Idaho Cleanup Project

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Revision 4

Project Execution Plan for the ICP Radioactive Waste Management Complex Project

Project Nos. 28338 and 23957

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CH2M♦WG Idaho, LLC is the Idaho Cleanup Project contractor for the U.S. Department of Energy

CH2M♦WG IDAHO, LLC

SAFELY PLAN ♦ MOTIVATE ♦ DELIVER

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CONTENTS

ACRONYMS 3

1. PROJECT IDENTIFICATION 4

1.1 Purpose 6

1.2 Facility Description/History 7

1.3 Project Justification 7

1.4 Project Funding 7

1.5 RWMC Project Execution Plan Organization 8

Appendix A—Environmental Restoration at RWMC 9

Appendix B—Waste Management Scope 72

FIGURES

1. Radioactive Waste Management Complex 4

2. Idaho CERCLA Disposal Facility 4

ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
D&D	decommissioning and demolition
DOE	Department of Energy
FFA/CO	Federal Facility Agreement and Consent Order
ICDF	Idaho CERCLA Disposal Facility
ICP	Idaho Cleanup Project
INEEL	Idaho National Engineering and Environmental Laboratory
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
LLW	low-level waste
MFC	Materials and Fuels Complex
MLLW	mixed low-level waste
OCVZ	organic contamination in the vadose zone
PBF	Power Burst Facility
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
ROD	Record of Decision
RTC	Reactor Technology Complex
RWMC	Radioactive Waste Management Complex
SDA	Subsurface Disposal Area
TRU	transuranic (waste)
WAG	Waste Area Group
WIPP	Waste Isolation Pilot Plant

1. PROJECT IDENTIFICATION

The Radioactive Waste Management Complex (RWMC) Project is a sub-tier project to the Idaho Cleanup Project (ICP). The RWMC Project not only includes cleanup activities within the geographical boundaries of the RWMC but also provides for integration and management of ICP-wide waste management services. Additionally, operation of the Idaho Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Disposal Facility complex is included within the RWMC Project.

Figure 1. Radioactive Waste Management Complex.

The RWMC includes 86 facilities, of which 55 facilities are within the scope of the current cleanup contract. Of these 55, 47 are planned for removal by September 30, 2012, as they will no longer have any necessary mission. The RWMC also contains an operating disposal pit, known as the Subsurface Disposal Area (SDA), and contains several former disposal pits that must be remediated. Finally, the RWMC used to contain stored transuranic waste. This waste has been re-located to Idaho Nuclear Technology and Engineering Center (INTEC) and must be characterized, certified, and shipped to the Waste Isolation Pilot Plant (WIPP) for final disposal.

Outside the physical boundaries of the RWMC, the RWMC Project also provides the program and infrastructure for the overall integration, management, and disposition of all waste types (except for high-level waste and sodium-bearing waste) generated by the Idaho National Laboratory (INL) (includes both ICP and non-ICP entities) as a result of ongoing operations and progressing cleanup activities.[a] Waste types may include some or all of the following: (1) transuranic (TRU) and TRU mixed waste, low level waste (LLW), and mixed (MLLW), (2) hazardous waste, (3) industrial waste,

Figure 2. Idaho CERCLA Disposal Facility (ICDF).

a. Beginning February 1, 2005, the name of the Idaho National Engineering and Environmental Laboratory (INEEL) was changed to Idaho National Laboratory (INL).

and (4) other regulated /non-regulated waste that does not fit into one of the previous categories. The RWMC Project possesses the technical expertise and resources necessary to ensure safe, compliant, and cost-effective management of these waste types across all generating entities.

The final element of the RWMC Project involves waste exhumation and remediation. Completion of the remediation efforts will depend on the results of the evaluation conducted under the Federal Facility Agreement and Consent Order, which will be established in a Record of Decision (ROD). The ROD will identify the necessary remedial actions.

The RWMC Project began on May 1, 2005, and is currently expected to end on September 30, 2012. Successful implementation of the RWMC Project will result in the following end state:

- Cost-effective utilization of the SDA for contact-handled LLW and remote-handled LLW, and closure and remediation of the active SDA
- Retrieval of stored remote-handled (RH) TRU waste from the Intermediate Level TRU Storage Facility and disposal at WIPP or, for Hot Fuel Examination Facility inserts, retrieve and ship to INTEC for storage, treatment and future disposition
- Retrieval and disposal of waste resulting from all Environmental Management cleanup activities at appropriate on-Site and/or off-Site disposal locations
- Deactivation and removal of structures no longer necessary, with transition of remaining facilities to the INL contractor
- Complete exhumation of buried TRU waste (Waste Area Group [WAG] 7) waste exhumation areas as defined in the Idaho Cleanup Project contract DE-AC07-051ID14516 and dispose at WIPP
- Completion and implementation of a final, comprehensive ROD for WAG 7
- Safe, compliant operation of the Idaho CERCLA Disposal Facility (ICDF) for disposal of CERCLA waste from progressing cleanup activities and transfer of the ICDF to the INL contractor
- All Site Treatment Plan commitments met on, or ahead of schedule, and MLLW storage activities transitioned to the INL contractor
- The organic contamination in the vadose zone (OCVZ) vapor extraction units will continue to be operated until remediation goals are achieved or modified in accordance with the OU 7-13/14 ROD. This also includes the associated vapor monitoring.
- Groundwater and vadose zone monitoring will continue past 2012 unless modified by the OU 7-13/14 ROD. Groundwater monitoring is addressed under the Miscellaneous Sites Cleanup Project, control account P.4.C.1.04.

- Management of industrial, hazardous, low-level radioactive, mixed low-level radioactive, and backlogged wastes generated by INTEC activities.

