

Strengthening Line Management Oversight and
Federal Monitoring of Nuclear Facilities

Standard Review Plan

Volume 5 - Nuclear Safety Basis Program Review
of TSRs, USQs and SERs



February 2015

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Volume 5
Nuclear Safety Basis Program Review
of
TSRs, USQs and SERs

Facility Life Cycle Applicability					
CD-1	CD-2	CD-3	CD-4	Operations and Transitions	Decommissioning & Environmental Restoration
			✓	✓	✓



February 2015

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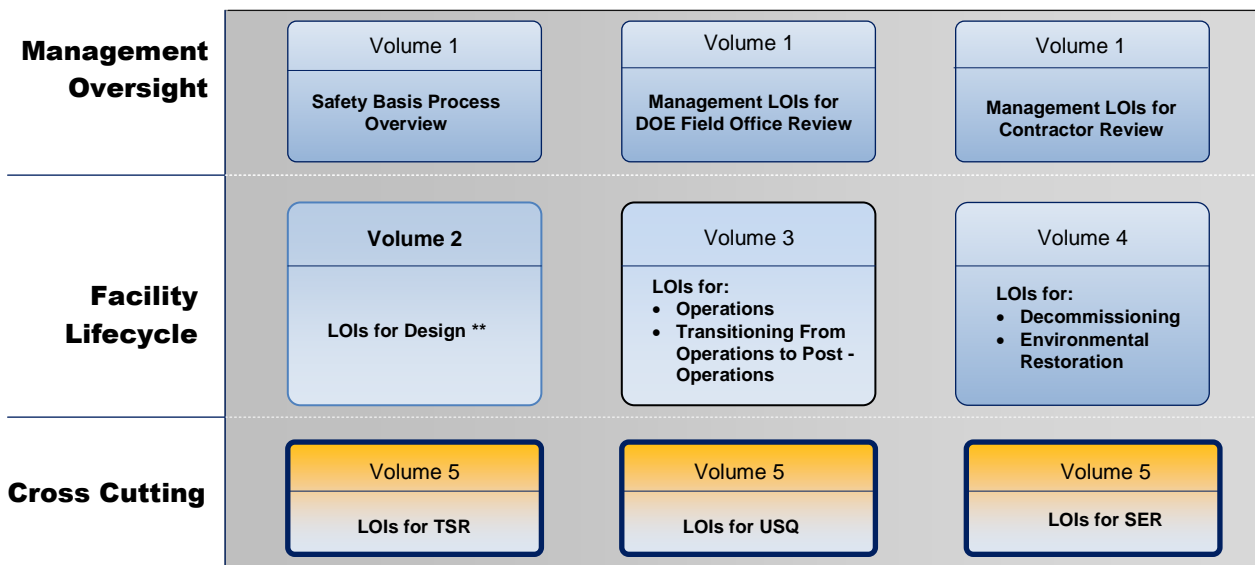
Acronyms

AC	Administrative Control
CFR	Code of Federal Register
COA	Conditions of Approval
CSDR	Conceptual Safety Design Report
CSVR	Conceptual Safety Validation Report
DBA	Design Basis Accident
DF	Design Factor
DOE	U.S. Department of Energy
DSA	Documented Safety Analysis
HA	Hazard Analysis
ISM	Integrated Safety Management
IVR	Implementation Verification Review
LCO	Limiting Conditions for Operations
LCS	Limiting Control Setting
LOI	Line of Inquiry
PDSA	Preliminary Documented Safety Analysis
PHA	Preliminary Hazards Analysis
PSDR	Preliminary Safety Design Report
PSVR	Preliminary Safety Validation Report
SAC	Specific Administrative Control
SB	Safety Basis
SDS	Safety Design Strategy
SER	Safety Evaluation Report
SL	Safety Limit
SR	Surveillance Requirement
SRP	Standard Review Plan
SSC	Structures, Systems and Components
TSR	Technical Safety Requirement
USQ	Unreviewed Safety Question
USQD	Unreviewed Safety Question Determination

Introduction

Subpart B of the DOE Nuclear Safety Management regulation (10 CFR Part 830) establishes safety basis requirements for DOE nuclear facilities. This SRP, *Safety Basis Program Review*, contains five volumes to help strengthen the technical rigor of line management oversight and federal monitoring of DOE nuclear facilities during the entire facility life cycle¹. The SRP provides a set of LOIs for the review of safety basis programs and documents of nuclear facilities at various stages of the facility life cycle. These LOIs were developed based on the review of the DOE safety basis directives and technical standards, as well as from best management practices. These LOIs provide consistency in the safety basis review process and using the graded approach, they can be tailored to specific circumstances. Additional and specific LOIs can also be developed beyond these LOIs.

The contents of the five SRP volumes are described below. Volume 5 contains LOIs for the review of the safety basis process on TSRs, USQs and SERs.



** The review of the Safety Design Strategy (SDS) and the Code of Record (COR) is an important part of the safety-in-design review process. The LOIs for SDS and COR are contained in two stand-alone SRPs.

¹ Facility life cycle includes design, construction, startup, operations, transitions, decommissioning and environmental restoration.

