

**2018 EM D&D Project Critical Decision Assessment Tool - accomplished under DOE or NRC Regulations
(Non-CERCLA/RCRA) Project Definitions and Target Score Criteria**

The following definitions describe the criteria required to achieve a maximum rating or maturity value of 5. It should be assumed that maturity values of 0-5 represent a subjective assessment of the quality of definition and/or the degree to which the end-state or maximum criteria have been met, or the product has been completed in accordance with the definition of maturity values.

A. COST Rating Element

A1 Cost Estimate

A cost estimate has been developed and formally approved by FPD and is the basis for the cost baselines. The cost estimate is a reasonable approximation of Total Project Costs (TPCs), and covers all phases of the project. The estimate is prepared in accordance with DOE requirements. The estimate bases are fully documented and traceable. Supporting backup information has been collected and organized and is available in a central file or location. Major estimate assumptions, especially those affecting major cost drivers, are fully documented and explained. Estimate exclusions or qualifications are clearly documented. Estimated costs are time-phased and escalated using current DOE or other justifiable escalation rates. For cost estimate point values AACEI Cost Recommended Practice 17R-97 is a useful reference. A Class I (CDAT score of 5) estimate is developed from quantity take offs from completed design plans and specifications. Whereas the Class 5 estimate (CDAT score 1) is of a rough order of magnitude estimate useful for determining the range of costs for various alternatives at CD-0.

Project Phase (DOE O 413.3B)	Level of Project Definition	Estimate Class	CDAT Maturity Value
CD-0/Approve Mission Need	0% to 15%	Class 4/5	1
CD-1/Approve Alternative Selection & Cost Range	10 to 15%	Class 3	2
CD-2/Approve	30% to 70%	Class 2	3-4
CD-3/Approve Start of Construction	50% to 100%	Class 1	5

Rating Element

Criteria for Maximum Rating

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A2	Cost Risk/Contingency Analysis	The cost estimate includes contingency allowances developed in accordance with DOE guidance. In addition to any deterministic contingency analyses that may have been developed, a probabilistic risk analysis has been performed. The assumptions, rationale and methodology used to perform the probabilistic analysis are explained. The cost risk analysis builds on and is tied to the Project Risk Management Plan. Risk mitigation costs, if appropriate, have been included in the baseline cost estimate, or addressed by the risk analysis model. Costs related to schedule contingency also are included. The use of management reserve by contractors in procurement actions has been evaluated. The confidence level of the baseline cost estimate is clearly stated and explained. All of the preceding requirements are documented in the project record.
A3	Funding Requirements/Profile	Funding requirements have been defined and the project timeline is in compliance with the DOE budget timeline/process. Required budget documentation, including Project Data Sheets (where required), reflects current project cost and schedule estimates/forecasts. The funding profile is based on quantified resource requirements derived from the cost estimate, time-phased through integration with the project baseline schedule. Resource constraints (personnel, budget authorizations, etc.) have been considered when developing the project schedule, and an iterative process used to correlate the cost estimate, schedule and funding profile. The funding profile is based on full consideration of available or expected budget or funding levels for the project. The impact of any projected funding shortfalls has been assessed and management strategies developed to accommodate those shortfalls have been considered and incorporated in the project plans. All of the preceding requirements are documented in the project record.
A4	Independent Cost/Schedule Review	In addition to any internal cost and schedule estimate reviews, the cost estimate and schedule have been subjected to an independent review by an organization not directly involved with the project (Independent Cost Estimate, when required). The independent review has been documented, including the techniques used and type of review performed. The results, findings and recommendations of the independent review have been reconciled with the cost and schedule estimates and changes have been incorporated.

