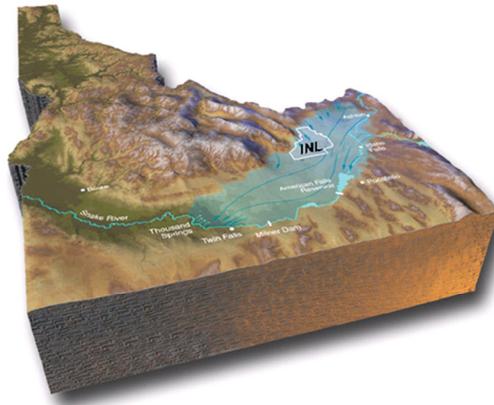


PLN-2087
Revision 6



Project Execution Plan for the Environmental Restoration/Voluntary Consent Order Project

June 2009

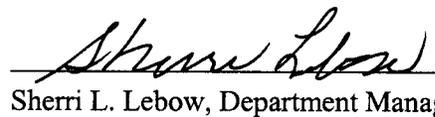
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Plan

Project Execution Plan for the Environmental Restoration/Voluntary Consent Order Project

 Date 6/4/09
Thomas J. Dieter, Area Project Manager,

 Date 6/4/09
Sherri L. Lebow, Department Manager, ER Project Controls

**Idaho
Cleanup
Project**

CH2M • WG Idaho, LLC is the Idaho Cleanup Project
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Project Controls	Plan	For Additional Info: http://EDMS	Effective Date: 06/04/09
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*The current revision can be verified on EDMS.

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ACRONYMS

ACWP	actual cost of work performed (actuals)
ARAR	applicable or relevant and appropriate requirement
BCWP	budgeted cost of work performed (earned value)
BCWS	budgeted cost of work scheduled (budget)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	<i>Code of Federal Regulations</i>
COBRA	Changing Our Behavior Reduces Accidents
CPI	cost performance index
CTR	charter
CV	cost variance
CWI	CH2M-WG Idaho, LLC
D&D	decontamination and decommissioning
DEQ	[Idaho] Department of Environmental Quality
DOE	U.S. Department of Energy
DOE-HQ	DOE Headquarters
DOE-ID	U.S. Department of Energy Idaho Operations Office
EAC	estimate at completion
EPA	U.S. Environmental Protection Agency
ER	environmental restoration
ESD	Explanation of Significant Differences
ESH&Q	environmental, safety, health, and quality
FFA/CO	Federal Facility Agreement and Consent Order
GDE	guide
HRB	Hazard Review Board

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IAG	interface agreement
ICARE	Issue Communication and Resolution Environment
ICDF	Idaho CERCLA Disposal Facility
ICP	Idaho Cleanup Project
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
ISMS	Integrated Safety Management System
JSA	job safety analysis
LCB	life-cycle baseline
LST	list
LTS	long-term stewardship
MCP	management control procedure
MSA	management self-assessment
MSCP	Miscellaneous Sites Cleanup Project
ORR	operational readiness review
P3	Primavera Project Planner
PAAA	Price-Anderson Amendments Act
PDD	program description document
PEP	project execution plan
PLN	plan
POD	plan of the day
POL	policy
POW	plan of the week
PRD	program requirements document
RCRA	Resource Conservation and Recovery Act

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RD/RA	remedial design/remedial action
ROD	Record of Decision
SPI	schedule performance index
STD	standard
SV	schedule variance
TRT	Technical Response Team
USC	<i>United States Code</i>
VCO	Voluntary Consent Order
VE	value engineering
VPP	Voluntary Protection Program
WAG	waste area group
WBS	Work Breakdown Structure

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1. PROJECT IDENTIFICATION

The ER/VCO Project (known hereafter as ER/VCO) is responsible for implementing the scope associated with Waste Area Groups (WAG) 1, 2, 3, 4, 5, 6, 7, 10, long term stewardship (LTS), and the VCO. The scope of this Project Execution Plan (PEP) includes

- Programmatic responsibility for all Idaho Cleanup Project (ICP) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) activities **with the exception of**
 - Operation of the Idaho CERCLA Disposal Facility (ICDF)
 - Decontamination and decommissioning (D&D) work performed under CERCLA removal actions
- Programmatic responsibility and execution of all Voluntary Consent Order (VCO) characterization and closure actions for the ICP.
- Groundwater monitoring
- Long-term stewardship (LTS) activities
- Implementation and maintenance of institutional control actions
- Coordination and resolution of RCRA/CERCLA (42 USC § 6901 et seq.; 42 USC § 9601 et seq.) interface issues with the exception of operation of the ICDF and D&D work performed under CERCLA removal actions.

1.1 Purpose

The mission of the ER/VCO Project is to safely, compliantly, and cost-effectively complete the scope of work for the programmatic coordination for the ICP CERCLA Program and the VCO as defined in DOE Contract DE-AC07-05ID14516 (DOE-ID 2005), this PEP, and the ICP life-cycle baseline (LCB) within the contract period and transition the continuing activities for LTS back to DOE or its designee.

1.2 History

The *CWI ICP Sitewide Project Management Plan* (ICP 2006) for accelerating cleanup of the Idaho National Laboratory (INL) Site describes the approach for CH2M-WG Idaho, LLC (CWI) to accelerate the reduction of environmental risk at the INL Site by completing the DOE's cleanup responsibility faster and more effectively without adverse impact to safety of the worker, the environment, and the public. In May 2002, DOE, the Idaho Department of Environmental Quality (DEQ), and the U.S. Environmental Protection Agency (EPA) signed a letter of intent formalizing an agreement to pursue accelerated risk reduction and cleanup at the INL Site. The letter provides the foundation for a collaborative plan for the accelerated cleanup of the INL Site. The *Environmental Management Performance Management Plan for Accelerating Cleanup of the Idaho National Engineering and Environmental Laboratory* (DOE-ID 2002) implements the letter of intent and the *CWI ICP Sitewide Project Management Plan* (ICP 2006) describes the project execution strategy.

The following is the vision agreed upon for the accelerated cleanup:

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- By 2012, the INL Site will have achieved significant risk reduction and will have placed materials in safe storage ready for disposal
- By 2020, the INL Site will have completed all active cleanup work with the potential to further accelerate cleanup to 2016.

1.3 Project Justification

The CWI ICP Contract DE-AC07-05ID14516 (DOE-ID 2005) and five compliance agreements and consent orders executed between 1991 and 2000 govern environmental cleanup work at the INL Site. The agreements are:

- *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory* (DOE-ID 1991)
- *Notice of Non-Compliance Consent Order* (and subsequent revisions) (IDHW 1992)
- *Idaho Settlement Agreement* (DOE 1995)
- Agreement to Implement U.S. District Court Order dated May 25, 2006 (**DOE 2008**)
- *Idaho National Engineering Laboratory Site Treatment Plan* (DOE-ID 1995)
- Voluntary Consent Order (DEQ 2000).

Because the compliance agreements were developed at different times under different regulatory authorities, the milestones and activities were not fully integrated to facilitate effective work execution. Therefore, by coordinating work, opportunities arise for improving project execution while reducing risk to the public, the environment, and the workforce.

A letter of intent signed by the State of Idaho, the EPA, and DOE in May 2002 documents the agreement of the Agencies to pursue accelerated risk reduction and cleanup at the INL Site and establishes a focused vision for the accelerated cleanup strategy. This project is authorized and implemented as required under DOE Contract DE-AC07-05ID14516 (DOE-ID 2005).

1.4 Project Funding

The ER/ Project is currently funded via the following three fund sources or DOE Headquarters (DOE-HQ) Project Baseline Summary:

- ID-0013 Solid Waste Stabilization and Disposition (RWMC P.2.02 only)
- ID-0030 Soil and Water Remediation-2012
- ID-0040 Nuclear Facility D&D (INTEC P.1.V1.03, VES-SFE-106 Closure).

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2. PROJECT SCOPE

The ER Project is the point of contact for status and integration of the Federal Facility Agreement and Consent Order (FFA/CO) (DOE-ID 1991) and the June 2000 “Consent Order” (DEQ 2000); the latter is commonly referred to as the VCO. Thus, the project will provide information to the Administrative Record, track the release site completion database, maintain institutional controls for all FFA/CO sites, serve as the overall contact for general FFA/CO inquiries, coordinate and track all actions required by the VCO, and serve as the overall contact for all VCO inquiries. Upon ICP completion, these functions will be transitioned to the Lead Program Secretarial Office.

2.1 Scope

The ER Project is responsible for the general scope of work included under various sections of the DOE Contract DE-AC07-05ID14516 related to CERCLA, Long Term Stewardship and VCO work detailed in the LCB. Project management scope includes identifying risk areas, developing risk mitigation strategies and monitoring the success of any specific risk mitigation actions taken. Any specific risk mitigation actions that are required to execute the work scope are included in the same Work Breakdown Structure (WBS) element the work scope is planned and a separate activity and charge number will be established to track specific mitigation actions.

2.2 Boundaries

The ER Project is responsible for completing the scope of work defined in the contract and this PEP. The ER Project has overall responsibility for CERCLA activities under the FFA/CO (DOE-ID 1991) and the VCO Program. The following activities are excluded from ER Project responsibilities (the WAG 7 Project is implemented via PLN-2085):

- Operation of the ICDF
- D&D actions performed under CERCLA using removal action authority.

Interface agreements (IAGs) are prepared and approved by the project and facility management to ensure that boundaries, duties, and responsibilities are assigned. In many cases, these IAGs should be simple 1-page documents that identify activities necessary to accomplish tasks, the responsible organization, and the responsible manager.

2.3 Balanced Priorities

Priorities are applied to work scope by establishing the order certain work will be performed or can be performed to efficiently achieve CWI’s mission. However, priority does not apply to safety or compliance consistent with the ICP Voluntary Protection Program (VPP) policy, “All work activities at ICP will be conducted in a safe, compliant manner, preserving and protecting our work force, resource, environment, and communities.” As stated in Section 2.1, the general scope of work is defined in the contract and further defined in the WBS and project baseline. Work priorities to achieve the mission are embedded into the project baseline. Baseline changes require approval by CWI senior management. Based on funding availability, work can be accelerated or delayed from the baseline schedule. However, no work will be performed without funding authorization and operations authorization consistent with work control practices as defined in Section 7. Operations authorization requires verification that the appropriate resources, including environment, safety, and health personnel, are available prior to starting work.

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2.4 Project Deliverables

Major milestones, either for coordination or direct responsibility, of the ER Project (not including WAG 7) are identified below:

- VES-SFE-106 RCRA closure (5)
- VCO/RCRA tank systems closure (68)
- Idaho Nuclear Technology and Engineering Center (INTEC) tank farm soils remediation (67)
- Groundwater actions (91)
- Soils remediation (95).

The number to the right of each item is the major milestone number. That number and each key milestone that feeds into the major milestone can be found on the ICP Milestone Sequence Chart.

3. TECHNICAL APPROACH

The overall technical approach and method of accomplishment for the ER Project are to increase efficiency, effectiveness, and risk reduction through

- Technical innovation
- Paperwork reduction and consolidation with a focus on accurate, clear, and concise documentation
- Requirement closure and simplification.

3.1 Technical Strategy

The strategy for CERCLA activities includes

- Streamlining regulatory and planning processes to quickly get to fieldwork
- Improving work crew efficiencies by:
 - Achieving safe and compliant work practices
 - Clearly communicating objectives
 - Accurate, clear, and concise planning
 - Active management oversight and participation in field activities
 - Listening to and evaluating worker ideas and suggestions for improvement
 - Incorporating lessons learned
- Minimizing legacy and stewardship costs through consolidation and simplification of ongoing activities
- Building credibility with regulators and stakeholders through consistent performance.