Overview of Safety Basis Process for Nuclear Facilities

The overall safety basis development process for the nuclear facility life cycle is depicted in Figure 1. Safety bases are developed through a formal process that requires a systematic identification and analysis of hazards, establishment of controls, and the formal documentation of these results. The process is consistent with the DOE ISM Core Functions. Figure 2 describes the key safety basis documents, including the TSR and SER. Figure 3 describes the USQ element of the safety basis program. Figure 4 shows the application of TSR, USQ and SER processes during the nuclear facility life cycle.

Figure 1 - Safety Basis Process and Documentation

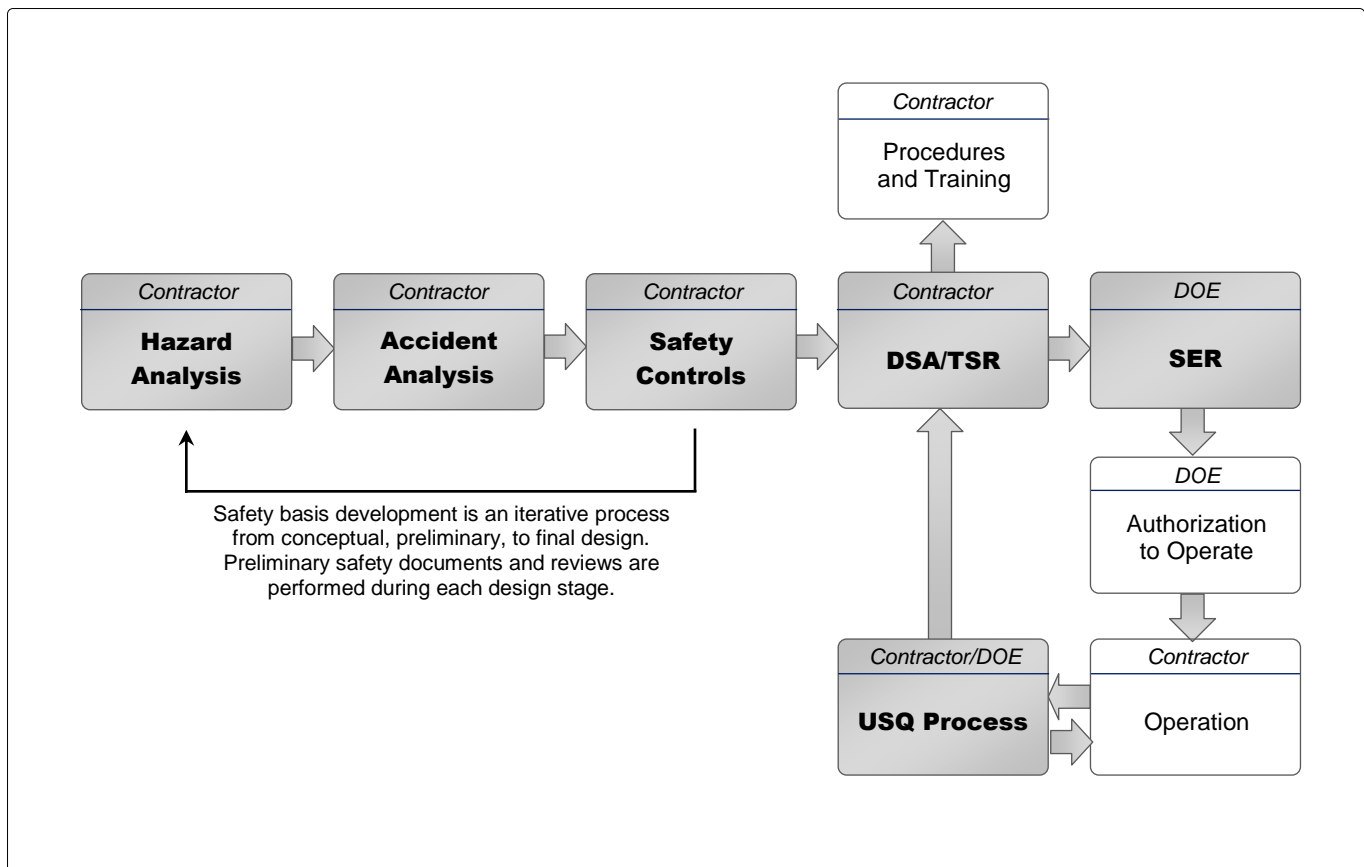
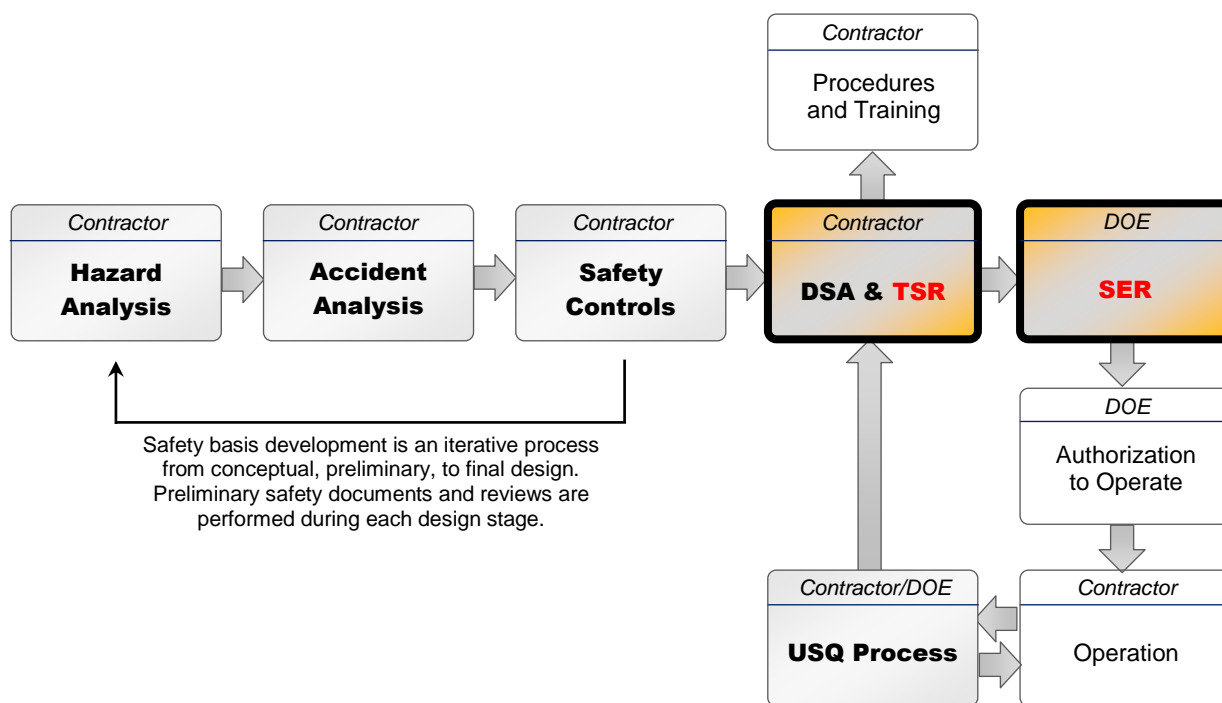