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A5	Life Cycle Cost	The project Life Cycle Costs (LCC) includes relevant assumptions, bases of estimate, qualifications, and exclusions. LCC includes the estimated cost for government commitments that result from execution of this project, including downstream projects/facilities and eventual disposition of the facilities constructed for this project. The LCC estimate should meet the requirements of Office of Management and Budget directives and DOE Orders and guidance. LCC of competing projects or alternative strategies are estimated and documented on a comparable basis. For nuclear projects, or other projects with significant safety hazards, accidents mitigation costs associated with structures, systems, and components (SSCs) have been included. For high hazard facilities, safety mitigation costs are often a key discriminator in competing projects or alternatives.
A6	Forecast of Cost at Completion	The cost baseline is approved and the measurement of actual performance is begun, forecasts of costs at completion (actual costs to-date plus "to-go" costs) are developed and issued at regular intervals. Cost forecasts are developed in accordance with project procedures. Key assumptions supporting the baseline estimate are documented and periodically re-evaluated and the impacts of changing assumptions are reflected in the estimates of "to-go" costs. Forecasts are related to the Change Control system and incorporate both approved and pending changes, as appropriate. The forecast of cost at completion is a reasonable projection based on the status of the project and experience to-date.
A7	Cost Estimate for Next Phase of Work	A detailed cost estimate is prepared and approved for the work scope to be accomplished during the next phase of the project (i.e., the efforts needed to successfully complete the prerequisites for the next Critical Decision). Cost estimates are defensible with an appropriate level of supporting detail and documentation. Assumptions are clearly documented and stated.

Rating Element	
B. SCHEDULE	Criteria for Maximum Rating

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B1	Project Schedule	A schedule has been developed, documented and approved by DOE, is identified in regulatory milestones, and is the basis for the Schedule Baseline. The schedule is a reasonable layout of project activities for all phases of the project and is at a level of development that will allow project execution. Included project activities are consistent with the Work Breakdown Structure (WBS), and the schedule is prepared in accordance with DOE guidance and practices. The schedule is activity-based and includes milestones, reasonable durations and acceptable logic. Schedules and milestones should align after negotiations and change packages are complete. Lower level schedules are developed and tiered to support the baseline schedule and/or Project Master Schedule. Project-specific conditions are included. Assumptions are defined. Interface requirements (including technology development and Government Furnished Services and Items (GFSI) are incorporated into the schedule. The baseline schedule covers the full scope of the project through CD-4, including operations phases, if any. An appropriate method of developing the schedule is used, including an acceptable software package. The project schedule has undergone an independent documented check for completeness and accuracy.
B2	Major Milestones	Milestones are included at each level of the project schedule to establish a baseline and indicate significant progress against the work to be completed. Stakeholder and regulatory milestones are included, as appropriate. Milestones are tiered to support project decisions, performance, approvals, etc. A milestone dictionary is provided which defines the requirements for successful completion. An appropriate number of milestones are included to control the project.
B3	Resource Loading	The schedule is resource loaded, considers critical resources, and is consistent with the funding profile. The resource loading is documented, and is reasonable, considering such elements as ramp-up, lead times, constraints, etc.
B4	Critical Path Management	A Critical Path is defined. Near-Critical Path activities are identified and sensitivity analyses have been conducted. Schedule management practices are properly focused on Critical Path and Near-Critical Path activities.
B5	Schedule Risk/Contingency Analysis	A probabilistic risk assessment has been conducted on the baseline schedule, and appropriate contingency added, as required. Assumptions, rationale, and methodology, used in the analysis are documented. Schedule risks are fully integrated with the risk management plan.

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B6	Forecast of Schedule Completion	The schedule baseline is approved and the measurement of actual performance has begun, forecasts of completion dates are developed and issued at regular intervals in addition to presentations of schedule progress. Schedule forecasts reflect actual performance, to date, and projections. Forecasts are related to the Change Control system and incorporate both approved and pending changes.
B7	Schedule for Next Phase of Work	A detailed schedule is approved for activities to be accomplished during the next phase of the project (i.e., the efforts needed to successfully complete the prerequisites for the next phase of D&D or the next Critical Decision). The schedule is defensible with an appropriate level of supporting detail and documentation.
C. SCOPE/TECHNICAL Criteria for Maximum Rating		
C1	Alternatives Analysis/End State	Major alternatives have been identified and viable alternatives have been analyzed. Alternative Analysis includes comparisons of LCC, Feasibility (including Technology Development requirements), Stakeholder Values, Safety, Regulatory Compliance, and other factors as appropriate. The preferred option(s) is identified and justified. The intended overall condition and status of the facility at project completion (end state) is established.
C2	End Point Criteria and Closure Plan/Permit Modification	End Point Criteria have been defined, documented and approved for facilities, spaces, systems, materials and wastes, consistent with meeting the established end state for the project. The Closure Plan for the release site or facility is documented and approved.
C3	Functional & Performance Requirements	Functional and performance requirements for the project are documented (approved by users and key stakeholders), and under configuration control.
C4	Technology Needs Identified and Available	Technology to be used has been identified and is currently available. The technology has been evaluated, including benefits and risks. If new technology is required, a technology development schedule supports the project schedule. Deployment of a new technology for the project should be part of the project risk assessment and is reflected in the project schedule and cost estimate.
C5	Technology Needs Demonstrated	New technology has been tested and determined to meet project objectives (technical, cost and schedule). Maturity of new technology to be used has been evaluated and factored into risk analysis. A Technology Readiness Assessment, or its equivalent (Reference: DOE G 413.3-4, Technology Readiness Assessment Guide, dated 10-12-09) has been conducted.
C6	NEPA Documentation	All NEPA activities, including NEPA strategy and requirements, are complete and compliant with DOE Orders, as necessary. (Not Applicable to projects conducted under CERCLA Regulations)