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The ER Project will cost-effectively implement actions specified in existing Records of Decision (RODs) or seek alternative actions through amendments, as appropriate. Institutional controls and LTS activities will be consolidated for efficiencies. New sites that are identified will be evaluated using the new site identification process. New sites requiring analytical investigation and/or remedial actions will be performed as funding is made available. Waste minimization and cost-effectiveness of complete characterization will be balanced to achieve the best value to the government. The ICDF will be used for CERCLA waste disposal as the primary waste disposal alternative wherever possible.

The strategy for VCO activities includes

- Developing well-trained, experienced, and dedicated teams
- Improving continuously by applying lessons learned and worker feedback
- Implementing a graded approach for high-risk tanks by balancing productivity and as low as reasonably achievable with proper engineering and equipment selection and detailed work planning.

The ER Project will preferentially try to administratively close VCO systems. If that is not possible, the ER Project will next try to clean close systems in place. If that is not practical, then the ER Project will place the systems in a RCRA-stable condition for closure by removal in a coordinated effort with the facility D&D effort. The RCRA closure by removal prior to D&D only will be performed when required to meet enforceable commitment dates or when integration with the D&D effort is not practical.

3.2 Project Closure

A closeout report for each area of the ER Project will be prepared upon project completion in accordance with Management Control Procedure (MCP) -1419, "Project Closeout." The report will describe all activities completed and will include any significant variations from original decision documents. It will substantiate the completeness of achieving the ICP's goals. A description of the waste quantities, types, and disposal path will be included. The report also will include an index of project records and indicate where the records will be archived. Depending on the CERCLA activity the project closure report may be called by an alternate name such as Project Completion Report, Removal Action Report or Remedial Action Report or something comparable that is negotiated with the agencies.

4. PERFORMANCE CRITERIA

This section discusses the internal and external programmatic criteria identified by the project as necessary to successfully accomplish the project and support the overall ICP programmatic requirements. The criteria are based first on external requirements and commitments and include commitments to DOE and to regulator agencies, followed by project-specific requirements and indicators. The identified performance metrics include performance measures that have been identified as gold metrics in *CWI ICP Sitewide Project Management Plan* (ICP 2006). The development of project key performance indicators will focus on key attributes of project performance such as safety, radiological controls, participation in ICP safety programs (VPP and Changing Our Behavior Reduces Accidents [COBRA]), specific production measures, and other areas of interest as identified by the area project manager and project directors. ER Project performance measures will support and incorporate safety performance, objectives, measures, and commitments indicators in the development and use of these criteria when and where applicable. The criteria are discussed in the following sections.

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4.1 External Commitments and Supporting Milestones

4.1.1 Enforceable and Supporting Milestones

Two primary levels of schedule milestones are defined on the CWI ICP external (“E”) and internal (“I”) milestones. Management milestones compose a critical component of the Level III LCB schedule. All milestones—especially major and key internal milestones, along with all external milestones—are planned in the LCB. The milestone codes are defined below and are identified on the Primavera Project Planner (P3) baseline schedule.

External milestones include four sublevels, as follows:

- E1 Regulatory—contract established and enforceable
- E2 DOE Idaho and DOE Headquarters—contract established and enforceable
- E3 DOE (Idaho/Headquarters) and other external stakeholders—not addressed in the contract
- E4 other external stakeholders—not addressed in the contract.

Internal CWI milestones include three sublevels, as follows:

- I1 Major—critical to supporting external milestone or major CWI initiative/mission element
- I2 Key—critical to supporting I1 major internal milestones, defined by area project managers
- I3 Minor—interim milestones, usually defined by control account managers.

4.1.2 Cost and Schedule Performance

Schedule variance (SV), cost variance (CV), schedule performance index (SPI), and cost performance index (CPI) will be the most common indicators used to manage financial and schedule performance. Additionally, analysis of critical and near-critical paths, float, and activity and milestone completion variances will provide objective schedule performance measurement criteria.

The CPI and SPI for Levels, 3, 4, and 5 of the WBS will be used to help track progress and performance. The CPI is the ratio of what you completed (budgeted cost of work performed [BCWP]) to what you spent (actual cost of work performed [ACWP]). The CPI is calculated on cumulative basis and is a measure of productivity. The SPI is the ratio of what you completed (BCWP) to what you scheduled (budgeted cost of work scheduled [BCWS]). The SPI is calculated on a cumulative basis and is a measure of progress. A CPI or SPI greater than 1 is considered favorable.

The SPI and CPI of each WBS Level 3, 4, and 5 will influence the job performance for each of these managers.

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4.2 Project-Specific Indicators and Measures

4.2.1 Safety Performance

The ER Project will only be successful if safety and health are maintained as a prerequisite and core value to all work. As discussed in Policy (POL) -104, CWI believes that all injuries are preventable and that prevention of all injuries is a fundamental prerequisite for all work at the ICP. The ER Project is committed to achieving and sustaining an injury-free workplace. Participation in DOE's VPP enables the ER Project and the various local Employee Safety Teams to endorse this policy and further strengthen it through employee involvement.

The ER Project tracks the goal of zero injuries on a monthly basis through reports generated by the Environmental, Safety, Health, and Quality (ESH&Q) home organization. These indices are

- First Aid Cases and First Aid Case Rate
- Total Recordable Cases and Total Recordable Case Rate
- Days Away, Restricted and Transfer Case and Days Away, Restricted and Transfer Case Rate
- Days Away Cases and Days Away Case Rate
- Injury-Contributing Behavior.

4.2.2 Safety Program Participation

The ER Project uses various tracking mechanisms to monitor the effectiveness of various ICP safety programs within its workforce. The participation in these programs is used to assist the area project manager and project directors to ensure that the workforce is engaged and participating in making the safety programs used at the ER Project "their programs." These programs are key to the implementation of an effective safety process. These indices are

- Employee Safety Team participation
- Behavior-Based Safety Program (COBRA) participation
 - Participation rate
 - Observation and tracking
 - Issue resolution
- Safety and health inspections
 - Finding/issues tracking and trending
 - Resolution tracking and trending
- Safety meeting and training participation.

4.2.3 Performance Indicators

The CWI contract dictates two Gold Chart metrics for the ER Project: release sites completed and VCO tank systems closed. Figures 1 and 2 show these metrics.

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In addition to the Gold Chart metrics, the ER Project has developed additional internal metrics for the number of wells closed and percent monitoring reduction. Those charts are shown in Figures 3 and 4. Reductions in groundwater monitoring will require regulatory approval before being implemented.

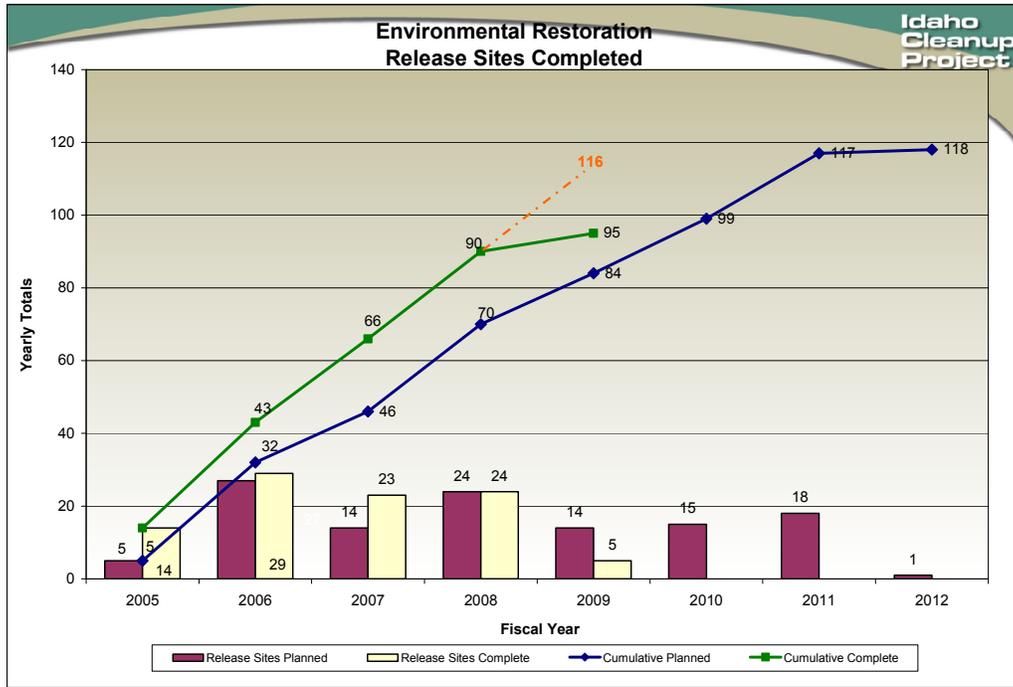


Figure 1. ER Project release sites completed.

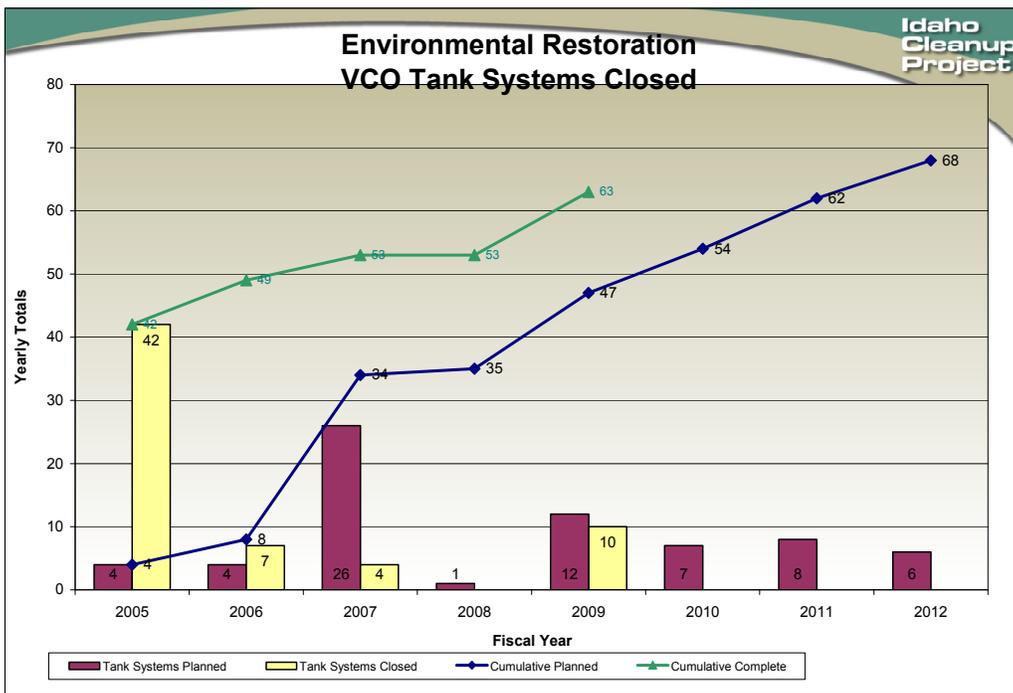


Figure 2. Voluntary Consent Order tank systems closed.