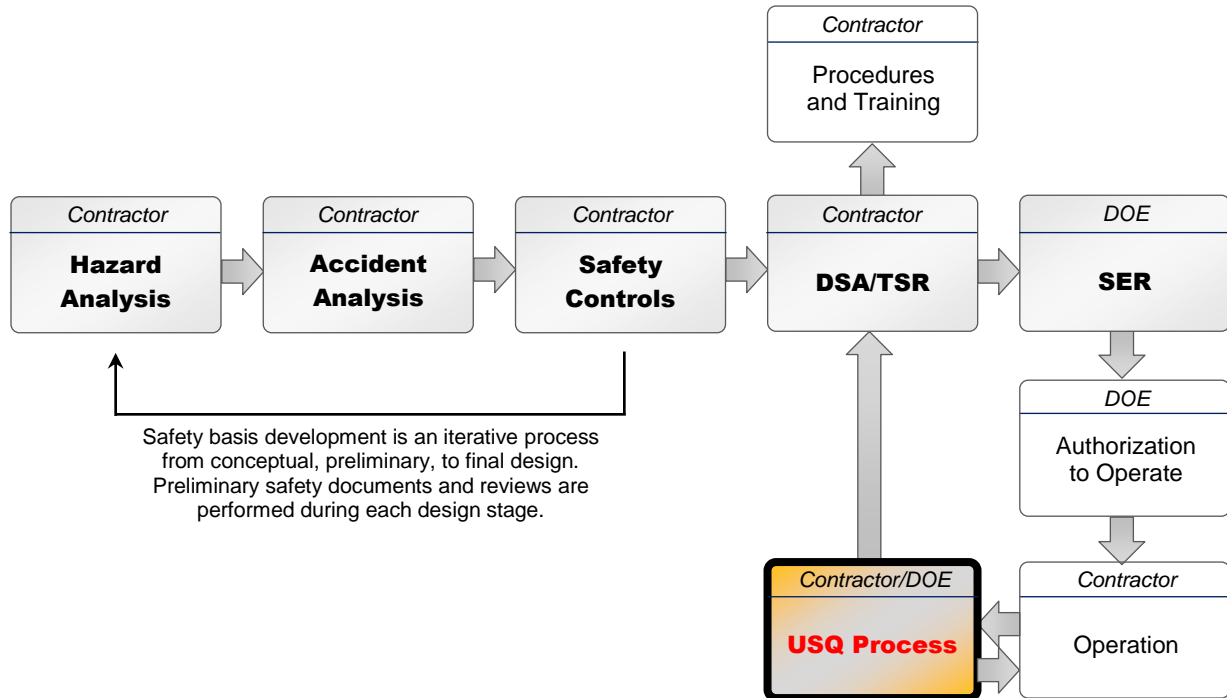
Figure 2 - TSR and SER Documents



DSA	TSR	SER
<ul style="list-style-type: none"> ▪ Prepared by Contractor ▪ Executive Summary ▪ Site Characteristics ▪ Facility Description ▪ Hazard and Accident Analysis ▪ Safety Structures, Systems, and Components ▪ Derivation of Technical Safety Requirements ▪ Prevention of Inadvertent Criticality ▪ Radiation and Hazardous Waste Management ▪ Initial Testing, In-Service Surveillance, and Maintenance ▪ Operational Safety ▪ Procedures and Training ▪ Human Factors ▪ Quality Assurance ▪ Emergency Preparedness Program ▪ Provisions for Decontamination and Decommissioning ▪ Management Organization, and Institutional Safety Provisions 	<ul style="list-style-type: none"> ▪ Prepared by Contractor ▪ Use and Application ▪ Safety Limits ▪ Limiting Control Settings, Limiting Conditions of Operations, and Surveillance Requirements ▪ Administrative Controls² ▪ Design Features ▪ Bases Appendix 	<ul style="list-style-type: none"> ▪ Prepared by DOE ▪ Management and Coordination of Safety Basis ▪ Approval Bases of Documented Safety Analyses ▪ Approval Bases for Technical Safety Requirements ▪ Safety Design Basis Documents <p style="text-align: center;">SER Contents</p> <ul style="list-style-type: none"> ▪ Signature page ▪ Executive Summary ▪ Review Process ▪ Best Information ▪ Hazard and Accident Analysis ▪ Safety Structure, Systems, and Components ▪ Derivation of Technical Safety Requirements ▪ Safety Management Program Characteristics ▪ Technical Safety Requirements ▪ Conditions of Approval ▪ Records

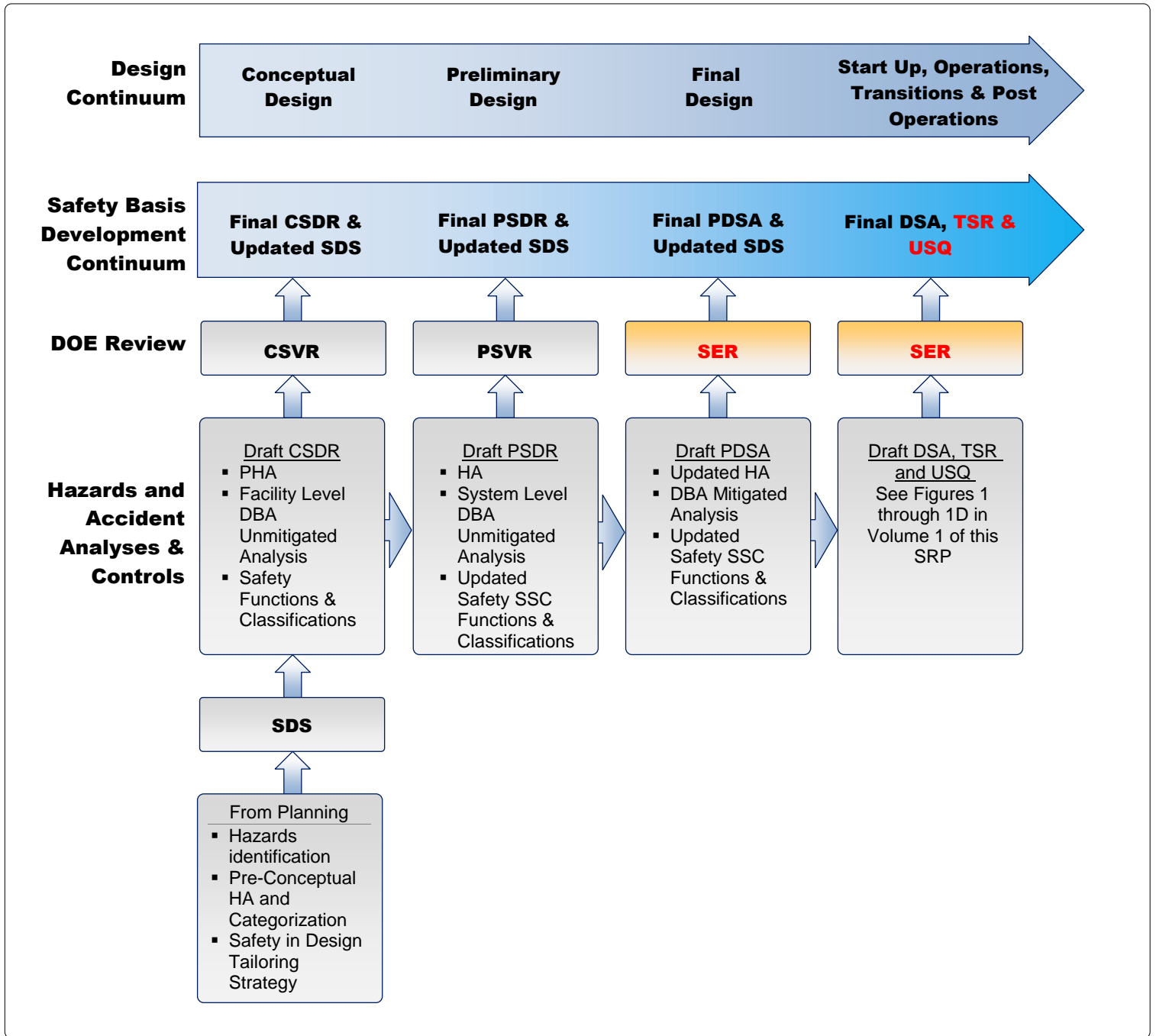
² Administrative controls are provisions relating to organization and management procedures, record keeping, assessment, and reporting necessary to ensure the safe operation of a facility. An administrative control is designated as a Specific Administrative Control if (1) it is identified in the documented safety analysis as a control needed to prevent or mitigate an accident scenario, and (2) it has a safety function that would be safety significant or safety-class if the function were provided by an SSC.