1.1 Purpose

The RWMC Project is responsible for cleanup activities associated with the disposition of stored, buried, and newly generated waste at the RWMC complex as well as providing INL-wide waste management services to other INL and ICP operations. This dual function is fully integrated to ensure safe, compliant and cost-effective disposition of the multiple waste forms present as existing inventories and new wastes generated as part of ICP cleanup initiatives and ongoing INL operations.

There are three primary objectives associated with the RWMC Project. The first objective is to reduce threats to the Snake River Plain Aquifer by eliminating and isolating sources of contamination. This objective is accomplished through a risk-based approach that eliminates target waste forms that threaten aquifer water quality, leaving in place those forms that pose negligible threat, and establishing ongoing waste disposition programs that prevent build up of large inventories that could pose threats in the future. For the targeted waste form elimination and remediation effort, the project breakdown structure directly supports requirements of the Federal Facilities Agreement and Consent Order (FFA/CO), which implements CERCLA. Generally, the purpose of the CERCLA Remediation/WAG 7 project is twofold: (1) to perform the actions necessary to complete the Operable Unit 7-13/14 ROD under the FFA/CO, and (2) to retrieve the following waste streams in the SDA, as determined by inventory data and visual identification:

- Rocky Flats Building 741 sludge
- Rocky Flats Building 743 sludge
- Graphite wastes
- Roaster oxides
- Filters and pre-filters
- Other waste streams agreed to by the Department of Energy (DOE) and the regulators, as the result of operational experience or process knowledge, to routinely be TRU waste, as defined by the WIPP Land Withdrawal Act, or containing other contaminants of sufficient concentrations that the risk posed to the Snake River Plain Aquifer is sufficient to warrant their removal.

The second objective of the RWMC Project includes the removal of structures no longer necessary to support ongoing or future operations at the INL. This is referred to as the decommissioning and demolition phase of the project.

Finally, the RWMC Project is chartered with safely and efficiently managing the disposition of waste resulting from ongoing operations from ICP and INL sources and to manage the disposition of waste resulting from ICP cleanup activities. This is known as the waste management phase of the project.

1.2 Facility Description/History

The RWMC facility is a 168-acre area located in the southwest corner of the INL under controlled access. The facility is divided into four areas: (1) the administrative area, (2) operations area, (3) transuranic storage area (most of which is excluded from this Project Execution Plan because it is operated under a separate contract between the DOE and the Advanced Mixed Waste Treatment Project), and (4) the SDA. The facility is used to manage transuranic waste and low-level radioactive waste generated in national defense and research programs. RWMC's main focus has been to help DOE and the INL fulfill its environmental cleanup mission and to safely manage and dispose of retrievable radioactive wastes stemming from 50 years of national nuclear materials production. The RWMC has supported DOE's environmental mission by developing, demonstrating and deploying subsurface soil characterization and recovery technologies that are safe and cost-effective.

The RWMC was established in 1952 as a 13-acre area for storage and disposal of solid radioactive waste. Between 1954 and 1970, radioactive and chemically hazardous waste was buried in the RWMC's 97-acre SDA. The SDA consists of 20 pits, 58 trenches, and 21 soil vault rows.

The ICDF complex is an approximately 40-acre site located immediately southwest of INTEC. It consists of a landfill with total storage capacity of approximately 510,000 cubic yards, an evaporation pond with two cells, each capable of containing 2.2 million gal of aqueous wastes, a decontamination and treatment facility for treatment of radiologically and hazardous material contaminated wastes prior to disposal, two crest pad buildings for monitoring leachate and sampling of liquid wastes, temporary storage pad, and administrative facilities, including an electronic scale. The ICDF receives CERCLA soils and debris wastes from various areas across the INL with future efforts focused on INTEC soils remediation and Decommissioning and Demolition (D&D) debris disposal from Test Area North (TAN), Reactor Technology Complex (RTC), Power Burst Facility (PBF), and INTEC.

1.3 Project Justification

As noted above, one of the major benefits of the project is the long-term protection of the Snake River Plain Aquifer. Other drivers resulting in the need for the RWMC Project include: (1) contract DE-AC07-05ID14516, commonly referred to as the Idaho Cleanup Project, which outlines specific scope items required to be complete by the time of contract expiration on September 30, 2012, (2) regulatory drivers including the Resource Conservation and Recovery Act (RCRA), CERCLA, the FFA/CO and others, and (3) DOE initiatives. All of these ultimately support the DOE Office of Environmental Management and its continuing cleanup mission.

1.4 Project Funding

The RWMC Project is currently funded via the following two fund sources, or DOE Headquarters Project Baseline Summary:

- ID-0013/Solid Waste Stabilization and Disposition Oracle Project No. P10665
- ID-0030B/Soil and Water Remediation-2012 Oracle Project No. P10667
- Direct funded by Bechtel Bettis, Inc. per Purchase Order Number 3014008 for Sludge Pan Container Remediation at Naval Reactor Facility.

1.5 RWMC Project Execution Plan Organization

The scope of the RWMC area is described in two appendixes. Appendix A describes the WAG 7 CERCLA remediation activities being performed by the Environmental Restoration Project at RWMC. Appendix A also includes the scope associated with the RWMC facility as well as the RWMC D&D activities being performed by the D&D Project. Appendix B describes the waste management scope being performed under the Waste Management Project.