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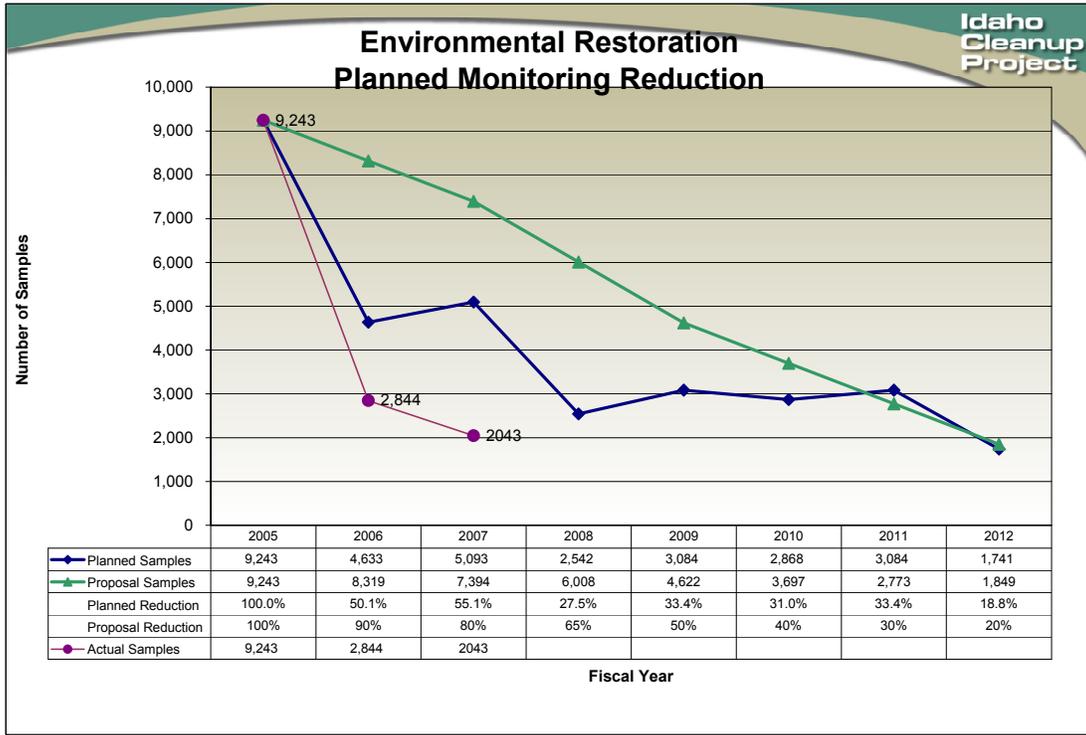


Figure 3. Planned monitoring reduction.

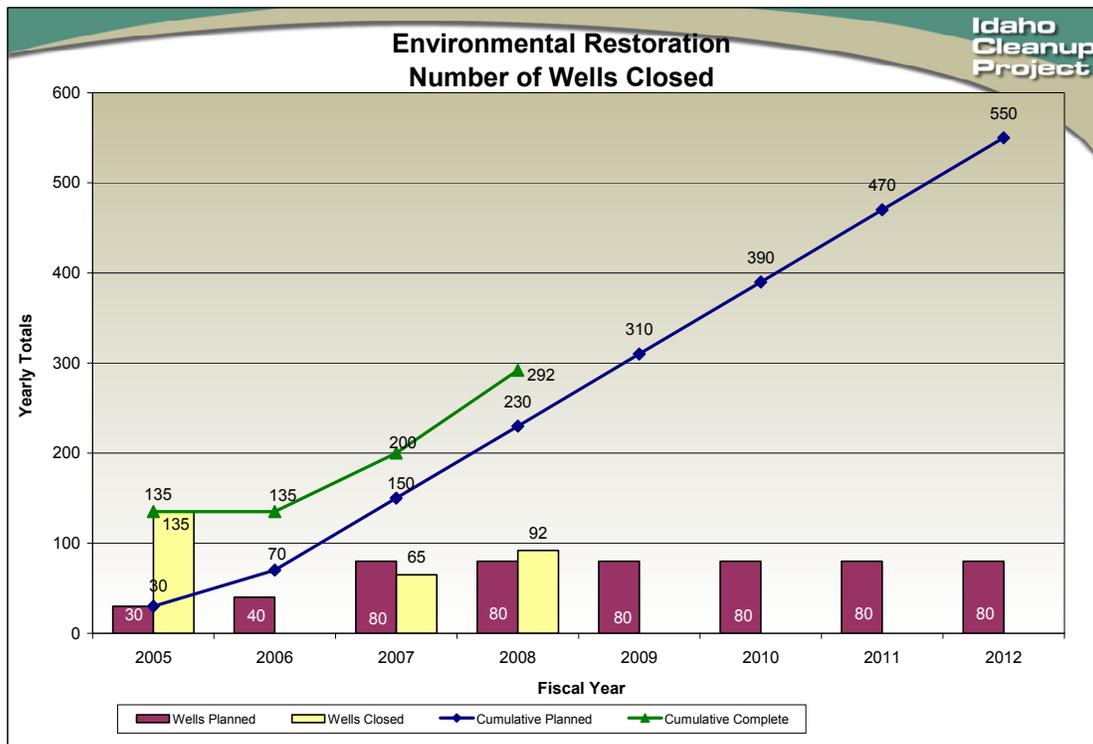


Figure 4. Number of wells closed.

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5. PROJECT RISK MANAGEMENT

CWI will manage risks using the process for identifying, quantifying, and mitigating risks in accordance with MCP-1409. A key component to risk mitigation will be CWI’s revised Integrated Work Control Process, which requires those responsible for planning work to identify, visualize, and anticipate risks associated with an activity’s execution. In the mitigation step, planners will be responsible for developing alternative plans that eliminate, avoid, and/or mitigate risks. Figure 5 shows the process for assessing and managing the significant project risks discussed in Section 5.2.

Many of the uncertainties associated with the ER Project will be managed internally through the project’s management team as an assumption in the planning process and then monitoring progress relative to the assumption. The rest must be managed via the formal risk management process described in Section 5.1 below.

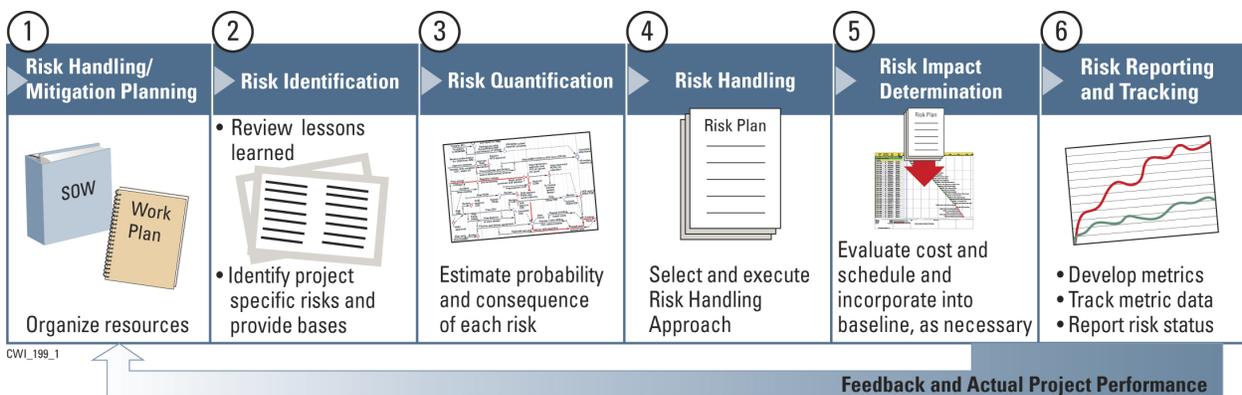


Figure 5. CWI’s risk management process.

5.1 Risk Codes

The LCB detailed risk planning and analysis effort included assigning risk codes to each ER Project activity for the purpose of risk planning and management reserve assignment. The following describes each of the risk codes, in increasing order of risk, that were used to plan the LCB:

- Resources are readily available. No special materials, equipment, or labor skills are required. Ample previous experience with this type of work exists, and costs are readily known. Regulators have routinely approved this approach. There is minimal impact on other activities and little or no schedule and/or cost risk exists.
- Resources are commonly available. Some special materials, equipment, or labor skills may be required. Ample previous experience with this type of work or known technology exists, and costs are readily known. Regulators have approved this approach. There are minor impacts to other activities and no significant schedule and/or cost risk exists.
- Labor resources are available, but special materials, equipment, or labor skills may be required. Some experience with this type of work or technology exists, and there is a good basis for costs. Regulators may have expressed some difficulty with this approach. Other activities may be impacted if resources are not available; there is potential for schedule and/or cost risk.

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4. Required materials, equipment, labor skills, and availability may be limited. Other activities are significantly impacted if resources are not available. There has been limited previous experience with this type of work or technology, and a limited basis for costs exists. Activity engineering bases and methodologies may be uncertain or unproven. Regulators may have difficulty with this approach. There is greater potential for schedule and/or cost risk.
5. Special resources, equipment, and labor skills are required and may be in short supply. Other activities are significantly impacted if resources are not available. Costs are unknown or are difficult to estimate. Regulators have never been presented with this approach or similar approaches. Significant schedule and/or cost risk exists.

5.2 Significant Project Risks

See PLN-2173, “Idaho Cleanup Project Programmatic Risk Management Plan.”

6. METHOD OF ACCOMPLISHMENT

The technical approach and method of accomplishment can be found in Section 3 of this PEP.

7. ENVIRONMENTAL, SAFETY, HEALTH, AND QUALITY

ESH&Q support is provided to the project to ensure that tasks are accomplished in compliance with applicable requirements. Support includes VPP activities, maintenance and evaluation of the Self-Assessment Program, performance of required self-assessment activities, and maintenance and evaluation of Conduct of Operations. Activities include development of an internal, independent assessment schedule; implementation of the quality assurance program; surveillance to assess compliance with company ESH&Q procedures and processes; development of initiatives to improve ESH&Q program implementation; coordination of Occurrence Reporting and Processing System reporting activities; coordination of issues management; maintenance of flow-down requirements; ESH&Q support of company-level procedure reviews; and requirement streamlining.

7.1 Environmental Compliance

Environmental requirements for projects performed by the ER Project flow down into work plans from three sources. The first source of environmental requirements originates in the CWI ICP Contract DE-AC07-05ID14516 (DOE-ID 2005). For ER Project activities conducted pursuant to CERCLA (42 USC § 9601 et seq.), the primary environmental requirement is 40 CFR 300, “National Oil and Hazardous Substances Pollution Contingency Plan,” which contains provisions for negotiating with the EPA and DEQ in order to identify all other applicable or relevant and appropriate requirements (ARARs). For VCO and RCRA closure activities, the primary requirements are delineated in RCRA (42 USC § 6901 et seq.). Groundwater well monitoring, drilling, and abandonment activities are performed in accordance with the Idaho Department of Water Resources requirements for groundwater and shallow injection well activities.

For ER CERCLA projects, an additional source of environmental requirements originates from the FFA/CO (DOE-ID 1991), which implements the requirements of 40 CFR 300 and outlines a process whereby DOE, EPA, and DEQ sign RODs to clean up contaminated sites. The RODs both identify ARARs and contain detailed descriptions of the methods to be employed to conduct remedial actions.

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In addition, the RODs may identify applicable DOE orders as either ARARs or as to-be-considered requirements. These ARARs, to-be-considered requirements, and other ROD conditions flow down into project-specific remedial design/remedial action (RD/RA) work plans, which are submitted to the EPA and DEQ for approval before implementation. The RD/RA work plans contain additional information regarding requirements to produce operation and maintenance plans, institutional control plans, and provisions to conduct 5-year reviews of the selected remedy. These regulatory plans and documents constitute the lowest level of requirements roll-down and are approved and accepted by the regulatory agencies. Further roll-down of requirements is not required. However, as a best management practice, these requirements may be identified and documented using a tracking table to aid in implementing the appropriate requirements into the work control process and tracking completion. Guidance on how to address ARARs, to-be-considered requirements, and ROD conditions within RD/RA documentation may be found in Guide (GDE) -72, “Remedial Design and Remedial Action.” For specific ARARs see the Optical Imaging System ROD records at http://edms/pls/edms/ois.ois_09?p_cerclatype=ROD (ICP 2007a) and Explanation of Significant Differences (ESD) records at http://edms/pls/edms/ois.ois_09?p_cerclatype=ESD (ICP 2007b).