Figure 3 - USQ Process



- The USQD process allows contractors to make physical and procedural changes (temporary or permanent) and to conduct tests and experiments without prior DOE approval, as long as operation is within the safety basis envelope.
- The USQ process is also applicable when the project identifies situations where it is apparent that the existing safety basis may not be bounding or may be otherwise inadequate (Potential Inadequacy of the Safety Analysis).
- The USQD uses the seven-step evaluation to determine if the operation is within the safety basis envelope, which includes:
 - Probability of an occurrence or consequence of an accident could be increased
 - Probability of an occurrence or consequence of an equipment malfunction could be increased
 - Possibility that a new accident or malfunction of equipment could be created
 - A margin of safety could be reduced
- If the USQD shows a positive USQ, the contractor needs DOE approval prior to implementing the proposed change or corrective actions.
- Contractor makes the corrective actions and updates the safety basis.

Figure 4 -- TSR, USQ and SER Development during Nuclear Facility Lifecycle



References

The following references were used to develop the LOIs contained in this SRP. Also used were best management practices from field implementation.

1. 10 CFR 830, Subpart B, *Safety Basis Requirements*
2. 10 CFR 830, Subpart B, § 830.203, *Unreviewed Safety Question Process*
3. 10 CFR 830, Subpart B, § 830.205, *Technical Safety Requirements*
4. 10 CFR 830, Subpart B, § 830.207, *DOE Approval of Safety Basis*
5. DOE G 420.1-1A, *Nonreactor Nuclear Safety Design Guide for Use with DOE O 420.1C, Facility Safety*, December 2012
6. DOE G 423.1-1A, *Implementation Guide for Use in Developing Technical Safety Requirements*, November 2010
7. DOE G 424.1-1B, Chg 2, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*, June 2013
8. DOE O 426.2, Chg 1, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*, July 2013
9. DOE-STD-3009, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*, Change Notice 3, March 2006³
10. DOE-STD-1186, *Specific Administrative Controls*, March 2004
11. DOE-STD-1104, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents*, May 2009⁴

³ DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, was released in November 2014 and will be used for the update of the next version of the SRP.

⁴ DOE-STD-1104-2014, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents*, was released in December 2014 and will be used for the update of the next version of the SRP.

Safety Basis Program Review Lines of Inquiry

The three Attachments contain LOIs for the review of TSR, USQ and SER processes.

Attachment 1 - Lines of Inquiry (LOIs) for Review of TSRs

TSR LOIs ⁵	Yes	No
TSR Format		
Does the TSR document follow the standardized format described in Section 5.3 of DOE G 423.1-1A? Note: A standardized format would minimize the burden on oversight organizations and make any necessary training of operations staff easier.		
If another format was used, has the contractor provided adequate justification for DOE approval that the TSR and DSA requirements are met?		
TSR Section 1, Use and Application		
Is there a list of terms used in the TSR document that require clarification of the intent of their use?		
Are the definitions clear and consistent with standard usage and the intended use of the terms?		
Are the operational modes of the facility clearly defined in terms of the operational conditions?		
Is there an adequate explanation of the use and application of the operational modes?		
Are the operational modes generally consistent with the standard modes established in DOE G 423.1-1A? If not, is the variation justified due to the unique features of the facility or operations?		
Does the TSR include the standard use and application explanations for the following TSR devices: <ul style="list-style-type: none"> ▪ Logical Connectors ▪ Completion Time ▪ Frequency Notation ▪ SLs ▪ LCSs ▪ LCOs ▪ SRs? 		

⁵ These LOIs are based 10 CFR 830 Subpart B, § 830.205; DOE G 423.1-1A; and Best Management Practices, if any. The LOIs are grouped based on the recommended content for the TSR sections as defined in Section 5.2 of DOE G 423.1-1A. These LOIs provide a starting point for a set of corporate Performance Expectations and Criteria. Review teams are expected to build on these and develop additional project-specific LOIs, as needed.

TSR LOIs⁵	Yes	No
TSR Section 2, Safety Limits (SLs)		
Are the SLs consistent with the hazard and accident analyses and any inferred SLs established in the DSA? If no SLs are required, is it stated in the TSR?		
Do the SLs state the parameters being limited, state each limit in measurable terms, and indicate the applicability of each limit?		
Are actions required to be taken if a SL is exceeded, and do they maintain or otherwise achieve a safe and stable state?		
Is it required that the contractor must obtain DOE's authorization to restart the facility following the violation of a SL?		
TSR Section 3, Operating Limits		
Do the LCOs and LCSs identified in the TSR agree with those identified in Chapters 3 and 5 of the DSA?		
Are the operability requirements for each of the SSCs covered by the LCOs/LCSs clearly identified? Are they unambiguous and concise? Note: LCOs/LCSs that simply state that the Structures, Systems and Components (SSCs) have to be operable are not acceptable.		
Is the mode applicability adequate for each of the LCOs/LCSs?		
Is the facility or activity applicability adequate for each of the LCOs/LCSs?		
Do the LCOs/LCSs conditions agree with each of the LCOs/LCSs requirements?		
Are the remedial actions adequate for the conditions; that is, do they become more conservative (safer condition) as they are implemented?		
Does each of the remedial actions have a completion time, and are the times adequate to allow implementation and ensure safety?		
Are there bases for each of the LCO/LCS, the mode applicability, the remedial actions, and their completion times?		
Are these bases adequate to support the LCOs/LCSs? Note: They should not be a regurgitation of the LCOs/LCSs themselves.		
TSR Section 4, Surveillance Requirements (SR)		
Is there at least a one-to-one correspondence between the LCOs/LCSs and the SR? That is, there should be at least one SR for one LCOs/LCSs.		
Are the SRs explicit enough to ensure that the LCOs/LCSs are met?		
Does each of the SRs have a frequency of performance?		

