



READINESS REVIEW

TRAINING

Development of Criteria And Review Approach Documents CRADs

Readiness Review



Implementation Plan

- Prepared by RR Team Leader with assistance of the Team
- Documents the process for the RR and rationale for that process
- DOE RR should address adequacy of the Contractor RR
- On-site visits and discussions often needed in preparation of IP

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IP Approval

- The IP is approved by the Team Leader
- No other approval is required by DOE O425.1D



Content of IP

- Specific Content in references provided
- Team Leader documents qualification of Team Members in IP
- Contains Criteria And Review Approach Documents (CRADs)
 - Key component of IP
 - Directs performance of review at the working level
 - TEAM MEMBERS PREPARE CRADS!!
- Includes Pre-Start and Post-Start Finding Criteria



IP Flow down

The Implementation Plan

- Flows down from the POA
- Cannot be written in a vacuum
 - Must understand key commitments
 - Must have references/resources available
- Communication and/or visits to site (before formal Pre-Visit) may be required



Developing CRADs

From POA - Outline key emphasis areas (examples)

1. What are physical boundaries?
2. What are key Structures, Systems & Components (SSC)?
 - Where any of these modified?
3. If a Re-start, when/why was the facility shutdown?
 - Have there been management changes?
 - Have there been operator/support changes?
4. What are the key “risk areas” to be addressed

First Step in establishing Depth – Grading approach



Developing CRADs

(continued)

From the POA and your notes (previous side)

Identify potential Functional Areas

- Is Criticality an area of Concern?
- Are Radcon controls key in the review?
- Is Change Control/Configuration Management/Engineering relevant?
- Is Fire Protection/Response an important element?
- Are Industrial Safety/Hygiene concerns significant?
- Are Maintenance/Testing activities important?
- Is Conduct of Operations a key area of concern?



Developing CRADs

(continued)

- Once Functional Areas have been identified, Team Leader identifies Subject Matter Experts (See Assembling the Team)
- While Team Leader may assign and even draft CRAD Objectives, Team Members must develop and refine the CRADS
 - May require communication with Site Counterparts early and often
 - Keep relationship “at arms length”



Developing CRADs

Example

If modifications have occurred – emphasis there, less on unmodified systems

–Do they conform to DSA? Change Control? USQ process? Procedure/Training completed? Etc.

If shutdown duration was extended – Emphasis on

–Management and personnel turnover/chgs – training, dry runs, qualification processes

–Condition of equipment – layup conditions, maintenance, testing, etc.



Establish “Objectives”

- Objectives are statements of desired conditions (Performance Objectives)
- Written along Functional Area lines
- Taken from Core Requirements scoped in POA
 - Not always 1 to 1 correlation
 - May have more than one CR in an Objective
- ALWAYS – Reference the CR(s) that the objective addresses at the end of the Objective
- Ensure that all CRs addressed in the POA have been accounted for in the IP (be methodical)



Example Objective

CM-1 Safety structures, systems and components (SSC) are defined and a system to maintain control over their design and modification is implemented. Systems and procedures, as affected by facility modifications, are consistent with the facility description, procedures and accident analysis and assumptions included in the safety basis. Modifications have been completed and fully closed or evaluated and determined to not affect the ability to safely start nuclear operations. Modifications to the have been reviewed for potential impact on training and qualification. **(CR 3, 6, and 8)**



Example Objective

Could break this up into smaller bites if desired:

CM-1.1 Safety structures, systems and components (SSC) are defined and a system to maintain control over their design and modification is implemented. **(CR 6, 8)**

CM-1.2 Systems and procedures, as affected by facility modifications, are consistent with the facility description, procedures and accident analysis and assumptions included in the safety basis. **(CR 8)**

CM-1.3 Modifications have been completed and fully closed or evaluated and determined to not affect the ability to safely start nuclear operations. **(CR 8)**

CM-1.4. Modifications have been reviewed for potential impact on training and qualification. **(CR 3)**

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Develop Criteria to Support Objective

Determine Requirements!