It should be noted that work conducted pursuant to CERCLA (42 USC § 9601 et seq.), 40 CFR 300, and/or the FFA/CO (DOE-ID 1991) contains several exemptions from requirements that would otherwise apply to work performed outside of CERCLA. Examples include the exemption from obtaining local, state, or federal permits for response actions conducted on-Site; the equivalency of the CERCLA public participation process to performing traditional National Environmental Policy Act (42 USC § 4321 et seq.) documentation; and exemptions to some administrative waste storage and treatment requirements of RCRA. The FFA/CO and RODs implement a negotiated approach to identifying environmental requirements for the ER Project. Flow down of these requirements into RD/RA documents recognizes and captures the uniqueness of CERCLA work planning relative to other work planning at the INL Site.

For VCO projects, an additional source of environmental requirements originates from the VCO (DEQ 2000). The VCO Action Plan—which is included in the “Consent Order”—documents each covered RCRA noncompliance, the actions required to overcome the noncompliance, and the agreed-upon milestones (most frequently closure plans) to ensure that the noncompliance is addressed in an adequate timeframe. An annual update to the VCO Action Plan is produced by October 31 of each year. Once the individual noncompliance is resolved as agreed to by the DOE and DEQ, the item is moved to Appendix C of the VCO Action Plan to document the completion. These VCO milestones or closure plans constitute the lowest level of requirements roll-down and are approved and accepted by the regulatory agencies. Further roll-down of requirements is not required. However, as a best management practice, these requirements may be identified and documented using a tracking table to aid in implementing the appropriate requirements into the work control process and tracking completion.

Environmental requirements also are established through Program Description Document (PDD) -1004, “Integrated Safety Management System,” and PDD-1012, “Environmental Management System.” The Environmental Management System integrates environmental protection, pollution prevention, and regulatory compliance into work planning and execution throughout all work areas as a function of the five core elements and eight guiding principles of the Integrated Safety Management System (ISMS) and the elements of the ISO-14001, “Environmental Management Systems, Requirements with Guidance for Use.” Instructions to comply with environmental requirements are contained in MCP-3480, “Environmental Instructions for Facilities, Processes, Materials and Equipment.” Upon initiation of work planning, all ER projects complete an environmental checklist in accordance with

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MCP-3480. Completion of the environmental checklist ensures identification of environmental regulations and applicable DOE orders.

The CWI contract with DOE specifies applicable DOE directives (Section J, Attachment B) relevant to the scope of work. In addition, the contract calls out other requirements, including those listed in Section 1.3, “Project Justification,” of this PEP. All work performed under this PEP will comply with the applicable contract requirements.

7.2 Integrated Safety Management

The ER Project embraces, implements, and integrates the five core functions and eight guiding principles of ISMS. This is accomplished through work control and the VPP process, which fosters an active management commitment to a safe workplace, encouraging all team members and subcontractors to actively participate in planning and executing work, analyzing the worksite for hazards, providing preventative programs and mitigations for identified hazards, supplying the appropriate safety and health training, and providing systems and methods for feedback for continuous improvement. Work planning will include appropriate safety analysis to determine potential safety and health risks and the means for appropriately mitigating the risks. All employees are required to step back or stop work when safety requirements in any work control documentation (e.g., procedure, instruction, or directive) cannot be implemented or there is an unsafe condition that cannot be immediately rendered safe. Employees will notify their supervisor of the unsafe condition and will obtain a resolution before proceeding. Workers will not start or continue work that they understand is in conflict with approved safety procedures, instructions, or directives or work that they recognize to be (or perceive to be) unsafe.

The five core functions of the ISMS are

1. Define the work
2. Identify and analyze the hazards
3. Develop and implement controls
4. Perform the work
5. Provide feedback.

Integrated Safety Management is accomplished by the commitment to the following eight guiding principles:

1. Line management responsibility for safety
2. Clear roles and responsibilities
3. Competence commensurate with responsibilities
4. Balanced priorities
5. Identification of safety standards and requirements
6. Hazards controls tailored to the work being performed
7. Operations authorization
8. Worker involvement.

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The following programs will be invoked on this project consistent with the Site infrastructure:

- The Criticality Safety Program is established by *Manual 10B–Nuclear Safety* (Manual 10B 2007).
- Radiological protection requirements are defined in 10 CFR 835, “Occupational Radiation Protection,” and are implemented in Program Requirements Document (PRD) -183, “Radiological Control Manual.”
- Worker safety and health requirements are defined in 10 CFR 851, “Worker Safety and Health Program,” and are implemented in PRD-851, “10 CFR 851 Program Requirements Matrix.”
- *Manual 9–Operations* (Manual 9 2007) and *Manual 14A–Safety and Health–Occupational Safety and Fire Protection* (Manual 14A 2007).
- Standards for construction safety and industrial safety are found in 29 CFR 1926, “Safety and Health Regulations for Construction,” and 29 CFR 1910, “Occupational Safety and Health Standards,” respectively. The DOE orders are implemented by the relevant procedures in *Manual 14A–Safety and Health–Occupational Safety and Fire Protection* (Manual 14A 2007).

CWI and the ER Project implement Integrated Safety Management through the company manuals. The program is specifically spelled out in PDD-1004, “Integrated Safety Management System.” The functional and project teams establish requirements for individual activity hazards, providing necessary and sufficient controls. The teams identify project requirements using the manuals and procedures. It is not necessary to re-address the source documents (e.g., DOE orders, regulations). The company manuals establish a methodology to identify needed controls to prevent and/or mitigate identified work hazards. Work execution shall include appropriate graded readiness demonstration. It will include pre-job briefings for all work, but may require a management review, Hazard Review Board (HRB), or other independent review depending on the hazards identified.

The ER Project is committed to the ideology that (1) all accidents are preventable, and an injury- and illness-free workplace is achievable; and (2) any work can be performed in a safe, compliant, and environmentally responsible manner. This section outlines the roles and responsibilities of the ER Project during the assigned work as part of the ICP for protecting the safety and health of workers and the public. It also states the guiding values and goals of the project team for safe conduct, execution, and outcome of ER Project-directed work.

Safety and health requirements governing ER Project activities are found in current health and safety plans, work orders, company procedures, job safety analyses (JSAs), and TOC-59, “Subcontractor Requirements Manual.” By following the requirements in these documents, the ER Project ensures that the requirements found in applicable DOE orders and Occupational Safety and Health Administration safety standards are fulfilled and flow down to workers and subcontractors performing work for the ER Project.

Subcontractors also are required to have environmental, safety, and health programs and must submit the program to the contractor for information purposes and to meet the appropriate requirements. Documentation of training must be available at the work site for audit by the contractor. The contractor will perform audits of all subcontractor environmental, safety, and health programs; however, the subcontractors must comply with all applicable safety codes and regulations.

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The ER Project supports each employee's right to stop work and step back without fear of reprisal. Any team member, including subcontractor personnel, has the responsibility and authority to initiate stop work for any environmental, safety, or quality issue. This is a fundamental premise of all ER Project-directed or performed work.

It is each team member's responsibility to think in terms of safety when providing input to and reviewing the work documents. Each team member is encouraged to contribute to the project's safety by actively participating in the work process from concept through closure.

The CWI VPP assists management in promoting a safety-minded workforce that willingly implements good health and safety practices to promote a healthy work environment that is free from occupational injury and illness.

The ER Project ensures the safety of the workers and the public through the use of the Site infrastructure and organizations supporting this process. In particular, the processes described in the following subsections are used.

7.2.1 ER Project Work Scope Definition

As discussed in Sections 1 and 2 of this PEP, the ER Project's work scope includes programmatic responsibility for many CERCLA activities, all VCO characterization and closure, all groundwater monitoring activities, all LTS activities, implementation and maintenance of institutional control actions, and coordination and resolution of RCRA/CERCLA interface issues. More detailed work scope definition is found in the supporting associated RD/RA work plans, remedial investigation/feasibility study work plans, the VCO action plan, and RCRA closure plans. In addition, LTS requirements are identified in associated operations and maintenance plans, and institutional control plans. A summary of the work scope is provided in the ER Project control account narratives and the ER Project Level 4 schedule.

7.2.2 ER Project Hazard Identification and Mitigation

CWI and the ER Project have developed and implemented many formal and informal controls and support functions to identify and mitigate hazards that might arise during the performance of work. The following subsections identify several of the formal processes that are used to help ensure that hazards are identified and mitigated to the greatest extent possible prior to beginning work.

7.2.2.1 Work Planning. The work planning process defines the hazards analysis approach to be used in planning a work activity, including hazard identification, walk-down of areas and systems, and incorporation of worker safety hazards analysis using appropriately skilled safety professionals. For the ER Project, the process of documenting the physical hazards and contaminants of concern for each activity, establishing initial controls, and developing the activity hazards analysis is primarily defined in MCP-3562, "Hazard Identification, Analysis, and Control of Operational Activities," and Standard (STD) -101, "ICP Integrated Work Control Process."

The development and implementation of operational controls are typically derived from the hazards analysis and are transferred into work control documents. The process establishes the development of specific controls, such as radiological controls defined in a radiological work permit; post-testing requirements based on technical input from engineering; and unreviewed safety question determination and independent safety review(s), where appropriate.

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For the ER Project, work will be planned and controlled in accordance with maintenance or construction work package guidance as defined in STD-101 or operational task guidance as defined in MCP-3562. Work orders primarily used by the ER Project include minor maintenance, expedited work orders, or planned work orders. Construction work packages may use the project work order under certain circumstances approved by the operations manager. All work orders will be defined, documented, and developed in accordance with STD-101. The operational tasks primarily used by the ER Project include operational exempt work, operational related tasks, and work done by technical procedure. The operational work, tasks, and procedures will be defined, documented, and developed in accordance with MCP-3562.

For work activities identified as under the exclusive control of the ER Project, personnel will develop and approve the work control documentation, oversee the work, and close out the work control documentation. For all ER Project work outside the exclusive control of the ER Project, the work packages, oversight, and work control documentation closeout may be conducted by other organizations as identified by IAG.