TSR LOIs ⁵	Yes	No
Is each of the frequencies adequate to ensure the operability of the safety SSC covered by the LCOs/LCSs?		
Do the bases provide enough information to support the SRs and their frequencies?		
TSR Section 5, Administrative Controls (ACs)		
Are specific "Directive Actions" and their bases clearly delineated and consistent with their selections as SACs in Chapters 3, 4, and 5 of the DSA?		
Are the responsibilities of the facility or plant manager specified as part of ACs for the overall operations of the nuclear facility?		
Is the delegation of authority documented during his/her absence?		
Is the shift supervisor responsible for the local command function? Is there a designated and qualified individual identified during the absence of the shift supervisor?		
Are the responsibilities of the on-site and off-site contractor organization identified, including lines of authority, responsibility, and communication?		
Do the operations procedures provide sufficient direction to ensure that the facility is operated within its design basis and supports safety operation of the facility?		
Are programs developed to ensure safe operation and include, but are not limited to: in-service inspection; worker protection; ventilation filter testing; quality programs; configuration control; and document control?		
Do the ACs include the maximum daily working hours and maximum number of consecutive days of duty of the operating staff?		
Do the ACs include a list of facility support personnel by name, title, and work/home telephone number? Is this information kept up to date?		
Do the facility safety staff's qualifications conform to DOE O 426.2, <i>Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities</i> ?		
Do the ACs specify that records need to be kept of all information supporting the implementation of the TSR, including operational logs of modes changes, entering actions, surveillances, deviations, procedures, programs, meetings, and recommendations?		
Do the ACs describe the methods established to conduct independent reviews and audits?		
<p>Note: Appendix D of DOE G 423.1-1A describes approaches for performing independent implementation verification reviews of all controls designed to implement the Safety Basis, e.g., TSRs and DSA assumptions and commitments.</p>		

TSR LOIs⁵	Yes	No
<p>Do the ACs state the actions and reporting to be taken for any deviations from the TSRs?</p> <p>Note: A commitment to report deviations in accordance with the Occurrence Reporting System should be included.</p>		
TSR Section 6, Design Features		
<p>Are the DFs presented in a clear, logical, and concise manner that follows the format of the Appendix to DOE G 423.1-1A?</p>		
<p>Does the DFs section of the TSR describe in detail those features not covered elsewhere in the TSRs that, if altered or modified, would have a significant effect on safety?</p>		
<p>Is a detailed description of each vital passive safety SSC, such as piping, vessels, supports, structures, and containers, discussed in a clear and concise manner?</p>		
<p>For cases where it is a safety concern, is the configuration and physical arrangement discussed? Are details pertaining to the design (e.g., configuration or physical arrangement, including dimensions) and the reasoning behind the design provided?</p>		
<p>For cases where the safe operation of the facility is dependent on any component being constructed of a particular material, is the component and system identified, as well as the special material involved, any in-service inspections required for the material or component, and any special operational considerations such as maximum/minimum temperature, pressure, flow, or chemical concentration?</p>		
TSR Bases Appendix		
<p>Are the technical bases presented in a clear, logical, and concise manner that follows the format provided by DOE G 423.1-1A?</p>		
<p>Are the technical bases presented in a clear, logical, and concise manner that facilitates the evaluation of unreviewed safety questions which may arise from investigating changes to operating parameters of safety controls or potential changes to the margin of safety?</p>		
<p>For each TSR specified (e.g., SLs, LCOs, LCS), are the technical bases directly based on specific sections (including references) of the hazard or accident analyses contained within the DSA?</p>		
<p>For each TSR specified that impacts the operation of a safety SSC, are the technical bases directly based on safety function and system evaluations (including references) contained within the DSA?</p>		
<p>For each TSR specified, do the technical bases take into account the assumptions or uncertainties that have the potential to impact the hazard/accident analyses?</p>		
<p>For each TSR specified are the technical bases for not considering specific operating modes provided?</p>		