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C7	Plot Plan	<p>Preliminary plot plan is complete and shows location of project in relation to adjoining facilities. It should include items such as:</p> <ul style="list-style-type: none"> - Plant grid system with coordinates - Unit limits - Gates and fences - off-site facilities - Tank farms - Roads and access ways - Rail Facilities - Green space - Buildings - Project boundaries - Decontamination areas - Temporary staging areas - Major utilities - Nearby residences - Surface water
C8	Site/Facility Characterization (Including Surveys and Soil Tests) and radioactive inventory	<p>Assessment of site-specific requirements completed. Survey and soil test evaluations of proposed facilities/sites completed. Investigation and development of facility/site-specific characteristics sufficient to support final D&D planning/design and key assumptions are clearly documented. As applicable, radioactive inventory is complete, surveys have been conducted, soil and facility samples have been taken. Evaluation of the results of the investigation and characterization work has been finalized.</p>
C9	Waste Acceptance Criteria (WAC)	<p>The on-site or off-site Waste Acceptance Criteria are documented, approved, and included in the planning/design requirements for the project</p>

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C10	Waste Characterization and Disposition	Waste streams generated (gaseous, solid, and liquid, both hazardous and non-hazardous) through construction, demolition, or environmental cleanup are sufficiently characterized to identify appropriate disposition alternatives and worker protection levels and documented in a Waste Management Plan. Samples have been collected, analyzed and validated to produce reliable, high quality data. Necessary plans and actions have been taken to confirm conditions, prepare documents and perform the discovery action, including resolving surveillance and monitoring activities and safety considerations. Historical data and process knowledge are fully documented. All waste streams have their disposition finalized and included in the project costs, risks and schedule.
C11	Pollution Prevention and Waste Minimization	A detailed waste minimization/pollution prevention plan for the project, including any operational phases is complete. A description, estimated costs, and present implementation plan for design, operation, and mitigation features that will minimize wastes and prevent pollution are approved. A detailed waste management plan describing quantities and types of wastes to be generated and plans for their waste treatment, storage or disposal are complete. The plan should: <ul style="list-style-type: none"> <input type="checkbox"/> Support the waste management cost estimate for the cleanup and any processes. <input type="checkbox"/> Identify project options for waste treatment, storage, and disposal, including availability of future disposal capacity and sites. <input type="checkbox"/> Integrate waste management plans with waste minimization/pollution prevention plans. <input type="checkbox"/> Characterize regulatory benefits and concerns associated with types and quantities of wastes expected.
C12	Waste Storage, Packaging and Transportation	Storage, packaging and transportation requirements for nuclear and hazardous materials and wastes are identified and documented, including both off-site and in-plant transportation, as well as methods and equipment (casks, overpacks, etc.) for packaging, receiving/shipping materials (e.g., rail, truck, air, marine). The waste packaging and shipping requirements are identified, documented and included into the project design. Storage areas have required permits. Storage, packaging, and transportation specifications are fully identified for each waste stream.
C13	Equipment Needs	Equipment needs have been identified and procurement schedules established. All engineered equipment and/or materials are fully specified, bid, and tabulated as necessary to support project schedule.
C14	Work Plans and work Package Completion	Completed work plans and work package documentation including field instructions and requirements. Back-up files may include engineering files, trade-offs, calculations, etc.