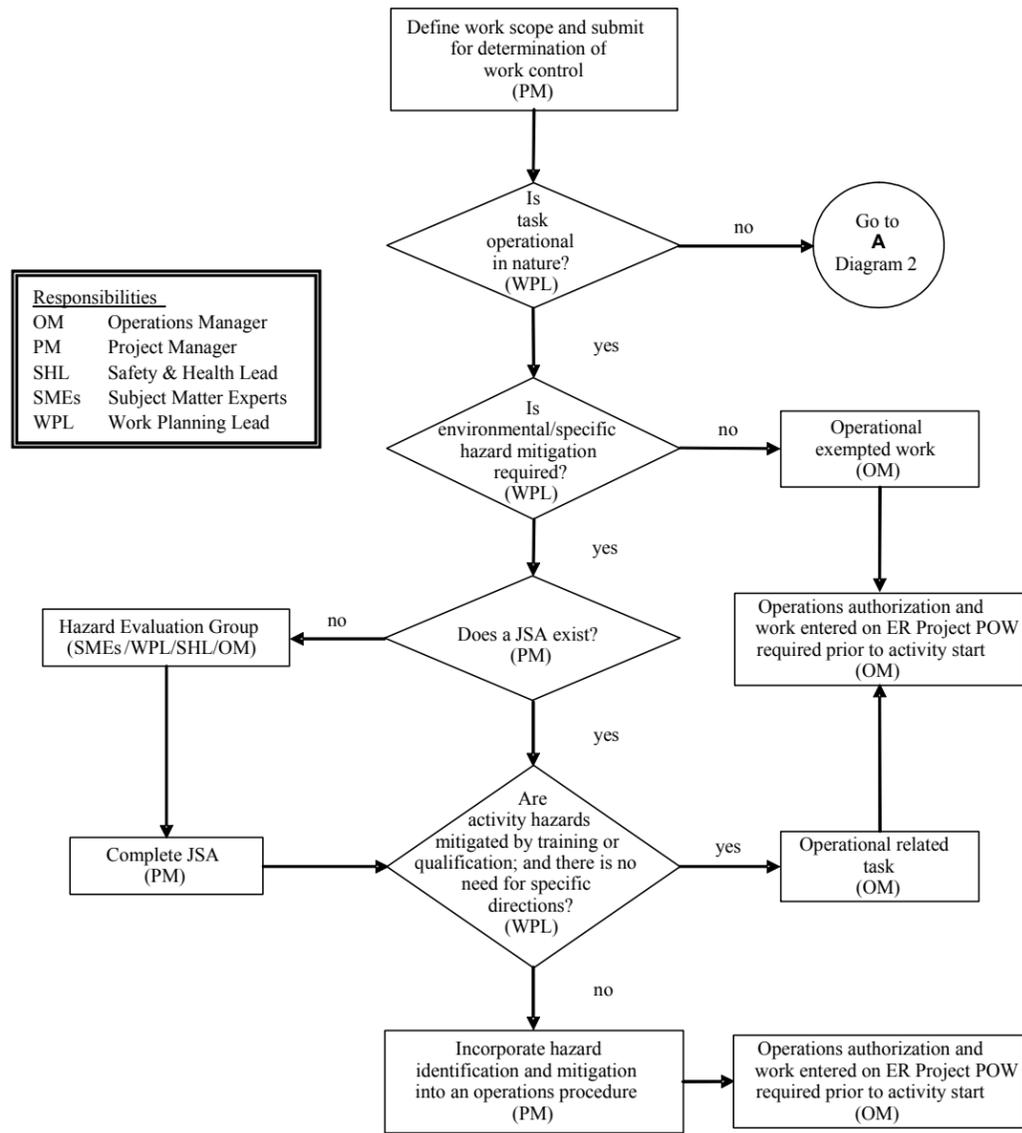
Flow sheets for developing nonemergency ER Project work packages are provided in Figure 6. The flow sheets include the activities and decision points that must be addressed in order to

- Establish the type of work control documentation needed
- Develop and approve the work control documentation
- Authorize and begin work.

The flow sheets identify the ER Project personnel responsible for completing each activity and decision point. For work activities identified as under the exclusive control of the ER Project, work planning will be initiated using Form 433.46, “Environmental Restoration (ER) Initial Work Request.” All emergency work will be planned and controlled in accordance with STD-101 or MCP-3562. All work control documentation will be closed out in accordance with STD-101 and MCP-3562 requirements.

7.2.2.2 Hazard Review Board. The “Environmental Restoration Project Hazard Review Board” (GDE-389) describes the HRB function used by the ER portion of the ER/VCO project, and is used in conjunction with the “Idaho Cleanup Project Hazard Review Board Charter” (Charter [CTR] -163). Because VCO work planning is conducted through the D&D project, the D&D HRB process is utilized for VCO activities. The HRB process focuses on the integration and implementation of the ISMS, best practices, lessons learned, and VPP. The HRB provides a method for the review of select planned work activities (particularly complex, high-hazard tasks) and a review of safety measures that are implemented to support this work. The HRBs are convened to promote positive contributions toward performing work safely and provide an opportunity to demonstrate the standards and expectations of the ER Project management team. The “Environmental Restoration Project Hazard Review Board” (GDE-389) identifies the purpose, scope, applicability, and instructions for conducting HRBs for ER Project activities.

**Environmental Restoration Project
Work Control Development
Flow Diagram 1**



**Environmental Restoration Project
Work Control Development
Flow Diagram 2**

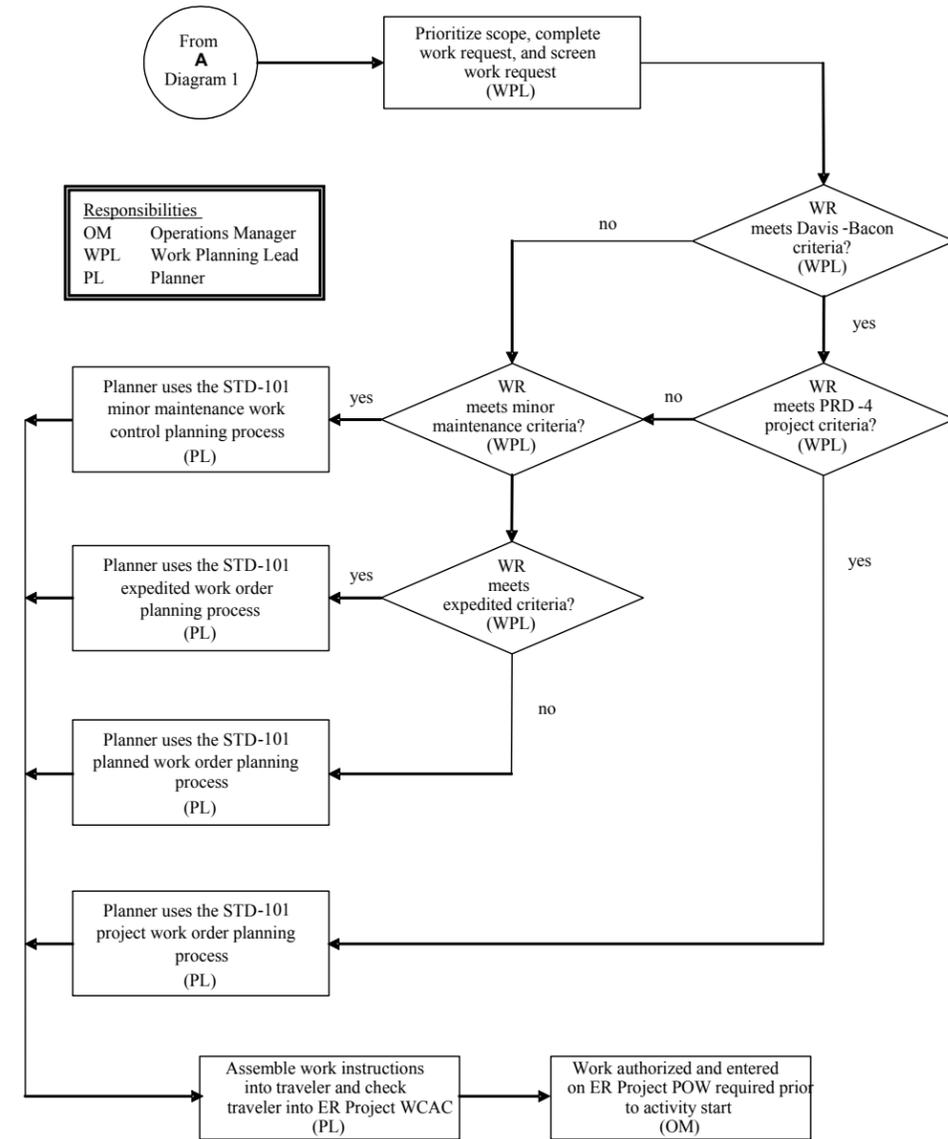


Figure 6. The ER Project work control development flow diagrams.. Note that the VCO work control process is combined with D&D and follows a similar process, but included in the D&D and appropriate facility POW.

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7.2.2.3 Management Review. Management reviews of ER Project activities will be conducted at the direction of the ER Project area project manager, program director, or project manager. The reviews will be performed to affirm that a project or activity is at a state of readiness to commence unrestricted operation of a defined scope of work. The reviews will be conducted in accordance with appropriate requirements identified in MCP-8, “Performing Management Assessments and Management Reviews,” and recommendations in GDE-203, “Planning, Scheduling, and Performing Assessments.” The reviews will be documented using Form 410.15, “Environmental Restoration Project (ERP) Management Review (MR) Checklist.” The project director, project manager, operations manager, and management review coordinator shall use a graded approach to determine the scope and applicability of the items on the checklist. Unless otherwise indicated, all items require closure prior to project startup. Signatures on the checklist will indicate concurrence with the scope and content of the checklist and a recommendation that authorization to proceed be granted to perform the scope as described in the planning and implementing documents. The checklist will be included in the project file found in the company records system.

7.2.2.4 Readiness Assessments. Operational readiness reviews (ORRs), readiness assessments, and/or management self assessments (MSAs) may be performed in lieu of a management review to affirm that a project or activity is at a state of readiness to commence unrestricted operation of a defined scope of work. ORRs and readiness assessments, which are applicable to the startup or restart of nuclear facilities, will be performed in accordance with MCP-2783, “Startup and Restart of Nuclear Facilities.” MSAs, which may be performed prior to an ORR, prior to a readiness assessment, or at other times when directed by management, will be performed in accordance with MCP-1126, “Performing Management Self-Assessments for Readiness.”

7.2.3 ER Project Work Performance

CWI and the ER Project have developed controls and support functions to ensure that work is performed efficiently, in compliance with requirements, and within scope. The following subsections identify several of the formal processes that are used to help ensure that work is performed in an appropriate and safe manner.

7.2.3.1 Work Control Program. Operation managers use work control to plan and authorize existing and emergent activities for placement on the plan of the week (POW) and plan of the day (POD) (PODs may be performed as daily project briefings). Thus, work control is an integral part of daily operations within the ER Project and is an effective tool for preventing accidents by ensuring that no unanalyzed or unauthorized work is performed. Work control provides a disciplined approach to defining and evaluating the hazards prior to the performance of new activities. To ensure safe performance, each activity is defined and a graded hazard assessment is performed, as necessary, to establish appropriate procedure-level controls.

Definition of any given scope of work is accomplished primarily through the work control program. Engineering documentation defines the technical work scope for activities, and the work packages or operating procedures define the specific planned work scope. The physical work scope is defined in the work package prepared in accordance with STD-101 or MCP-3562.

The performance of work is controlled through work authorization on the POW and POD; work control documents and training programs; and the management, organization, and ISMS principles. ER/VCO Project activities are included on the appropriate POW depending upon facility ownership. VCO activities at RTC are included on the RTC D&D POW, VCO activities at INTEC are include on the INTEC POW. The ER POW identifies preapproved tasks; emergent work; operationally exempt work;

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operationally related tasks and associated JSAs; and facility authorized ER Project work. Activities on the POW are reviewed and approved for the upcoming week. Specific activities are scheduled on the POD and preceded by a pre-job briefing and are formally released by Work Authorization prior to performance. Only appropriately trained personnel perform the activity. Depending on the type of activity, core team members and building support personnel may receive a preevolution briefing to include a predefined or practiced set of responses to upset conditions.

7.2.3.2 Pre-Job Briefings. The ER Project uses pre-job briefings as the final confirmation of readiness before performing a task. The pre-job briefings are held to ensure the participants are prepared, the work scope is defined, hazards and environmental impacts are understood and controlled, and any last-minute questions are answered. ER Project management encourages that the briefings be a forum for candid interaction between attendees to discuss potential error “traps,” “what could go wrong” scenarios, and lessons learned. The briefings are intended to increase situational awareness prior to work being performed.

The pre-job briefings also provide an avenue for sharing feedback between workers, supervisors, functional organizations, and management. Before a project starts, the briefings provide a forum to thoroughly discuss the work scope, associated hazards and mitigation, and lessons learned from similar projects in the company and around the DOE complex. After a project starts, the pre-jobs are periodically repeated to discuss remaining work scope, associated hazards and mitigation, and proven techniques for executing work and to provide feedback on issues associated with work execution. Comments made during the briefings are captured on the Form 433.24, “Task Evolution Feedback Form,” by the job site supervisor. Comments documented on the form may include root causes for work delays; problems with work instructions, materials, equipment, tools, or training; unplanned events that occurred during the performance of work; facility deficiencies; and other issues that impacted the performance of work. After the project is completed, the feedback is documented and submitted to the ER director so future planning efforts and projects can benefit from the experiences.