TSR LOIs⁵	Yes	No
For each action statement contained within each LCOs/LCS, do the technical bases allow for the conclusion that the margin of safety has not been compromised?		
For each action statement contained within each LCOs/LCS, do the technical bases allow for the conclusion that the completion time for an action is acceptable?		
For each action statement contained within each LCOs/LCS where actions partially compensate for the loss of a safety function, do the technical bases allow for the conclusion that the margin of safety has not been compromised?		
Implementation Verification Reviews (IVRs) of Safety Basis Controls⁶		
Are ACs, implementing processes, and supporting SRs adequately documented in the reviewed and approved work instructions?		
Are the LCOs and supporting SRs and acceptance criteria adequately documented in the reviewed and approved work instructions that are consistent with the facility SB and applicable SERs?		
Have training and qualification programs for facility and building managers, operations support, and operations personnel been established, documented, and implemented?		
Is the level of knowledge of facilities personnel concerning the SB controls and proper response to credible scenarios adequate?		
Has training been performed and documented to the latest revision of the facility SB and its implementing work instructions?		
Are the ACs and associated SRs established through the SB implemented or they can be implemented in applicable facilities and programs?		
Are there sufficient numbers of qualified personnel to support the safe implementation of the controls established through the SB?		
Are the LCOs and associated SRs established through the SB implemented or can be implemented in applicable facility programs?		
Are safety systems and/or design features installed that are consistent with the descriptions and functions provided in the SB?		

⁶ The purpose of an IVR is to independently confirm the proper implementation of new or revised Safety Basis controls. Guidance is provided in DOE G 423.1-1A and it is intended for application to new or revised Safety Basis controls being implemented in nuclear facility with ongoing operations where a startup or restart review under DOE O 425.1D is not invoked. See details in Appendix D of DOE G 423.1-1A.

Attachment 2 - Lines of Inquiry (LOIs) for Review of USQs

USQ LOIs ⁷	Yes	No
Does the USQ procedure delineate the relationship with other change control procedures, including: design change; configuration control; temporary change; and procedures governing the preparation, review, and approval of procedures?		
Does the USQ procedure require that a defensible explanation be documented for the answers to each of the USQ criteria?		
Are USQD documentation and records retention stipulated throughout the lifetime of the facility (regardless of the operating contractor), including the transition, deactivation, and decommissioning phases?		
Does the USQ procedure indicate that, upon change of facility contractor, the departing contractor personnel must relinquish USQD records to the incoming contractor?		
Does the USQ procedure state that the contractor will update USQD documents and reports and submit to DOE annually a summary description of all USQDs performed?		
Is the USQ procedure and its integration into the facility change control process described by a governing policy?		
Does the USQ procedure include a detailed USQ process description?		
Does the USQ procedure mandate that no operational restrictions can be relaxed prior to review by DOE?		
<p>Does the USQ procedure describe steps to screen out the following items?</p> <ul style="list-style-type: none"> ▪ Changes to or the addition of a new TSR; ▪ Changes that management has already decided will be submitted to DOE for safety review and approval (including TSR changes); ▪ Installation of an item with an exact replica (same manufacturer, model number, etc.); ▪ Installation of an item that is on the facility list of “approved equivalent parts”, which a facility engineer has evaluated and determined that the replacement item meets all the requirements pertinent to the specific application, including the service conditions; ▪ Changes when common commercial practices would suffice and a formal nuclear-grade change control process is not warranted (for example, changing fixtures for fluorescent lighting in a control room); and ▪ Changes to documents that are purely editorial and make no technical change 		

⁷ These LOIs are based 10 CFR 830 Subpart B, § 830.203; DOE G 424.1-1B; DOE-STD-3009; DOE-STD-1104; and Best Management Practices, if any. They provide a starting point for a set of corporate Performance Expectations and Criteria. Review teams are expected to build on these and develop additional project-specific LOIs, as needed.

USQ LOIs ⁷	Yes	No
<p>Does the USQ procedure require that all categorical exclusions and exclusions in general, are adequately justified?</p> <p>Note that such exclusions should preferably undergo independent review.</p>		
<p>Does the USQ procedure require that all screening and USQ determinations are subject to independent review?</p>		
<p>Does the USQ procedure require that all Potentially Inadequate Safety Analysis issues are subject to USQ screening?</p>		
<p>Are all the following seven USQ questions fully addressed during the USQD process? See description of the seven questions in Attachment A of DOE G 424.1.1B.</p> <ol style="list-style-type: none"> (1) Could the proposed change increase the probability of an accident previously evaluated in the facility's existing safety analyses? (2) Could the proposed change increase the consequences (to workers or the public) of an accident previously evaluated in the facility's existing safety analyses? (3) Could the proposed change increase the probability of a malfunction of equipment important to safety previously described in the facility's existing safety analyses? (4) Could the proposed change increase the consequences of a malfunction of equipment important to safety described in the facility's existing safety analyses? (5) Could the proposed change create the possibility of an accident of a different type than any previously evaluated in the facility's existing safety analyses? (6) Could the proposed change create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the facility's existing safety analyses? (7) Could the proposed change reduce a margin of safety? 		
<p>Is DOE sufficiently involved in the USQD process to ensure that the adequacy of protection and safety classifications of equipment is justified by safety basis documents?</p>		
<p>Is an appropriate level of emphasis placed on assessing public and worker safety?</p> <p>Note: Refer to Section 3.3, USQ Determinations, of DOE G 424.1.1B for further clarification.</p>		
<p>Are the responsibilities of site personnel involved in the USQD process clearly defined and delineated?</p>		
<p>Does the USQ procedure indicate that formal training and qualification program will be established for all site personnel involved in the USQ process?</p>		
<p>Are the necessary educational background, knowledge of facility and DOE requirements, and familiarity with the facility safety basis clearly defined for site personnel involved in the USQ process?</p>		

USQ LOIs⁷	Yes	No
Does the USQ procedure indicate that the list of people certified for USQD processes will be kept current?		
Is DOE kept current with respect to all phases of USQ resolution, including notification of discoveries, review of USQDs, and review of corrective actions?		