Appendix A

Environmental Restoration at RWMC

CONTENTS

ACRONYMS 14

A-1. PROJECT IDENTIFICATION 18

A-2. WAG 7 PROJECT SCOPE 18

A-2.1 Scope Detail 19

A-2.1.1 RWMC Base Operations (P.2.02) 19
A-2.1.2 WAG 7/SDA (P.2.03) 20
A-2.1.3 RWMC D&D (P.2.D0) 23

A-2.2 Boundaries 24

A-2.3 Project Deliverables 25

A-2.3.1 CERCLA Documentation 25
A-2.3.2 Organic Contamination in the Vadose Zone Interim Operations 26
A-2.3.3 Remedy Component #2 26
A-2.3.4 Remedy Component #1 26
A-2.3.5 Waste Exhumation 26

A-3. TECHNICAL APPROACH 27

A-3.1 Technical Strategy 27

A-3.1.1 Waste Management and Disposition 27
A-3.1.2 Deactivation, Decommissioning, and Demolition 27
A-3.1.3 Remediation 27

A-3.2 Project Closure 28

A-4. PERFORMANCE CRITERIA 28

A-4.1 Enforceable and Supporting Milestones 28

A-4.2 Performance Metrics 29

A-4.2.1 Safety Performance 29
A-4.2.2 Radiological Controls Performance 29
A-4.2.3 Safety Program Participation 30
A-4.2.4 Production Performance Indicators 30
A-4.2.5 Cost, Schedule, and Milestone Performance 31

A-5. PROJECT RISK MANAGEMENT 31

A-5.1 Assumptions 31

A-5.2 Risks (contained in Appendix A) 32

A-6. METHOD OF ACCOMPLISHMENT 33

A-7. ENVIRONMENT, SAFETY, HEALTH, AND QUALITY ASSURANCE 34

A-7.1 Environmental Compliance 34

A-7.2 Overall Integrated Safety Management 35

A-7.3 ERP Integrated Safety Management 37

A-7.3.1 Environmental Restoration Cleanup Project Work Scope Definition 41
A-7.3.2 Environmental Restoration Project Hazard Identification and Mitigation 41
A-7.3.3 Environmental Restoration Project Work Performance 42
A-7.3.4 Environmental Restoration Project Operations Assurance 44

A-7.4 Quality Assurance 48

A-7.4.1 Quality Management 49

A-7.5 Information Management Services (IMS) 49

A-8. WASTE MANAGEMENT AND MINIMIZATION 49

A-9. COMMUNICATIONS 49

A-10. ORGANIZATION AND RESPONSIBILITIES 50

A-10.1 General Responsibilities 50

A-10.1.1 Internal Organizations 50
A-10.1.2 External Organizations 50

A-10.2 Project Organizational Structure 51

A-10.3 Responsibilities 53

A-10.4 Interfaces 53

A-10.4.1 Interfaces With Other ICP Organizations 53
A-10.4.2 Interfaces With Other INL Organizations 53
A-10.4.3 Interfaces With External Organizations 53
A-10.4.4 Interfaces With DOE 54

A-10.5 Facility Interfaces 54

A-10.6 Subcontractor Interfaces 55

A-10.6.1 Subcontract Administrator 55
A-10.6.2 Subcontract Technical Authority 55
A-10.6.3 Subcontract Technical Representative 55
A-10.6.4 Functional Support Area Representatives 55

A-11. PROJECT CONTROLS, REPORTING, AND DOCUMENTATION 56

A-11.1 Project Meetings 57

A-11.2 ICP Project Control Interface 57

A-11.3 Project Control 57

A-11.3.1 Status Measurement 58
A-11.3.2 Analysis 58
A-11.3.3 Project Reports 59

A-11.4 Change Management 60

A-11.5 Value Engineering 60

A-11.5.1 Internal Organizations 61
A-11.5.2 External Organizations 62

A-11.6 ER Project Organizational Structure 62

A-11.7 Responsibilities 64

A-11.7.1 Vice President and Area Manager 64
A-11.7.2 Project, Operations and Program Directors 65
A-11.7.3 Project Controls Manager 66

A-12. REFERENCES 66

FIGURES

A-1. Project Work Breakdown Structure at RWMC 18

A-2. Base Operations Work Breakdown Structure 19

A-3. WAG 7/SDA Work Breakdown Structure 21

A-4. RWMC D&D Work Breakdown Structure 23

A-5. CWI'S risk management process 32

A-6. ER Project Organization Chart 52

A-7. ER Project Organization 63

TABLES

A-1. RWMC facilities planned for removal 24

A-2. Code Description 33

A-3. ISMS processes implemented to support work (STD-101) and operations (MCP-3562) the Environmental Restoration Project 38

A-4. General responsibilities for the internal organizations 50

A-5. External organizations with interest in the ER Project 51

A-6. Environmental Restoration project meetings 57

A-7. Environmental Restoration project reporting 59

A-8. General responsibilities for the internal organizations 61

A-9. External organizations with interest in the RWMC Project 62

ACRONYMS

ACWP	Actual Cost of Work Performed (Actuals)
AMWTP	advanced mixed waste treatment project
APM	area project manager
ARAR	applicable or relevant and appropriate requirement
BCWP	Budgeted Cost of Work Performed (Earned Value)
BCWS	Budgeted Cost of Work Scheduled (Budget)
BEA	Battelle Energy Alliance, LLC
CARB	Corrective Action Review Board
CCP	Central Characterization Project
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH	contact-handled (waste)
COBRA	Changing Our Behavior Reduces Accidents
CPI	Cost Performance Index
CTR	charter
CV	cost variance
CWI	CH2M♦WG Idaho, LLC
D&D	decommissioning and demolition
DEQ	(Idaho) Department of Environmental Quality
DOE	Department of Energy
DOE-HQ	Department of Energy Headquarters
DOE-ID	Department of Energy Idaho Operations Office
DOT	Department of Transportation
DSA	document safety analysis