7.2.3.3 Technical Response Team. The D&D Technical Response Team (TRT) operating in accordance with CTR-168 assists ER and VCO Project fieldwork crews in resolving issues or problems that arise during work execution that cannot be resolved in a timely manner using available resources. The TRT will have the necessary technical resources available to respond quickly and assist the work crews to

- Ensure safe and compliant work execution
- Reduce downtime
- Provide real-time feedback to field operations
- Assist with on-the-floor decisions regarding work control issues.

7.2.3.4 Step Back/Stop Work. All employees are required to step back or stop work when safety requirements in any work control documentation (e.g., procedure, instruction, or directive) cannot be implemented or there is an unsafe condition that cannot be immediately rendered safe. Employees will notify their supervisor of the unsafe condition and will obtain a resolution before proceeding. Workers will not start or continue work that they understand is in conflict with approved safety procedures, instructions, directives, or work that they recognize to be (or perceive to be) unsafe.

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The ER Project supports each employee's right to stop work without fear of reprisal. Any team member, including subcontractor personnel, has the responsibility and authority to initiate stop work for any environmental, safety, or quality issue. This is a fundamental premise of all ER Project-directed or performed work. The CWI policy on Step Back/Stop Work can be found in MCP-553, "Step Back and Stop Work Authority."

7.2.4 ER Project Continuous Feedback and Improvement

CWI and the ER Project have developed several formal processes used to help ensure that feedback from past and current activities is collected, documented, distributed, and considered by other current and future activities.

7.2.4.1 Management Workplace Visit. The ER Project management supports the ICP Management Workplace Visit Program to promote management presence in the workspace as a fundamental demonstration of the company's values of safety, integrity, teamwork, productivity, and results. The effectiveness of communications, coaching of desired behaviors, involvement of workers, and reinforcement of expectations are all directly related to the level of management interaction with the workforce in the field. As discussed in GDE-411, "ICP Management Workplace Visit Program," the goals are to

- Increase management understanding of workplace issues
- Increase management visibility and access to the workforce
- Provide on-the-spot coaching and mentoring
- Mentor integration of ISMS into work control and control of work processes and practices (such as operational evolutions/activities, preventive maintenance tasks, and corrective work orders)
- Provide on-the-spot positive reinforcement of company values and expectations
- Promote implementation of Integrated Safety Management core functions and guiding principles in all aspects of ICP activities.

A component of the Management Workplace Visit Program is the work observation teams. These teams will be dispatched as assigned by the area project manager and will consist of an area project manager; appointed, exempt person; a functional support manager or subject-matter expert; and a worker. The team will observe an activity within the ER Project identified by the area project manager or operations manager during the ER Project POW.

7.2.4.2 Assessments. The ER Project management sponsors assessments to review, evaluate, inspect, test, check, survey, audit, or otherwise determine and document whether ER Project items, processes, systems, or services meet specified requirements and are performing effectively. The assessments will be conducted in accordance with the requirements of MCP-8. The ER Project will review current requirements for performance of assessments, develop and maintain lists of assessment requirements, develop and revise multiyear management assessment plans and schedules, integrate assessment plans and schedules, implement the assessment plans and schedules, document assessment plan completion, conduct management reviews of performance of the Integration Assessment Program, ensure that issues are documented in the Issue Communication and Resolution Environment (ICARE) tracking system in accordance with MCP-598, "Corrective Action System," and submit noteworthy practices in accordance with MCP-192, "Processing Lessons Learned and Operating Experience Information."

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7.2.4.3 Inspections/Surveillances. The ER Project management sponsors inspections and surveillances of designated ER Project areas to determine compliance with regulatory and procedural requirements, observe real-time activities augmented by discussions with personnel, verify conformance with specified requirements, and evaluate adequacy and effectiveness. The inspections and surveillances will be conducted in accordance with MCP-1221, “Performing Inspections and Surveillances,” and will be documented on Form 220.03, “Inspection/Surveillance Report.” The issues will be documented in the ICARE tracking system in accordance with MCP-598 and noteworthy practices will be documented in accordance with MCP-192.

7.2.4.4 Reporting. The ER Project will identify, report, and follow up on issues or potential issues associated with occupational injuries/illnesses, occurrence reporting, and the Price-Anderson Amendments Act (PAAA) (Public Law 100-408) in accordance with applicable company procedures.

For work conducted under the direct supervision of the ER Project, reporting and follow-up on occupational injuries/illnesses will be conducted in accordance with MCP-49, “Occupational Injury/Illness Reporting and Followup.” The responsibility for reporting and conducting follow-up activities may be assigned to another organization if that organization is directly controlling the work and the responsibility is clearly identified in an IAG approved by both organizations.

For work conducted under the direct supervision of the ER Project, PAAA reporting will be conducted in accordance with MCP-2547, “Identification, Reporting and Resolution of Price-Anderson and Worker Safety and Health Noncompliances.” For any deficiencies identified, appropriate personnel will be assigned to disposition and close the deficiencies in a manner that will help avoid future reoccurrences. The PAAA activities may be assigned to another organization if that organization is directly controlling the work and the responsibility is clearly identified in an IAG approved by both organizations.

For work conducted under the direct supervision of the ER Project, initiating, screening, dispositioning, and closing ICARE deficiencies, nonconformances, and Occurrence Reporting and Processing System reports will be conducted in accordance with MCP-190, “Event Investigation and Occurrence Reporting,” and MCP-598, “Corrective Action System.” Unusual or off-normal occurrences will be investigated and reported in accordance with MCP-190, “Event Investigation and Occurrence Reporting.” These activities may be assigned to another organization if that organization is directly controlling the work and the responsibility is clearly identified in an IAG approved by both organizations.

7.2.4.5 Lessons Learned. The ER Project management promotes the use of and supports personnel to use the company Lessons Learned System to document and review noteworthy practices as part of the feedback and improvement process. Noteworthy practices identified and documented during ER Project observations, surveillances, assessments, and inspections will be documented as lessons learned in accordance with MCP-192. Lessons learned will be reviewed for applicability during the development of ER Project work control documentation, including work orders, procedures, and JSAs. Applicable lessons learned will be reviewed during pre-job briefs prior to starting ER Project-related work.

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7.2.4.6 Post-Job Reviews. ER Project management uses post-job reviews to provide a forum for capturing lessons learned and feedback after a project has been completed. The reviews are sponsored by ER Project management, and invitees include workers, supervisors, functional organizations, and management personnel who were primarily involved in the planning and execution of the project. The reviews are scheduled as soon as possible following the end of the project. Comments from the review will be included in the Form 433.24 developed for the project.

Following the post-job review, the feedback comments from the Form 433.24 will be reviewed by the ER Project. Appropriate issues or action items will be entered into the INEEL Lessons Learned Program per MCP-192, “Processing Lessons Learned and Operating Experience Information,” and MCP-73, “Incorporating Lessons Learned into Training,” and/or ICARE system. The feedback loop will be completed when the lessons learned are reviewed prior to planning and executing future projects.

7.2.4.7 Employee Concerns. The ER Project organization encourages managers and employees to maintain open communications based on trust and respect. Consistent with CWI’s open door policy, all employees are encouraged to bring issues and concerns to their immediate supervisor for resolution. However, if for any reason, employees are hesitant to discuss the issue or concern with their immediate supervisor they may discuss it with any level of management within the ER Project. Finally, the Employee Concerns Program is a mechanism for employees who have any concern, including safety concerns, but who may be uncomfortable bringing these concerns to management, wish to remain anonymous, or have not been satisfied with management response. Access to the Employee Concerns Program is available on the ICP website or employee concerns hotline. This program is administered independently at a company level where concerns are promptly addressed and tracked for completion.

7.3 Quality Assurance

The ER Project complies with the Quality Assurance Program without exception defined in the following documents:

- Companywide *Manual 13—Quality Assurance Program* (Manual 13 2007)
- DOE/ID-10587, *Quality Assurance Project Plan for Waste Area Groups 1, 2, 3, 4, 5, 6, 7, 10, and Removal Actions* (DOE-ID 2006).

Quality Assurance independently completes scheduled and unscheduled surveillance of completed and in-process work processes, procedure implementation, technical specification implementation, procurement processes, design and drawing control, and documentation of project and project functional support organizations, including subcontractors, to verify implementation of the Quality Assurance Program requirements. Quality Assurance additionally provides engineering support through the review of documents, reports and test plans.

7.3.1 Quality Management

The CWI Quality Assurance Manual defines the Quality Management System for the Site. The system includes assignment of responsibility for quality, the governing quality documents, and the different roles (i.e., management, performance, and assessment) to obtain and ensure quality performance and product. The application and implementation of these criteria into items and services shall be consistent with the graded approach. The Quality Assurance Manual complies with 10 CFR 830 Subpart A, “Quality Assurance Requirements,” and DOE Order 414.1C, “Quality Assurance.”

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7.4 Records Management

The ER Project records will be managed in accordance with MCP-557, “Records Management.” Project numbers will be assigned to the ER Project and subprojects with exception of VCO. The project number identifier will be entered as one of the indexing fields in records and document management systems for all subprojects.

8. WASTE MANAGEMENT AND MINIMIZATION

CWI will implement waste management practices, and a waste minimization and pollution prevention program consistent with applicable executive orders and DOE directives. To the maximum extent practicable, CWI will consolidate waste materials in as few locations as possible to effectively reduce the Environmental Management footprint liability on-Site. Alternate approaches to reduce the cost of waste disposition will be pursued. For those waste types that currently have no established pathway for disposal, CWI will aggressively pursue innovative approaches to treat or otherwise dispose of the waste.

8.1 Waste Management

Waste projections by waste type and quantity are provided by facility in the LCB.

8.2 Waste Minimization

The ER Project will use all means practicable to minimize or eliminate any newly generated waste. Such waste, including secondary waste types, will not be generated unless it is necessary for the completion of the ER Project scope. Newly generated waste will have a clear disposition path before it is generated. However, under certain conditions, radioactive waste with no identified path to disposal may be generated, but DOE approval in accordance with DOE Order 435.1, “Radioactive Waste Management,” will be obtained in advance. CWI will consider and specify cleanup and demolition methods, alter existing plans, or propose alternative technical approaches to eliminate or minimize newly generated waste.

9. COMMUNICATIONS

The ER Project is responsible for providing U.S. Department of Energy Idaho Operations Office (DOE-ID) communications and public involvement support and guidance. Stakeholder involvement and communications with the public are required for cleanup activities and are outlined in the FFA/CO (DOE-ID 1991) and the *Community Relations Plan: A Guide to CERCLA Public Involvement in the Cleanup Program at the INEEL* (DOE-ID 2004). The project will continue to facilitate communications and public participation activities related to cleanup activities within the ER Project and will promote stakeholders’ involvement in understanding and resolving cleanup issues associated with all aspects of the project.

Activities related to the Community Relations Plan (DOE-ID 2004) are geared to providing detailed information on specific cleanup projects and to meeting requirements for CERCLA public involvement. The LTS activities provide a means of explaining the long-term perspective and results of cleanup operations.

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Communications between the ER Project and DOE-ID staff must be coordinated through the appropriate project manager. In addition, communications between the ER Project staff and their state and/or federal regulatory counterparts must be coordinated through the appropriate ER Project and DOE-ID project managers.