1. Federal Regulations – 10 CFR 830, 835, etc
2. From Contract, List A/List B, SRIDS, Work Smart Standards, etc.
3. May flow down from program level documents
 - QA Program, FP Program, ISMS, etc may commit to DOE or industry standards, thereby creating requirements

CANNOT DEVELOP CRITERIA WITHOUT THE REFERENCES!!!!

<http://www.hss.doe.gov/nuclearsafety/ns/techstds/standard/standard.html>



Example Criteria

4. Drawings and Documentation relied on for maintenance and operations are consistent with the existing configuration of the systems, including temporary modifications in place for the operations included within this startup. (DOE-STD-1073-2003; Ch 1.3, DOE O 433.1B, 2.b; DOE O 422.1, 2.8.7; XYZ Configuration Management Plan, CMP 1 Rev 4, Ch 3.4.5)
5. Safety and Support Systems and equipment are consistent with the assumptions and descriptions in 210 CFR 830.200; 28974-DSA-2010, Rev 3 Chapter 3, 7 and 9; XYZ Configuration Management Plan CMP 1 Rev 4, Ch 3.4.1)



Collecting References

Use your experience and Mental Model
Communicate with Site Counterpart

Top Tier

- Federal Rules (830, 835, etc)
- OSHA (LO/TO, Confined Space, etc)
- Approved Safety Basis Documents (DSA, BIO, JCO, TSRs)

Second Tier

Authorization Agreement
DOE Orders, Intl and DOE Standards in Contract, etc.
Upper Level Program Plans
e.g. QA Program, FP Program, ISMS, Training Plan
Standards committed to in Program Plans



Collecting References

(continued)

Third Tier (generally don't introduce new requirements)

- Site Level and Facility Level Procedures
- System and Process Level Procedures

Ensure that each Criterion has the reference identified – Remember

“For every valid compliance requirement there is a performance-based root”



Review Approach

Identify the best method (or combination of methods) to determine if the criteria are met.

Document Review:

Review System Engineer Modification Logs maintained per the XYZ Configuration Management Plan to determine modifications made to support startup. Review Operations Temp Mod Log to determine any outstanding temporary modifications in place.

Review affected Standard Operating Procedures (SOPs), Alarm Response Procedures and 25% of current Maintenance Procedures on affected equipment to confirm that modifications are correctly represented in the procedures to be used for the startup. (coordinate with CONOPs and MAINT)

Review drawings affected by the modifications to determine if the drawings reflect the modifications. For Temporary Modifications, review the Control Room “Redline” drawings to ensure that temp mods are correctly reflected in documents used by the control room.



Review Approach

(continued)

Identify the best method (or combination of methods) to determine if the criteria are met.

Interview:

Interview Engineering Manager and System Engineer to determine level of knowledge about the design control system with particular emphasis on modification and temporary modification control.

Interview 50% of Maintenance Supervisors (include is sample all new Supervisors) to determine level of knowledge about what maintenance actions constitute modifications and how modifications are controlled (Coordinate with Maint)

Interview 50% of the Control Room Supervisors (all new Supervisors) to determine level of knowledge about control of Temporary Modifications, redlines, and methods to ensure that operations and support personnel (maintenance, radcon, IS/IH) are made aware of temporary modification that effect their work activities. (Coordinate with CONOPS)



Review Approach

(continued)

Identify the best method (or combination of methods) to determine if the criteria are met.

Observations:

Conduct facility walk-downs (coordinate with CONOPS) to determine facility equipment and facility status with particular emphasis on modifications and existence of temporary modifications. Be particularly mindful of apparent electrical jumpers, spool pieces, blank flanged opening, etc. to determine if these are temporary modifications and if noted confirm through document review and/or interview if they are controlled per the Configuration Management Plan.

Conduct walk-down of 25% of the modifications noted in the document review (at least 2 completed and at least one temp mod if any exist) to determine if the modification is correctly reflected in the drawings, procedures, redline drawings, and temp mod log.

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