EAC	Estimate at Completion
EPA	Environmental Protection Agency
ERP	Environmental Restoration Project
ESD	explanation of significant differences
ESH&Q	Environment, Safety, Health, and Quality Assurance
ESRB	Executive Safety Review Board
FFA/CO	Federal Facility Agreement and Consent Order
FSA	functional support area
FY	fiscal year
GDE	guide
GFS/I	government furnished services and items
HFEF	Hot Fuel Examination Facility
ICDF	Idaho CERCLA Disposal Facility
ICP	Idaho Cleanup Project
ILTSF	Intermediate Level TRU Storage Facility
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
ISMS	Integrated Safety Management System
ISO	International Standards Organization
ISRC	Independent Safety Review Committee
IWTS	Integrated Waste Tracking System
LCB	life-cycle baseline
LLW	low-level waste
LST	list
LTS	long-term stewardship

MCP	management control procedure
MFC	Materials and Fuels Complex
MLLW	mixed low-level waste
MSA	management self-assessment
NTCRA	non-time critical removal action
NTS	Noncompliance Tracking System
OCVZ	organic contamination in the vadose zone
OIS	Optical Imaging System
ORR	operational readiness review
OSB	Operational Safety Board
OU	operable unit
P3	primavera project planner
PAAA	Price-Anderson Amendments Act
PBF	Power Burst Facility
PDD	program description document
PEP	Project Execution Plan
PLN	plan
POD	plan of the day (meeting)
POW	plan of the week (meeting)
PRD	program requirements document
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RH	remote-handled
ROD	Record of Decision
RTC	Reactor Technology Complex

RWMC	Radioactive Waste Management Complex
SAR	safety analysis report
SDA	Subsurface Disposal Area
SMP	Safety Management Program
SPI	schedule performance index
SPOMC	Safety Performance, Objectives, Measures, and Commitments
SSSTF	Staging, Storage, Sizing, and Treatment Facility
STP	Site Treatment Plan
SV	schedule variance
TAN	Test Area North
TOC	Table of Contents
TRM	transuranic mixed (waste)
TRT	technical response team
TRU	transuranic (waste)
USQD	unresolved safety question determination
VE	value engineering
VOC	volatile organic compound(s)
VPP	Voluntary Protection Program
VVET	vapor vacuum extraction with treatment
WAC	waste acceptance criteria
WAG	waste area group
WBS	Work Breakdown Structure
WGS	Waste Generator Services (Organization)
WIPP	Waste Isolation Pilot Plant

A-1. PROJECT IDENTIFICATION

Section 1 of the main body of Plan (PLN)-2085 contains a general discussion of the Project including Purpose, Facility Description and History, justification and funding.

A-2. WAG 7 PROJECT SCOPE

As noted above, the RWMC Project scope contained in the P.2. leg of the Work Breakdown Structure (WBS) includes those functions and activities within the geographical boundaries of the RWMC. See Figure A-1.

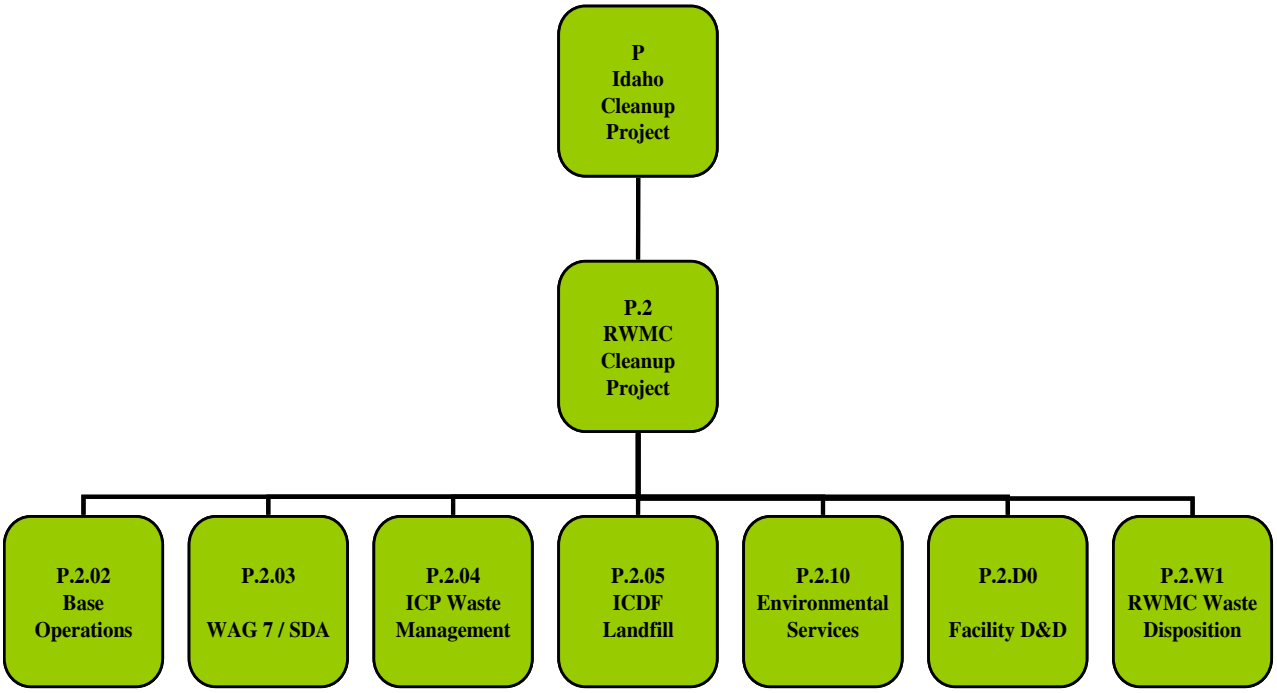

Figure A-1. Project Work Breakdown Structure at RWMC.