10. ORGANIZATION AND RESPONSIBILITIES

The vice president and area manager for Accelerated Retrieval Project/ Decontamination & Decommissioning/Environmental Restoration (ARP/D&D/ER) is the project head. He is supported by directors who manage various aspects of the project. The vice president and area manager reports directly to the president of the ICP to ensure timely, effective, and efficient integration of all aspects of the scope of work defined in Section 2 of this PEP. The ER Project, and the management team, will directly interface with other projects within the ICP to ensure effective use of resources in the planning and implementation of the ER Project work scope described in the LCB. Additionally, a critical component of successful completion will include interaction with various agencies, including DOE, State of Idaho, EPA, and local and national stakeholders.

10.1 General Responsibilities

10.1.1 Internal Organizations

Table 1 shows the general responsibilities for the internal organizations.

Table 1. General responsibilities for the internal organizations.

Organization	Responsibilities
DOE	Enforcement of government regulations Communications with Site external organizations regarding the closure program Oversight of closure operations Communications with ER Project, including funding and overall contract direction Interfacing with other regulatory agencies, stakeholders, and the public
CWI Project	Communications with DOE-ID and the public regarding cleanup program status Integrated management of the cleanup program including program and subcontractor funding and guidance Negotiation of regulatory agreements with EPA and State of Idaho on behalf of DOE
Subcontractors	Communications with ER Project and employees regarding the performance and status of the cleanup program Demonstrating that alternate methods of performing cleanup activities comply with regulatory requirements Performing cleanup activities Submittal of documentation as required by contract

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10.1.2 External Organizations

Table 2 shows the external organizations with interest in the ER Project and their responsibilities.

Table 2. External organizations with interest in the ER Project.

Organization	Responsibilities
Idaho Department of Environmental Quality (DEQ)	Regulatory oversight of RCRA-related activities
Defense Nuclear Facilities Safety Board (DNFSB)	Independent oversight of all activities affecting nuclear safety
Environmental Protection Agency (EPA) Region 10	Enforcement of environmental laws not delegated to the State of Idaho
Other organizations and/or individuals as necessary (e.g., Citizens Advisory Board, Shoshone-Bannock Tribes, Snake River Alliance, Keep Yellowstone Nuclear Free, Coalition 21, area chambers of commerce, and city and county governments)	

10.2 Project Organizational Structure

Program management and control will function under an integrated scope, schedule, and cost control system that identifies responsibilities and interfaces. The project organization, under the direction of the area project manager, is an integrated team of qualified individuals for each project. The ER organizational structure is provided in Figure 7.

10.3 Responsibilities

Overall responsibilities for the ER Project are defined in detail in MCP-1963, “Environmental Restoration Project Roles and Responsibilities.” In brief, a clear line of responsibility exists from the area project manager through his/her staff to the workers.

10.4 Interfaces

Successful accomplishment of the project will be dictated by the timely communication and effective cooperation of many parties. Some of these exist within the CWI organization and some are external to CWI and the INL Site. The project manager and project engineer must effectively orchestrate the interfacing relationships of these interested or affected groups, which are described in the following subsections.

10.4.1 Interfaces With Other ICP Organizations

The ER Project requires support from various organizations within CWI. The project manager obtains this support through Task Baseline Agreements and IAGs. The VCO obtains all resources for work planning, engineering, and work execution (including foremen, work crews, health and safety support, and rad con support) from the D&D organization.

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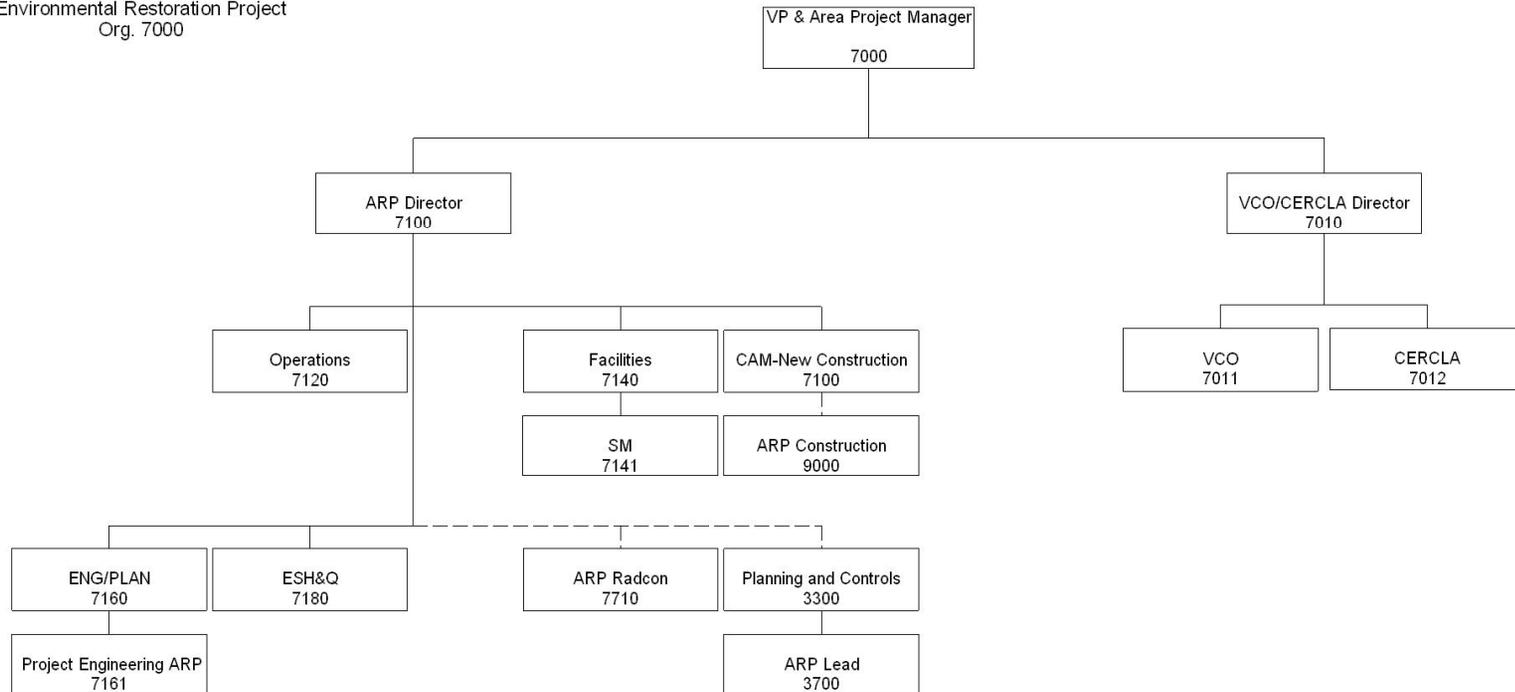


Figure 7. ER Project organization.

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10.4.2 Interfaces With Other INL Organizations

Relationships with other INL organizations will be established and managed, as necessary. For example, specialized technical resources support from Battelle Energy Alliance is periodically needed in the area of nuclear engineering, physics, and environmental chemistry laboratory services. Task Baseline Agreements and Service Agreements are used to ensure project work scope is clearly communicated and commitments for schedule and resource levels are agreed to by both organizations.

10.4.3 Interfaces With External Organizations

The Environmental and Regulatory Structure and Interface Protocol (Provencher 2006) identifies how DOE-ID and CWI interface with environmental regulatory agencies (DEQ, etc.) on issues covered by the cleanup contract for the INL Site. All ER regulatory interfaces will be conducted in accordance with the protocol. Interfaces with the regulatory agencies include but are not limited to the following:

- DEQ—DEQ provides critical stakeholder input to refine both near-term and long-term approaches to remediate projects and provides final interpretation of state rules and regulations.

DEQ is the regulatory authority for all VCO actions. Therefore, effective interface is necessary with the agency to realize successful project completion.

- EPA—EPA also provides critical stakeholder input to refine both near-term and long-term approaches to remediation projects and to provide final interpretation of federal rules and regulations. Therefore, effective interface is required with this agency to realize successful project completion.

Other external stakeholders can influence actions associated with the ER Project. These stakeholders include, but are not limited to

- INL Site Environmental Management Citizen's Advisory Board
- Shoshone-Bannock Indian Tribes
- Idaho State Historic Preservation Office
- Snake River Alliance
- Coalition 21
- Commercial and government-owned waste treatment and disposal facilities.

Both direct and general public interfaces with these groups are vital to the project's success. These interfaces are outlined and implemented in accordance with the *Community Relations Plan: A Guide to CERCLA Public Involvement in the Cleanup Program at the INEEL* (DOE-ID 2004). The vehicle for communicating project changes to these stakeholders is through public awareness meetings and press statements.

In the case of government-owned disposal, TRU Waste Projects routinely interfaces with Waste Isolation Pilot Plant organizations to support the development, implementation, startup, and operation of ongoing and future planned waste characterization, certification, and transportation operations. The principal interfaces occur with Washington TRU Solutions, and, on occasion, with DOE-Carlsbad Field Office. Two interface documents, CCP-PO-024 and CCP-PO-501, are in place that describe the respective roles and responsibilities of CWI and the Central Characterization Project.

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10.4.4 Interfaces With DOE

DOE provides overall contract management, project funding, and programmatic oversight to the extent that it does not conflict with the prime contract. The DOE Contracting Officer and/or Contracting Officer Representative has ultimate authority to direct and change project technical, cost, and schedule baselines, again, to the extent that such authority is not contradicted by the prime contract. As such, the ER area project manager and his directors must maintain close and constant interface with DOE officials to ensure ER scope is completed promptly and efficiently.

DOE also maintains contact with state and federal regulatory agencies and communicates with CWI to ensure that project work is carried out in accordance with applicable laws and agreements. DEQ and EPA provide critical stakeholder input to refine both near-term and long-term approaches to remediation projects and provides final interpretation of state and federal rules and regulations, respectively. Therefore, effective interface is necessary with this agency to complete the project successfully.

10.5 Facility Interfaces

Where ER work activities are performed as nonexclusive-use projects within facility boundaries outside the Radioactive Waste Management Project, the ER Project retains the programmatic responsibilities, and facility management is responsible for authorization of the fieldwork. These interfaces are defined in specific IAGs that are prepared and approved by the project and facility management and affected organizations to ensure that boundaries, duties, and responsibilities are clearly assigned. IAGs will address the following: purpose; scope of work; roles, responsibilities, and accountabilities; and list of affected organizations that have responsibilities under the IAG. The level of detail in the IAG will vary depending on the complexity of the activity, project milestones, and the need to assure consistent and acceptable results. IAGs will be reviewed and, if necessary, updated annually. If an IAG is not prepared for a nonexclusive-use project, the project will use the “Interface Agreement between Miscellaneous Sites Nonexclusive-Use Projects and the INTEC and TAN/RTC/PBF Areas” (IAG-368). Where appropriate, the ER Project will also establish tenant use agreements in accordance with MCP-9141, “Tenant Use Agreements.”

10.6 Subcontractor Interfaces

This section defines the various interfaces between the project and subcontractors.

10.6.1 Subcontract Administrator

The subcontract administrator is solely authorized to establish contractual relationships and instruments on behalf of CWI. The subcontract administrator is responsible for the award and administration, including negotiation and change authorization, of and to assigned subcontracts. The subcontract administrator will provide administrative coordination, control, and oversight of subcontracts in accordance with MCP-1186, “Service Acquisitions,” and MCP-1185, “Material Acquisitions.” The subcontract administrator will process and control incoming field problems and requests for information and/or change, as applicable; negotiate price and/or delivery impacts resulting from the change process; execute authorized changes with the subcontractor; and generate and award change orders, purchase order revisions, and/or subcontract amendments.