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C15	Interface Planning and Control	System interfaces (consistent with System Design Descriptions) have been identified and defined, and, if necessary, an Interface Control Plan is approved and implemented. All internal and external stakeholders have been involved in project development and planning. Appropriate ties to project logic have been accomplished for each stakeholder (i.e., material receipt, transportation, safeguards and security, safety, worker's health, regulatory, effect on current operations, etc.). The process should be part of the Worker Protection Program for DOE; 10 CFR 851, Worker Safety and Health Program; as they may apply and are appropriate.
C16	Training Requirements	Training requirements defined, planned and scheduled. Design considerations have been incorporated as appropriate. Simulation and/or mockup facilities are defined and established as necessary.
C17	Long Term Surveillance and Monitoring Plan/Post Disposition Monitoring Plan	The draft Long Term Surveillance and Monitoring Plan is complete. This plan will be finalized and approved at the conclusion of remediation/construction. For D&D, the Post Disposition Monitoring Plan is prepared, approved, and ready for implementation by the performing organization
C18	Permits, Licenses, and Regulatory Approvals	Applicable permits, licenses, and regulatory approvals obtained and milestone dates for pending and new applications reviewed and revised as appropriate. All permits, licenses, and approvals necessary to deconstruct and operate a facility or to initiate and perform project activities are identified and will be obtained when needed to continue project execution on schedule. Schedule for receipt of authorization from regulators should be realistic based on experience.

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C19	Detailed D&D Design, Plans and Procedures	<p>Project strategy and detailed planning addresses critical issues for transitioning from operations to disposition and from one disposition phase to another. At a minimum, the following issues are addressed.</p> <ul style="list-style-type: none"> - Technical and other options and alternatives selection - Disposition path for generated and residual radiological and hazardous materials - Interim storage needs - Goal for appropriate reduction of hazards and modification of the safety basis consistent with the project end-state - Identification of needed operational expertise - Project utilities and structural integrity during and post disposition - Integration of disposition tasks for attaining the end-points - Options and alternatives selection <p>Disposition path for generated and residual radiological and hazardous materials</p> <ul style="list-style-type: none"> - Interim storage needs - Goal for appropriate reduction of hazards and modification of the safety basis consistent with the project end-state - Identification of needed operational expertise - Project utilities and structural integrity during and post disposition - Integration of disposition tasks for attaining the end-points
C20	D&D Design/Plans, Technical, and Safety-related Reviews for this phase	<p>D&D design, plans, technical and safety-related reviews have been conducted at each appropriate project phase. They have been performed by a team representing appropriate disciplines and, if appropriate, external experts have been utilized. Review results, comments and resolutions have been documented and accepted by reviewers. Safety issues have been resolved.</p>
C21	Natural Phenomena	<p>Seismic, Tornadoes, Hurricanes, Tropical Storms, seismic and other natural phenomena are considered in the remedy selection and remedial design, and are documented. The process should be part of the safety in design activities as defined by DOE STD 1189-2008, as they may apply and be appropriate for D&D/restoration type projects.</p>

D. MANAGEMENT PLANNING AND Criteria for Maximum Rating

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D1	Mission Need Statement (MNS)	An approved Mission Need Statement exists. The project MNS demonstrates that the project relates to and supports execution of Program Strategic Plan goals and objectives as well as the DOE Strategic Plan. A MNS describes regulatory or other requirements that are the basis for this cleanup project. Mission needs are reassessed after major changes in a program, at budget submission, and at Critical Decisions.
D2	Acquisition Strategy/Plan	An Acquisition Strategy/Plan has been developed and approved in accordance with DOE requirements and orders. The acquisition strategy and plans should be sufficient to accomplish the project using a tailored approach, as appropriate. The project is in compliance with the site/complex strategic plan. The approved Acquisition Strategy supports all contracts, subcontracts, long lead procurements, and major procurements (both foreign and domestic) for the project. The plan addresses the methodology of incorporating project specific issues [such as, nuclear quality assurance-1 (NQA-1)].
D3	Key Project Assumptions	A complete list of critical facts and circumstances that would affect project outcome if changed is available. These assumptions have been reviewed and approved by appropriate parties. Project assumptions are reflected in technical/cost/schedule baselines and risk management plans. The process should be part of the safety in design activities as defined by DOE STD 1189-2008, as they may apply and appropriate.