Attachment 3 - Lines of Inquiry (LOIs) for Preparation/Review of SERs⁸

SER LOIs ⁹	Yes	No
<p>Does the title page provide sufficient identifier information for both the DSA and TSR and the SER, including:</p> <ul style="list-style-type: none"> ▪ SER title, revision number, and date issued; ▪ title, revision number, and date issued for the DSA and TSRs; ▪ facility name and identification number, if any; ▪ site; and ▪ DOE contractor's name and appropriate contract number? 		
<p>Does the signature page provide the identification and signature of the approval authority, and the date of the approval of the DSA and TSRs?</p>		
<p>Does the executive summary contain the following information?</p> <ul style="list-style-type: none"> ▪ identification of the facility for which approval is being granted and its hazard category ▪ statement of the facility mission and scope of operations encompassed by the facility mission ▪ summary of the major facility hazards and dominant accident scenarios ▪ discussion of pertinent exemptions and/or consent agreements impacting the approval ▪ discussions of major mission- and project-related influences impacting the decision to authorize operation ▪ any conditions of approval and/or open issues raised with regard to the approval bases, including schedules for completion (if applicable) 		
<p>Does the executive summary have a concluding statement on the acceptability of the DSA and TSRs indicating that these documents have undergone an appropriate review and that the facility safety basis as documented is acceptable with stated conditions of approval, if any?</p>		
<p>Does the review process discussion in the SER provide a description of the review process the DSA and TSRs have undergone and its basis? Typical information includes:</p> <ul style="list-style-type: none"> ▪ Basic premises of review, particularly those representing some consensus with the preparer of the DSA/TSRs, ▪ summation of the review effort, ▪ key participants in the review process, ▪ scope of special efforts, if any (e.g., selected independent calculations, 		

⁸ The SER LOIs will be reviewed and updated in the next revision of the SRP based on changes in DOE-STD-1104-2014.

⁹ The SER is primarily a management document that provides the DOE Safety Basis Approval Authority the basis for the extent and detail of the review of the PDSA, DSA, and TSRs and the bases for any conditions of approval. These LOIs are based on 10 CFR 830 Subpart B, § 830.207; DOE-STD-1104; and Best Management Practices, if any. They provide a starting point for a set of corporate Performance Expectations and Criteria. Review teams are expected to build on these and develop additional project-specific LOIs, as needed.

SER LOIs⁹	Yes	No
walkthroughs, etc.).		
Are the bases of acceptance stated in the SER on the evaluation of the background and fundamental information to support the review of the technical aspects of the DSA and TSR?		
Are the bases of acceptance stated in the SER on the completeness of the hazard and accident analyses and the consistency of the logic used throughout the analysis process?		
Does the hazard and accident analyses discussion in the SER cover: <ul style="list-style-type: none"> ▪ a synopsis of hazards identified; ▪ fundamental aspects of defense in depth, worker safety, and environmental protection; ▪ dominant accident potentials; and ▪ accident consequences relative to the DOE-STD-3009 Evaluation Guidelines? 		
Are the bases of acceptance stated in the SER for approving safety SSCs designation and their associated safety functions, functional requirements, system evaluations, and potential TSR coverage, including any conditions of approval imposed?		
Does the SER address the consistency of the logic developed in hazard and accident analyses being carried through to the identification of safety SSCs and the definitions and descriptions provided for these SSCs?		
Are the bases of acceptance stated in the SER for approving SACs and their associated safety functions, functional requirements, system evaluations, and potential TSR coverage, including any conditions of approval imposed?		
Does the SER address the consistency of the logic developed in hazard and accident analyses being carried through to the identification of SACs and justify the use of SACs over engineered features?		
Are the bases of acceptance stated in the SER for approving the derivation of TSRs, including any conditions of approval imposed?		
Does the SER provide a synopsis of the derivation of TSRs as a function of the hazard and accident analyses?		
Does the SER include the bases of acceptance for approving safety management program characteristics, including any conditions of approval imposed?		
Does the SER include the bases of acceptance for approving the TSRs by verifying all the safety control commitments that are made in the DSA are carried through the TSR provisions?		
Does the SER document the review of the technical bases for determining the specific form of TSR treatment (e.g. LCOs or ACs)?		

SER LOIs⁹	Yes	No
If the SER contains COAs, are the conditions required to be met and the actions required to be implemented clearly articulated?		
Does the SER state the bases for including COAs as well as conclude that continued operation under the COA is acceptable and consistent with adequate protection of workers and the public?		
<p>Does the SER provide references to the essential records, documentation, and information generated throughout the review process, including:</p> <ul style="list-style-type: none"> ▪ the review plan and schedule; ▪ minutes of review meetings; ▪ dates and the results of facility walkthroughs; ▪ submittal of issues and their disposition; ▪ documentation generated in resolution of issues; ▪ handling of differences of opinions; and ▪ documentation regarding commitments made by the facility contractor for approval of the DSA and TSRs? 		