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10.6.2 Subcontract Technical Authority

The subcontract technical authority will provide technical interface with project subcontractors. The subcontract technical authority is typically the responsible project engineer, system engineer, building/facility engineer, principal investigator, or other technical responsible individual. This individual will establish, define, and control the technical requirements, features, and deliverables for subcontracted work. Project technical representatives will evaluate and reply to supplier requests for information and/or change. The subcontract technical authority provides technical approval and authorization to proceed with designated changes. The subcontract technical authority will process change notice documentation as required by MCP-1186, “Service Acquisitions,” or MCP-1185, “Material Acquisitions.”

10.6.3 Subcontractor Technical Representative

The subcontractor technical representative—as required by MCP-1186—provides field coordination, direction, and oversight to subcontractors for subcontracted work. The subcontractor technical representative provides the bridge between administrative and technical roles and responsibilities, serving as the field representative for both the subcontract administrator and the subcontract technical authority. The subcontractor technical representative will evaluate and reply to supplier-generated field problems, determine change categories as required, and process change requests in accordance with MCP-1185 (construction services only).

10.6.4 Functional Support Area Representatives

The functional support area representatives will provide independent inspection, surveillance, monitoring, and/or oversight of subcontracted work in accordance with project plans and procedures, as applicable.

11. PROJECT CONTROLS, REPORTING, AND DOCUMENTATION

Project control, reporting, and documentation activities can be summarized into two broad categories: (1) internal reporting, which includes internal project methodology for establishing earned value basis and other internal analytical processes to obtain and interpret data, and (2) external reporting, which includes a translation of the internal processes to interface with the ICP systems and methods for project controls.

The framework for both internal and external reporting is established by the WBS. The scope of all work within the ER Project is organized in accordance with the WBS. This WBS covers the entire ICP through completion of contract scope. The WBS and its associated WBS dictionary provide the project framework for definition, management, and control of the project and show how the project will be managed. The current WBS for the project is maintained in the Integrated Planning System 2000.

The WBS reflects work packages (at Level 5 of the WBS) and control accounts (at Level 4 of the WBS) that contain level-of-effort activities; traditional project-related activities; and, in the case of the ER Project, quantitative-based waste disposition activities. Refer to the configuration-controlled baseline schedule for a detailed activity list.

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Project schedules are created, maintained, and statused via P3 software. The ER Project schedule is fully integrated with other project elements via P3. This integrated project plan and management tool aids the project team in defining and controlling to the critical path schedule. The lowest level of the WBS has clearly defined predecessors and successors. Such predecessors and successors can be internal to the ER Project, indicating an internal logical relationship between various activities. In addition, such logical relationships can be external, indicating the relationship with other aspects of the ICP that influence the outcome of the ER Project.

The working Level IV schedule translates the requirements of the Level III schedule into a viable execution plan. The Level IV schedule breaks the detailed scope elements to the lowest level of the project WBS. The POD/POW schedule is a subset of the Level IV schedule and is used to track day-to-day progress. POW schedules are used to depict a 1-week look ahead of work scope broken into individual work packages for the week. The POD schedule is used for the execution of the daily work activities. The POD/POW schedule rolls up to the Level IV schedule, which provides status to the Level III LCB schedule. The POD/POW are updated weekly on Thursdays with coverage to the following Thursday and distributed for use of ER operations.

POD meetings are used to integrate the project schedule with facility management’s POD format to authorize work in the cluster. In this way, the facility and project management are both aware of all activities being performed in the cluster on a daily basis. Required authorization documentation is verified at the POD meetings. For example, integrated work control program packages (if used) and radiological work permits are verified at the meetings.

The project team maintains a rolling 3-week schedule that is a subset of the detailed project baseline schedule. This rolling schedule is statused and updated weekly, at times designated by the project manager. In addition, new information that is received at regularly scheduled project team meetings is also used to update the rolling and detailed project schedules.

11.1 Project Meetings

Table 3 provides a schedule of regular project meetings that are held to communicate project status, to identify and mitigate obstacles and risks to successful project completion, and to maintain open and effective lines of communication between all internal and external elements of the project team.

Table 3. Environmental Restoration Project meetings.

Subject	Frequency
Plan of the day	Daily
Plan of the week	Weekly
Safety	Monthly
Client status	As necessary
Project financial review	Monthly
Safety pauses	As required

Collectively, these periodic meetings provide a systematic mechanism to ensure the project remains fully integrated and cognizant of emerging issues and/or progress.

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11.2 ICP Project Control Interface

A set of program planning and integration standards and work instructions describe (a) the project planning and control system at the ICP level and (b) the methods used to evaluate, display, and summarize the data generated by the ICP financial systems. They include details on how the ICP manages the project control data, tracks and reports progress, reports earned value, posts accruals, etc. The standards define the functions and requirements, and the work instructions provide detail on how to use the systems.

The focus of the information summary at the ER Project level is the charge number and activity relationship. The activity identifies the lowest level cost input and establishes the schedule start date and duration. Collectively, for the ER Project, the activities establish the BCWS or the baseline cost curve that the ER Project is evaluated against within the overall ICP. The work package managers, the control account managers, and the area manager are required to report activity status monthly, resulting in the ER Project BCWP, otherwise known as earned value. The actual costs are derived from the costs collected on a monthly basis by charge number and applied against the activity to determine the ACWP.

11.3 Project Control

The process of project control for the ER Project includes the following elements: (1) status measurement and input, (2) analysis, and (3) reporting. Each element is included in more detail below. Collectively, these elements represent the earned value management system for reporting progress.

11.3.1 Status Measurement

Earned value management describes the method through which status will be measured and progress toward completion will be determined. Earned value management is a systematic approach to the integration and measurement of cost, schedule, and technical scope progress. It allows for a detailed examination of schedule and cost information in relation to technical accomplishments. The input function of earned value management is also commonly referred to as the status function, whereby earned value management is defined and applied to a baseline set of activities. For the ICP, earned value methods include level of effort, percent complete quantitative, and percent complete modified milestone. Standard earned value management system techniques are also used by the project and the ICP to measure progress and include the following:

- Schedule Variance (SV) = BCWP-BCWS
- Cost Variance (CV) = BCWP-ACWP
- Schedule Performance Index (SPI) = BCWP/BCWS
- Cost Performance Index (CPI) = BCWP/ACWP.

Once the status for the current fiscal month is input into the current working schedule, the financial systems collect actual costs in accordance with the WBS. Additionally, project managers must accrue subcontract costs incurred but not yet paid to enable effective collection and reporting of the ACWP.

On a monthly basis, earned value status will be updated based on progress from the previous month and will be made available for the next step – Analysis.

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11.3.2 Analysis

The earned value status, in conjunction with cost information, will be analyzed continuously. Once a month, a formal analysis will be prepared for use by ICP management and DOE to evaluate the health and well-being of the project. The analysis will include an evaluation of funding variance, CV, SV, and milestone status. If necessary, change control may need to be invoked if circumstances are such that the project has been impacted by events outside of the control of the project.

Monthly analysis of project performance determines management actions required to meet project scope, schedule, and cost constraints. This analysis enables the project to look for ways to accelerate the project and reduce costs. Triggers for formal analysis include the following:

- Negative CV beyond the 10% threshold
- Negative SV beyond the 10% threshold
- Critical path behind schedule
- Noncritical paths that show very little, zero, or negative float
- Milestones moved beyond target dates
- Objective performance measures (metrics) are below plan
- Project estimate at completion (EAC) exceeds funding level
- Changes to project scope, interfaces, resources, or risk factors.

The project will analyze the cause of any variance, its impact, and possible corrective actions.

11.3.3 Project Reports

The results of the analysis will be compiled into various forms of formal and/or informal reporting.

For the VCO—in accordance with the June 2000 Consent Order (DEQ 2000)—annually, on or before October 31, DOE must submit to DEQ a progress report and a revised action plan covering the period in which the submittal is made.

11.3.3.1 ICP Level Reporting. On a monthly basis, variance analysis report statements will be written at the work package level, which will then be summarized at higher levels of the WBS (control account, subproject, area project). The format is currently maintained in the IPS 2000 system and the final variance analysis reports will be archived there.

11.3.3.2 Internal Project Reporting. Table 4 presents the list of project documents and the approval, transmittal, and customer distribution requirements for the major project documents.

All formal reports will include the following basic information as applicable: official project title, project WBS number, and the report date or time period covered. Schedules will indicate all scheduled activities, forecast completion of the scheduled activities based on “time now”, and critical path activities. As applicable, all internal, major, key, and enforceable milestones that fall within the span of the schedule will be clearly indicated on the schedule.

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Table 4. Environmental Restoration Project reporting.

Document	Frequency	Creator	Approval Authority	Distribution
Project Execution Plan	As needed	Project team (PP&I ^a support)	Area project manager vice president, PP&I	Project team ICP managers DOE-ID
WBS dictionary	As needed	Project team (PP&I support)	PP&I manager	Intranet, IPS 2000
Primavera Project Planner (P3) schedule	Baseline – one time	Project team (PP&I support)	Area project manager	Intranet, P3
Cost estimate	LCB – one time Work plan – annual	Project team (PP&I support)	Area project manager	Intranet, COBRA
Baseline Change Proposals	As needed	Project team (PP&I support)	Area project manager, change control board authority (See MCP-1414)	Change control board, area project manager
Monthly reports	Monthly	Project team (PP&I support)	Area project manager	Project team, DOE-ID
Milestone completion reports	As required	Project team (PP&I support)	Area project manager	DOE-ID

a. PP&I = Project Planning and Integration.

11.4 Change Management

The ER Project will follow the process outlined in MCP-1414, “Change Control.” This procedure outlines the thresholds and criteria for performing change control actions and the level of approvals required for each.

11.5 Value Engineering

Value engineering—also known as VE or value management—is an inherent part of the overall management strategy and project execution methodologies. VE was a key part of various exercises conducted throughout the crafting of the CWI response to the ICP Request for Proposal, which included consideration of the proposal requirements, investigation and determination of various remediation techniques and potential strategies, characterization and evaluation of overall project risk, the structure and method associated with forming the successful proposal team, and CWI’s ability to execute the project successfully. These concepts have been carried forward and incorporated into the planning activities associated with development of the ER LCB.

CWI’s approach to VE is structured to be compliant with its contractual obligations and requirements related to value management. This translates into the use of some form of VE on all projects, whether formal or not. To the extent feasible, improvements in value, cost, schedule, and construction are sought during the project planning phases or early in the project execution phase before technical/design options are locked in.

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The area project managers have overall responsibility for implementing VE principles for their respective projects. The area project manager will decide whether a formal VE study should be performed and who is required to participate in the actual VE studies. In these instances, an integrated project team approach is used. Using an integrated project team approach better enables the primary stakeholders to establish objectives for functionality and performance and make informed decisions about tradeoffs among project objectives, resources, materials, or performance for the short and long term. Schedule and cost savings are major factors in executing the project; however, reliability and the customer's needs for the life of the structure, system, or component receive emphasis as considerations.

Simply stated, VE is an organized application of common sense and technical knowledge directed at finding and eliminating unnecessary costs in a project. Streamlining processes and eliminating non-value-added requirements are critical to accomplish accelerated cleanup and to get the best overall project value for the taxpayer. CWI recognizes that the accelerated cleanup is a cooperative undertaking with DOE that requires both parties to seek innovative approaches to achieve the end objective.

ICP has instituted a formal process for accomplishing this through its "B.8 Team" cost savings activities. Based on Section B.8 of the ICP contract and lead by the CWI vice president of strategic planning, the B.8 Team consists of representatives from each division within the ICP who are charged with seeking out and investigating opportunities to identify and non-value-added requirements and processes that impede progress or contribute to unnecessary cost. The B.8 Team works closely with CWI management and the ICP work force to actively solicit ideas; assist in identifying seemingly non-value-added activities or excess, legacy requirements; and pursue their elimination. Financial incentives are in place to encourage participation in both the identification and resolution phases of the process.

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