Not specifically identified, but contained within the lower levels of the WBS is Project Management scope. Project Management scope includes the identification of 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 WBS element the work scope is planned. For high risk activity mitigation, a separate activity and charge number will be established to track specific mitigation actions.

A-2.1 Scope Detail

The P.2.02 and P.2.03 leg of the WBS was structured to capture all the CH2M♦WG Idaho (CWI) Environmental Restoration project scope that will be executed at the RWMC. The summary in Figure A-1 includes all elements of the WBS of CWI scope being performed at the RWMC to support the Environmental Restoration, Waste Management, and decontamination and decommissioning (D&D) projects.

A-2.1.1 RWMC Base Operations (P.2.02)

Figure A-2 shows the Base Operations work breakdown structure down to the work package level. The Base Operations scope includes the following elements: RWMC Utility Systems, Facility Operations, Environmental, Safety, Health, and Quality, RWMC Information Technology and Communications Support, and Project Management.

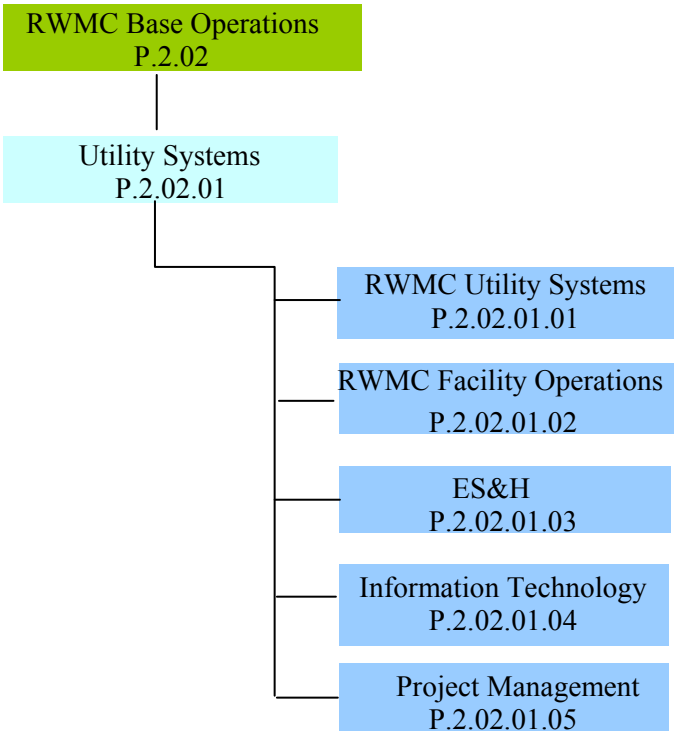

Figure A-2**.** Base Operations Work Breakdown Structure.

A-2.1.1.1 RWMC Base Operations (P.2.02.01)

A-2.1.1.1.1 RWMC Utility Systems (P.2.02.01.01)—will be maintained to meet or exceed applicable requirements of the current codes, standards, and guides. Specific scope includes System, Structure, Component Engineering; Preventive Maintenance; and Corrective Maintenance including spare parts for the following systems:

- RWMC Potable Water Distribution System
- RWMC Sewage Water Distribution System
- RWMC Electrical Power Distribution System (480 volts and less past the step–down transformers that are the responsibility of power management)
- RWMC Propane Delivery System
- RWMC Fire Water Distribution System.

A-2.1.1.1.2 Facility Operations (P.2.02.01.02)—provides landlord operation services to RWMC excluding AMWTP areas:

- Landlord Operations
- RWMC Building Maintenance Operations
- RWMC Custodial Support
- RWMC Roads and Grounds

A-2.1.1.1.3 RWMC Base Engineering Support ES&H (P.2.02.01.03)— addresses environmental, training, quality, emergency management, safety, issues management, authorization basis and radiation control.

A-2.1.1.1.4 Information Technology (P.2.02.01.04)—provides for data and network systems upgrades, repair, and maintenance. Data network, communications and local area network maintenance and upgrades including equipment purchases and installation to maintain operation communication and data systems at the RWMC.

A-2.1.1.1.5 Project Management (P.2.02.01.05)—provides management for the RWMC base operation within the Idaho Cleanup Project (ICP). The work scope provides for RWMC taxi service and general project communication support. RWMC document control and records management are included.

A-2.1.2 WAG 7/SDA (P.2.03)

Figure A-3 shows the WAG 7/SDA WBS, down to the work package level. The WAG 7/SDA scope includes the following elements.