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D4	Project Execution Plan (PEP)	<p>The PEP has been developed and approved in accordance with DOE requirements/orders. The PEP is the primary agreement on project planning and objectives between all parties, and establishes roles and responsibilities and defines how the project will be executed, including tailoring general requirements and processes to the specifics of the project. The PEP should include:</p> <ul style="list-style-type: none"> • Performance Baseline (Scope, Cost and Schedule), including a Resource Loaded Schedule for the duration of the project. • Identification of any long-lead equipment and materials (including the technical basis for equipment sizing as well as a risk analysis with respect to long-lead equipment being properly sized). • Project organization and roles and responsibilities. • Process for baseline change control and configuration management. o Project environmental and regulatory management o Project risk management plan (if not included as a separate document) • Discussion of planned design reviews and how they are to be conducted. • Project quality assurance organization and implementation approach. o Project closeout and project transition (if applicable.) <p>The PEP has been updated to reflect current project status, plans and performance baseline. -Note: The Preliminary Project Execution plan (PPEP) which is required at CD-1, should be based on a defined concept and, although not fully developed, is expected to contain substantial detail in all of the areas listed above. Thus a compliant PPEP would be rated at an expected maturity value of 3.</p>
D5	Integrated Project Team (IPT) and Charter	<p>The project organization and IPT charter are in place and functioning. The Integrated Project Team (IPT) has been in place since early project phases. The IPT participants' roles and responsibilities are clearly articulated. The composition of the IPT reflects the major areas of expertise needed to execute the project. The project is staffed with sufficient numbers of project management, technical, and acquisition specialists suitably qualified to accomplish project objectives. A qualified (certification level) Federal Project Director has been identified and formally assigned.</p> <p>- Note: The Preliminary Project Execution plan (PPEP) which is required at CD-1, should be based on a defined concept and, although not fully developed, is expected to contain substantial detail in all of the areas listed above. Thus a compliant PPEP would be rated at an expected maturity value of 3.</p>
D6	Decommissioning Plan (For NRC work or DOE equivalent)	<p>For D&D work being conducted under the regulatory authority of the Nuclear Regulatory Commission a Decommissioning Plan has been prepared and has been approved. For D&D work being accomplished under DOE D&D authority , similar D&D plans are in place and approved.</p>

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D7	Baseline Change Control	There is a DOE approved process to review and approve proposed changes to cost, schedule, and technical baselines and to determine the impact of changes. Baseline Change Control Boards (CCB) are established at appropriate levels of the organization, the thresholds for each level are defined, and appropriate procedures are in place and being used. The process is described in the Project Execution Plan.
D8	Project Control	A project control system is being used to manage the project baseline applying earned value techniques, variance analysis, contingency/management reserve and effective reporting in accordance with DOE Orders and guidelines.
D9	Project Work Breakdown Structure (WBS)	A single Project Work Breakdown Structure is established which includes all authorized project work scope and reflects the project through project completion. WBS dictionary is complete, including detailed Statements of Work (SOWs). Project schedule and costs are directly aligned with the WBS structure, and deliverables are defined. The WBS is defined to an appropriate levels of detail needed to successfully manage the project.
D10	Resources Required (People/Material) for Next Phase	The resources required for next phase are identified and available. These resources are reflected in the resource-loaded schedule.
D11	Configuration Management	A configuration management program is functioning to ensure consistency among requirements, criteria, design, existing facilities, physical configuration, and interfaces within project documents. The process should be part of the Integrated Safety Management System.
D12	Project Risk Management Plan/Assessment	A risk management plan is developed and is included in the Acquisition Strategy/Plan and/or PEP, as appropriate. A risk mitigation strategy is in place. Project risk (technical and programmatic) is an accurate and complete estimate of the probability and severity of cost, schedule and other impacts (environment and safety) associated with uncertainties in the project, including a time-frame in which these risks are expected to occur. Risks are tracked, reported, and controlled. Project risks are reflected in the project cost estimate and schedule. Risk Mitigation Plans/Strategies have been identified in the plan and included in the Performance baseline. The process should be part of the Integrated Safety Management System.- Risk Management and Ownership continues to be actively used, as demonstrated by periodic (i.e. at least quarterly) updates of the risk register and regular reporting and re-evaluation and status reporting of cost and schedule contingency.

