	SAD Submittals	Throughout	Throughout	While DOE does not approve SADs, it should be understood that DOE needs to support the SAD otherwise there will be issues identified in the ASE. The contractor should benchmark how other laboratiories document there SADs, consider having seperate SADs and ASEs for each accelerator operations.	GENERAL COMMENT: DOE participates in the SAD Review Subcommittee and has opportunity during SAD chapter revisions to review and provide comment. Many of the chapters in the current SAD are for machiens/beamlines that make up the Fermilab Main Accelerator (one accelerator), with downstream areas (i.e., SpinQuest) relying on upstream areas (i.e., Linac, Booster, 8 GeV, MI, P1-P2, SY Primary, NM) for operation. (The exception being FAST.) Separating the various machines/beamlines of the Fermilab Main Accelerator into separate SADs does not make sense. Lab could consider separating FAST into it's own SAD/ASE. Benchmarking with a few other labs has already taken place, and found that Labs have one ASE per accelerator, and ORNL/SNS has an integrated ASE to include multiple segments similar to what Fermilab has in place. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: FRA will consider separating FAST into its own SAD/ASE, while maintaining an integrated ASE for the main accelerator complex. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted			
36	SAD Submittals	Throughout	Throughout	Having one SAD and one ASE is problematic. It causes the reader confusion and also leads to the development of CC's that are generic and vague. As noted in comments 1-34 there are issues with the major portions of the ASE, including each of the listed CC's.	GENERAL COMMENT: See comments for Issue #35 for discussion on having multiple machines/beamlines in single SAD/ASE, as they make up one accelerator. ASE layout updated to provide clarification on specific requirements for each machine/beamline with the ASE. SPECIFIC FOR NM RESTART/SPINQUEST: n/a TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: ASE layout will be updated to provide clarification on specific requirements for each segment of the accelerator complex. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted			

37	SAD Submittals	Throughout	Throughout	The content in each of the SADs that were reviewed was broad. It lacked specific details explaining the facility, operational aspects, and function. They frequently referenced back to procedures/policies that may provide some or all of the details.	GENERAL COMMENT: SAD chapters will be reviewed to ensure detailed analysis for the facility are included wihtin the SAD (either in the chapter or as a reference in the chapter), rather than only stating which FESHM/FRCM process is followed. SPECIFIC FOR NM RESTART/SPINQUEST: NM and SY120 chapters will be reviewed to ensure that any analysis performed per FESHM/FRCM requirements are specifically discussed and/or referenced in the SAD chapters, rather than just referencing the process. This will be addressed prior to the restart of NM Operations in support of SpinQuest. TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: All other SAD chapters will be reviewed to ensure that any analysis performed per FESHM/FRCM requirements are specifically discussed and/or referenced in the SAD chapters, rather than just referencing the process. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
38	SAD Submittals	Throughout	Throughout	There was no reference to configuration management in the ASE and/or SAD's. This practice would prove useful (e.g., shielding set up, etc.).	GENERAL COMMENT: see response for #4 SPECIFIC FOR NM RESTART/SPINQUEST: n/a - see response to #4 TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: see response to #4	Accepted	Contingent upon FSO review, concurrence and approval of SAD/ASE submittal.		
39	ASE and SAD Submittals	Throughout	Throughout	Please clarify how the USI process is implemented when only an internal procedure is referenced in the SAD and/or ASE as the method to control a hazard and no specific details are documented.	GENERAL COMMENT: Any procedure referenced in the SAD or ASE will be subject to the FSO approved USI process. SPECIFIC FOR NM RESTART/SPINQUEST: n/a - USI process still undergoing updates per 420.2D TO BE ADDRESSED WITH FULL SAD/ASE REVISION WITH 420.2D IMPLEMENTATION & PEMP NOTABLE: SAD and ASE will be reviewed to ensure that any procedure referenced is identified as subject to the updated, and FSO approved, USI process. This will be addressed in the full SAD/ASE revision, in accordance with DOE O 420.2D Implementation and the FY23 PEMP Goal 4 Notable.	Not accepted	FSO expects the SAD/ASE will include detailed analysis rather than reference a procedure.		