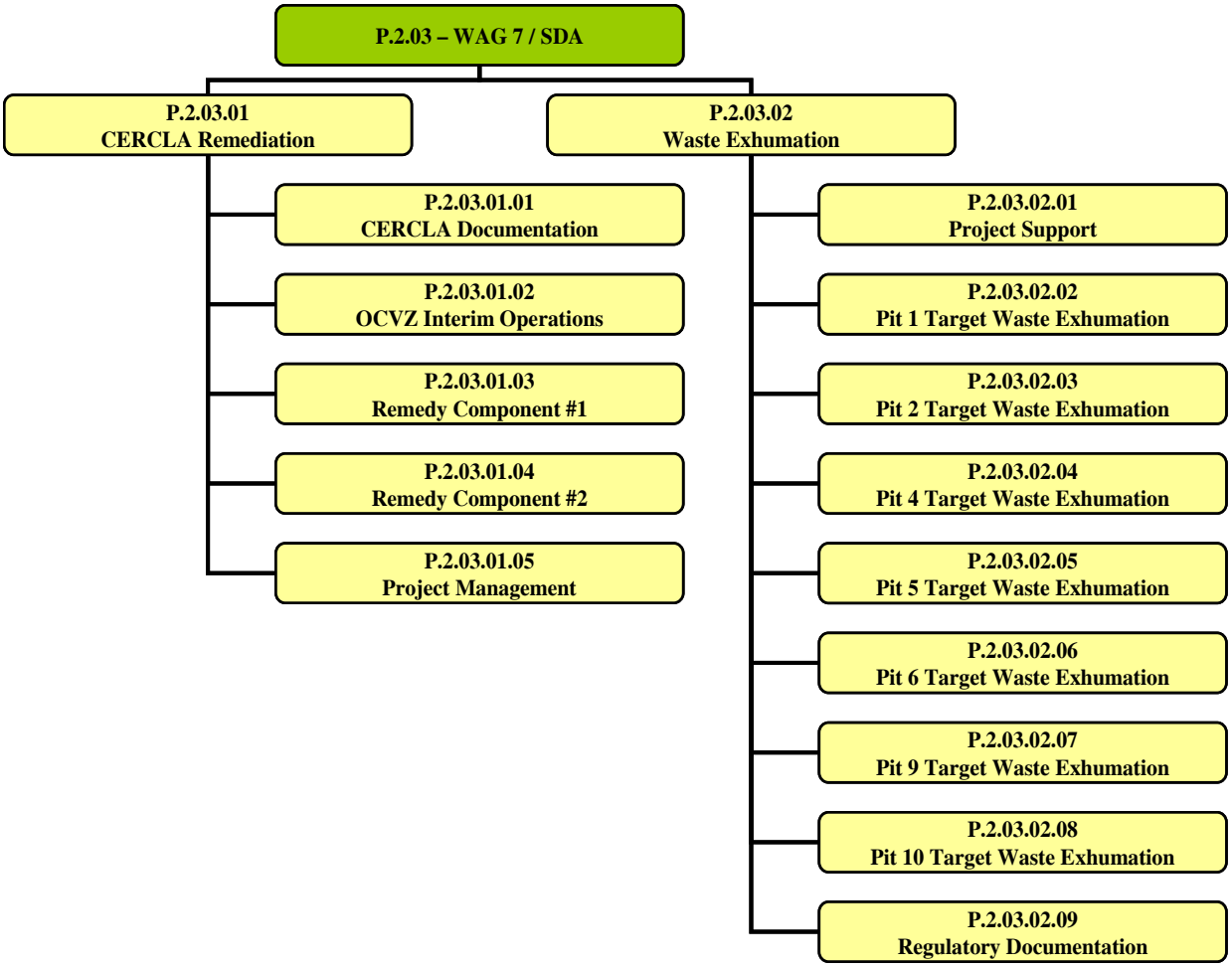

Figure A-3. WAG 7/SDA Work Breakdown Structure.

A-2.1.2.1 CERCLA Remediation (P.2.03.01)

A-2.1.2.1.1 CERCLA Documentation (P.2.03.01.01)—CERCLA Documentation is prepared in order to satisfy requirements of the Federal Facilities Agreement and Consent Order (DOE-ID 1991) (FFA/CO) in agreement with the Idaho Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA). The DOE-ID is conducting waste exhumation as a non-time-critical removal action (NTCRA) and completing the Operable Unit 7 13/14 comprehensive remedial investigation/feasibility study for the RWMC. This PEP contains the scope necessary to prepare documents to comply with CERCLA and the FFA/CO in the areas of Field Activities (CERCLA Monitoring), the Record of Decision (ROD), and Remedial Design/Remedial Action (RD/RA) for WAG 7.

A-2.1.2.1.2 Organic Contamination in the Vadose Zone Interim Operations (P.2.03.01.02)—Organic Contamination in the Vadose Zone (OCVZ) Operations provide WAG 7 with the reporting and project engineering required to plan, execute, and control all work within the remedial action project for OU 7-08. The work scope includes activities that support compliance with the OU 7-08 ROD, including determining and predicting the effectiveness of remedial operations for current and future soil vapor extraction and recommending modifications to improve system operations. OCVZ Operations oversees operation and maintenance of the Vapor Vacuum Extraction with Treatment (VVET) Units D, E, and F, and sampling and analysis for volatile organic compounds (VOCs) in subsurface vapors from monitoring wells in OU 7-08. OCVZ will continue to be operated and maintained until after 2012 unless remediation goals are met or requirements changed by the agencies.

A-2.1.2.1.3 Remedy Component #1 (P.2.03.01.03)—For planning purposes, it is assumed that a cap will be placed over the entire SDA as part of the SDA final remedy to limit infiltration into the closed landfill. Execution of this scope is dependent on the timing and content of a Record of Decision for OU 7-13/14. An evapotranspiration cap will be used on the SDA. An evapotranspiration cap is initially made up of a sloped site-grading fill, followed by an evapotranspiration soil layer and native vegetation designed to retain all the moisture. The moisture then evaporates from the soil layer's surface or transpires through the vegetation. During transpiration, moisture is pulled out of the soil and up through the shallow root systems of the vegetation to its leaves, where it is released into the atmosphere.

A-2.1.2.1.4 Remedy Component #2 (P.2.03.01.04)—For planning purposes, it is assumed that a cutoff wall will be placed around the perimeter of the entire SDA as part of the SDA final remedy. Execution of this scope is dependent on the timing and content of a ROD for OU 7-13/14. Excavation under a slurry-filled trench provides stability and prevents the trench from collapsing. Different materials and combinations of materials are used to construct slurry cutoff walls, including soil-bentonite, cement-bentonite, and plastic concrete.