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D13	Quality Assurance Program	A quality management system is defined and integrated into the processes governing activities that implement the project mission in compliance with requirements of 10CFR 830 Subpart A, Quality Assurance Requirements, DOE O 414.1C, Quality Assurance, and other applicable project specific quality requirements. A Quality Assurance (QA) program/plan is established. QA factors, including standards, specifications, and limitations are identified and have been communicated to the project staff and contractors. A Quality Control (QC) and QA oversight organization is in place and functioning. The process should be part of the Integrated Safety Management System.
D14	Value Engineering, Trade-Off, and Optimization Studies	Where appropriate, a value engineering program complying with DOE Orders is in place and qualified personnel have analyzed appropriate project functions using accepted industry techniques with the aim of improving performance, reliability, quality, safety and life cycle costs of remediation technologies, systems or procedures. The value engineering analyses are documented in a formal report and have provided unbiased, outside opinion and/or senior expertise (as appropriate) as inputs to the D&D planning/ design process and an independent review of concept, design, and schedule. Measures, taken to minimize project life cycle costs and maximize the return on investment for completing the project, have been documented and cost savings have been quantified. Project criteria have been re-evaluated when value engineering analyses have determined them to have poor value or a high cost-to-worth ratio. The Trade-Off Studies are performed, as needed, to reach a reasonable level of project risk consistent with project phase and overall project cost/schedule. These trade-off studies are a part of conceptual and later design/planning phases to optimize the implementation design of the selected alternative. The studies include alternative requirements and controls, and optimization approaches with consideration of technical and safety requirements. The studies conducted should be well documented and the conclusions justified.
D15	Procurement Packages	Procurement packages are being developed in accordance with the Acquisition Plan and will have added details for Design-Build procurements (if appropriate). Contractor selection processes and procedures are in place. Procurement packages reflect all requirements for security, safety and environmental considerations and pass on appropriate responsibilities and risks to contractors and subcontractors.
D16	Project Acquisition Process	The project is being accomplished in accordance with the established DOE Project Acquisition Process and in compliance with DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets, including Critical Decisions and Energy System Acquisition Advisory Boards (ESAAB) or the ESAAB-equivalent process.

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D17	Funds Management	A funds management system is in place to ensure funds are allocated to support the project baseline elements for the current fiscal year. A system is in place to periodically review the annual costs to ensure that the annual funding will not be exceeded.
D18	Reviews/Assessments	Reviews (including External Independent Reviews (EIRs), Independent Project Reviews (IPRs) and Technical-IPRs) and assessments are performed and the findings, assessments, and recommendations are documented and presented to appropriate levels of management. A Corrective Action Plan is in place and being monitored and implemented, as necessary. Appropriate reviews and self-assessments are conducted as an integral part of the project, based on project complexity, size, duration and Critical Decision points.
D19	Stakeholder Program	A stakeholder program was established early in the planning phase of the project to take into account the concerns and ideas of Federal, state and local regulators, local citizens, the project staff, the laboratory, DOE' site office, the Program Office, and other entities involved in the planning, design, or implementation of the project. The stakeholder program includes a mechanism for incorporating stakeholder feedback into the planning process and for communication between the project team and stakeholders in a timely and meaningful way.
D20	Inter-Site and On-Site Coordination	Key inter-site and on-site coordination issues are identified, addressed and resolved or plans are in place to accomplish their resolution.