A-2.1.2.1.5 CERCLA Project Management (P.2.03.01.05)—This PEP includes a provision for project management services, to allow execution of WAG 7 activities as defined in the FFA/CO in agreement with the Idaho DEQ and the EPA. This control account contains the scope necessary to prepare documents to comply with CERCLA and the FFA/CO in the areas of Management and Administration, Field Activities (CERCLA Monitoring), the ROD, and RD/RA.

A-2.1.2.2 Waste Exhumation (P.2.03.02)

A-2.1.2.2.1 Project Support (P.2.03.02.01)—These activities establish, maintain, and monitor performance baselines for technical activities, schedule, and cost for all retrieval operations. These activities also establish the criteria for managing the project and have the primary task of coordinating communication among the project manager, project team, customer, and stakeholders. Monitor performance against planned scope and weekly charges against scope, weekly and monthly status reports, coordinate activities, interface with other CH2M♦WG Idaho (CWI) projects and programs, weekly agency and DOE conference calls and meetings.

A-2.1.2.2.2 Waste Exhumation (P.2.03.02.02 – .08)—The target waste exhumation entails the retrieval and packaging of Rocky Flats process 741 sludge, Rocky Flats process 743 sludge, TRU-contaminated graphite wastes, uranium-contaminated roaster oxides, and TRU-contaminated filter and pre-filter, from focused retrieval areas located in the SDA at RWMC.

The retrieval of the waste will be performed using conventional excavating equipment and techniques. The retrievals will be conducted under a temporary enclosure with mobile support systems such as lighting, ventilation, heating and step-off pads. The targeted waste will be identified using a variety of techniques including visual and/or field instrumentation.

The targeted waste will be transported to a central packaging station for visual inspection for compliance with WIPP WAC and packaging into appropriate storage containers. The drum carcasses, and other incidental non target waste fractions, will be returned to the excavation area. The packaged targeted waste will be transported to storage pending characterization and future disposition.

The temporary enclosure will be relocated at the completion of the exhumation and set up again to resume exhumation activities at the next retrieval area.

A-2.1.2.2.3 Regulatory Documentation (P.2.03.02.09)—Preparation of required CERCLA documentation is also included in this control account. The CERCLA documentation is necessary to support performance of NTCRA at the remaining targeted waste exhumation areas within the Subsurface Disposal Area. The required documentation includes preparation of an approval memorandum to proceed with a NTCRA engineering evaluation/cost analysis, and action memorandum. Planned as part of the NTCRA process is the required public comment period for the engineering evaluation/cost analysis and documentation of responses to significant public comments for inclusion in the action memorandum.

A-2.1.3 RWMC D&D (P.2.D0)

Figure A-4 shows the RWMC D&D Work Breakdown Structure. The scope includes the isolation of utilities to the facilities and the removal of asbestos-containing materials and hazardous substances, as required. Upon completion of the interior dismantlement, the facilities superstructure will be demolished, including the removal of any concrete slabs. Any foundation walls will be demolished to approximately three feet below grade. Upon completion of the buildings/structures demolition, the area will be backfilled and graded to match the existing terrain. Facilities planned for removal are shown in Table A-1.

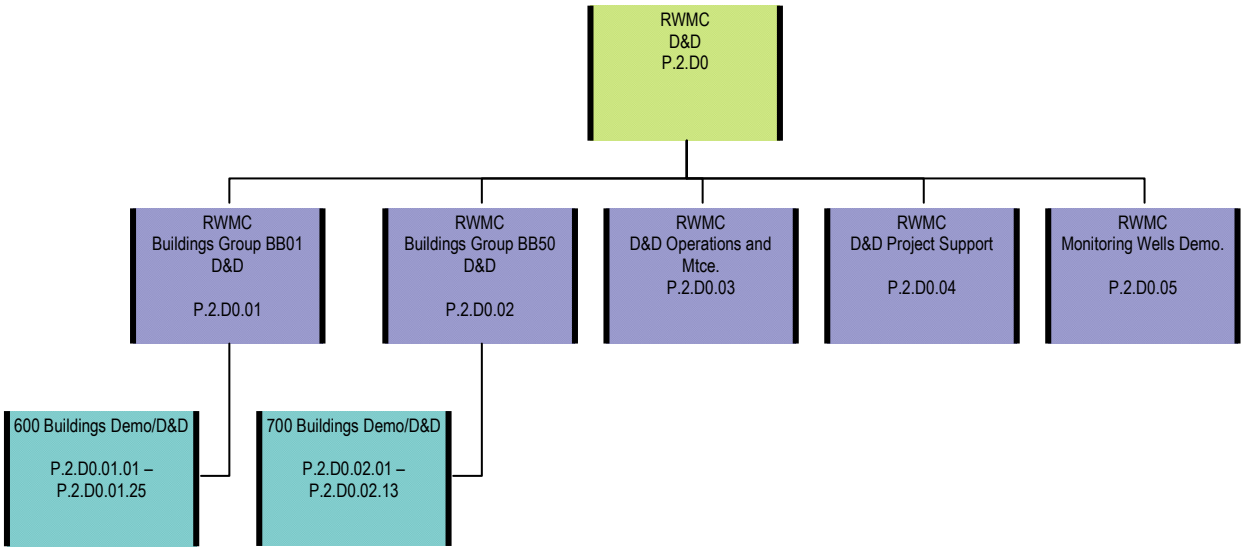

Figure A-4. RWMC D&D Work Breakdown Structure.