E. SAFETY AND SECURITY **Criteria for Maximum Rating**

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E1	Hazard Analysis/Safety Documentation	<p>Addressing hazards early ensures that safety is “designed in” early instead of “added on” later with increased cost and decreased effectiveness. Hazards include both project hazards (such as fire hazards, criticality, radiological, chemical, and explosives), as well Natural Phenomena Hazards such as earthquakes, flood, hurricanes, and lightening. Analysis of hazards results in the identification of potential accident scenarios and the determination of how to prevent or mitigate the accidents. Structures, systems, and components (SSCs) are identified and incorporated into the remedial design to prevent or mitigate the consequences of hazards to the cleanup, facility worker, the collocated worker and the public.</p> <p>Requirements on the Integrated Safety Management System (ISMS) to be followed are described in DOE P 450.4, Safety Management Policy, dated 10-15-96. New nuclear facility design activities or major facility modifications as defined in 10CFR 830, Subpart B, -must be conducted in accordance with DOE O 420.1B, Facility Safety, dated 12-22-05; DOE STD 1189-2008; and 10 CFR 851.</p> <p>The ISMS process is applied to all Critical Decisions (CDs) and the Office of Health, Safety and Security (HSS) activities and documentation (among others as applicable and appropriate) that should be followed by the project are described below:</p> <p><u>Prior to CD-2/3:</u></p> <ul style="list-style-type: none"> • Inventory of available documents based on existing facilities/sites identified in the scope of the project to facilitate hazard analysis and project planning. • Identify the potential hazards and their safety and risk implications in the mission need statement or RI/FS. • Include in the mission need DOE expectations for safety in design; identification of Safety in Design Tailoring Strategy; and identification of high level applicable safety regulations, safety codes, and safety standards (e.g. DOE O 420.1B, etc.).
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**2018 EM D&D Project Critical Decision Assessment Tool - accomplished under DOE or NRC Regulations
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E1	Hazard Analysis/Safety Documentation (continued)	<p><u>CD-0 to CD-1 (Alternative Selection and Cost Range):</u></p> <ul style="list-style-type: none"> • Hazardous conditions and associated likelihoods and consequences, both mitigated and unmitigated for each reasonable alternative are documented. Hazards have been identified for control under safety management programs (Integrated Safety Management System, industrial safety, radiation protection, etc.) . • Development of a Safety Design Strategy, • SSCs that prevent or mitigate the frequency and/or consequences of DBAs associated with project hazards and natural phenomena hazards (NPH) are identified. • Requirements for worker safety, radiation safety, criticality safety, fire safety, industrial safety, and life safety are identified and incorporated into the project Facility and Operational Requirements, and design criteria documentation. • Determine the qualified safety and health professionals in the Integrated Project Team necessary to support the Federal Project Director. <p><u>CD-2 to CD-3 (Performance Baseline):</u> Safety analysis activities that may be required should be integrated and performed concurrently and iteratively with D&D planning/design activities in order to establish an accurate and defensible performance baseline that adequately incorporates nuclear safety basis requirements, as applicable. Safety basis documents that are developed for CD-2/3 are:</p> <ul style="list-style-type: none"> • Updated Safety Plan - that demonstrates how an adequate safety plan is maintained on a step by step basis as the process of deactivation and dismantlement proceeds • Requirement for worker safety, radiation safety (including ALARA), criticality safety, industrial safety, fire safety, life safety, and chemical safety identified and incorporated into the project design. • Hazard Analysis Report has been updated, reviewed and approved if required. <u>CD-2 to CD-3:</u> • The Integrated Safety Management Process has been validated for D&D/remediation activities.
E2	Integrated Safeguards & Security Planning	<p>The security approach and potential requirements for the project are documented to aid in the development of the integrated safeguard and security plan. Safeguard and security requirements are identified and documented and incorporated into D&D planning/design drawings, plans and specifications. Security levels are appropriate for the designation of the facility as nuclear or non-nuclear. Full consideration is given to the security of both the facility as well as the components as deactivation and dismantlement activities take place.</p>

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E3	ES&H Management Planning (Including ISM)	Environmental, safety and health requirements, as delineated in Federal, DOE, state, site and local laws and regulations, are included in the project design requirements. Any exceptions are documented, justified and approved. The requirements, methodology, and responsibility for ES&H activities are clearly communicated. An Integrated Safety Management System (ISMS) has been implemented in support of the project in accordance with the requirements of DEAR 970-5204-2. The site's ISMS Document includes mechanisms for integrating ISM into the project activities and these mechanisms have been implemented. Safety Plans include fire, occupational, radiological, industrial hygiene, etc., and are complete, thorough and an integral part of all D&D planning/design, deactivation and dismantlement efforts. Site procedures and mechanisms ensure that during the project planning, hazards are analyzed, controls are identified, and feedback and improvement programs are in place and effective. Line managers are using these processes effectively, consistent with their management functions, responsibilities and authorities.
E4	Emergency Preparedness	Emergency management considerations are adequately reflected in the project planning and design and meet emergency preparedness requirements of DOE O 151.1D, <i>Comprehensive Emergency Management System</i> , and DOE O 420.1C, <i>Facility Safety</i> , where appropriate. Emergency response services and related factors are considered for the remedial/D&D site location. Specialized issues and considerations for emergency preparedness are adequately identified and documented Preparedness planning is complete for the disposition effort, and post-disposition emergency planning has been initiated, if appropriate. This planning has been coordinated with site and external response organizations. Specialized issues and considerations (e.g., control of interrelated processes) for emergency management are adequately identified and documented. Planning is complete for the remediation/disposition effort, and post-remediation/disposition emergency planning has been initiated, if appropriate. This planning has been coordinated with on-site and external response organizations.