A-2.2 Boundaries

The Environmental Restoration Project (ERP) is responsible for completing the scope of work defined in the contract and this PEP. The ERP has overall responsibility for CERCLA activities under the FFA/CO. The following are excluded from the ERP responsibilities:

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

Interface agreements are prepared and approved by the project and facility management to ensure that boundaries, duties, and responsibilities are assigned. In many cases, these interface agreements should be simple one-page documents that identify activities necessary to accomplish tasks, the responsible organization, and the responsible manager. As the RWMC Project matures under the ICP contract, the D&D organization will contribute to the ICP mission by removing excess facilities from the RWMC footprint as described in the following table.

Table A-1. RWMC facilities planned for removal.

Building	Area	Description	Area (sq. ft)
WMF0601	RWMC	Radcon Field	3,280
WMF0603	RWMC	Pumphouse	1.387
WMF0604	RWMC	Change House & Lunch	1,083
WMF0605	RWMC	Wellhouse 87	3
WMF0609	RWMC	Heavy Equipment Storage Shed	11,166
WMF0611	RWMC	Operations Support	40
WMF0619	RWMC	Communications	40
WMF0620	RWMC	Work Control Center	1,456
WMF0621	RWMC	Work Control Support	1,456
WMF0622	RWMC	Office Annex	1,456
WMF0628	RWMC	Type II Storage Module #1	28,800
WMF0637	RWMC	Operations Control	24,093
WMF0639	RWMC	Firewater Pumphouse #2	1,787
WMF0641	RWMC	Vapor Vacuum Extration Well	1
WMF0642	RWMC	Vapor Vacuum Monitoring	1
WMF0643	RWMC	Vapor Vacuum Extration Well	1
WMF0645	RWMC	Construction Support	1,549
WMF0646	RWMC	Field Support	1,549
WMF0648	RWMC	Intermediate Level Strorage Facility	22
WMF0649	RWMC	Vapor Vacuum Extraction Well	1
WMF0650	RWMC	Vapor Vacuum Extraction Well	1
WMF0653	RWMC	Office Annex #2	1,454
WMF0655	RWMC	Material Handling	5,483
WMF0656	RWMC	Maintenance	5,000
WMF0657	RWMC	Construction Field Support Trailer	1,568
WMF0658	RWMC	RWMC Office	4,560
WMF0661	RWMC	Hazardous Material Storage	128

Table A-1. (continued).

Building	Area	Description	Area (sq. ft)
WMF0671	RWMC	Weather Enclosure Structure (WES) for the GEM	8,800
WMF0680	RWMC	Mobile Office trailer/break area	72
WMF0681	RWMC	Mobile Office	72
WMF0682	RWMC	Security Mobile Office	12
WMF0708	RWMC	Sump	9
WMF0709	RWMC	Portable Water Stroage tank #1	
WMF0711	RWMC	Former Air Support	22,500
WMF0714	RWMC	Intermediate Level TRU Storage Facility (ILTSF) Pad 1	
WMF0720	RWMC	Intermediate Level TRU Storage Facility (ILTSF) Pad 2	
WMF0727	RWMC	Fire Water	
WMF0732	RWMC	Propane Tank North of WMF-637	
WMF0733	RWMC	Drum Inspection	10
WMF0736	RWMC	Cold Test Pit South (CTP-S)	
WMF0737	RWMC	Gasoline	
WMF0738	RWMC	Propane	
WMF0739	RWMC	USGS Monitoring Well #88	1
WMF0740	RWMC	USGS Monitoring Well #89	1
WMF0741	RWMC	USGS Monitoring Well #90	1
WMF0750	RWMC	Temporary Fire Riser Building (for GEM)	10
WMF5601	RWMC	SDA Engineered Test	2,112
RWMC	4		

A-2.3 Project Deliverables

Throughout the lifecycle of the Project, numerous deliverables will be provided to internal and external customers. The following provides a list of major project deliverables.

A-2.3.1 CERCLA Documentation

CERCLA Documentation[3] includes the draft final versions of the Remedial Investigation/Baseline Risk Assessment, Feasibility Study, Proposed Plan and Record of Decision. Delivery dates of these documents are subject to change based upon agency agreement to modify the enforceable milestones.

- Annual monitoring reports
- Draft Remedial Design/Remedial Action Statement of Work and Remedial Design Work Plan
- OU 7-13/14 draft Remedial Investigation/Baseline Risk Assessment to DEQ/EPA, December 2005
- OU 7-13/14 draft Feasibility Study to DEQ/EPA, August 2006
- OU 7-13/14 draft proposed plan to DEQ/EPA, October 2006

3. For CERCLA documentation see Administrative Record and Information Repository at http:\\ar.inel.gov\

- OU 7-13/14 draft ROD to DEQ/EPA, July 2007
- OU 7-13/14 issue draft RD/RA Statement of Work and Remedial Design work plan, November 2007
- Issue Final RD/RA Statement of Work and Remedial Design Work Plan
- Bid and Award Cut Off Wall RD/RA Subcontract
- Bid and Award Cap Remedial Design Subcontract
- Bid and Award Cap Construction Subcontract
- Ancillary documents required to produce the Remedial Investigation/Baseline Risk Assessment and Feasibility Study.

A-2.3.2 Organic Contamination in the Vadose Zone Interim Operations

- Reporting – Periodic project status reports, staffing plans, Operations and Maintenance Plan, Health and Safety Plan, Field Sampling Plan, Data Quality Objectives Report, fourier transform infrared monitoring reports, VOC fate and transport model, air dispersion modeling reports.
- External Reporting – Semi-annual data reports, biennial status reports, agency conference call minutes and presentation materials.

A-2.3.3 Remedy Component #2

- Cutoff Wall Preliminary Remedial Design
- Cutoff Wall Final Remedial Design – Primary document
- Cutoff Wall Final Remedial Action Work Plan – Primary document
- Cutoff Wall placement.

A-2.3.4 Remedy Component #1

- Cap Preliminary Remedial Design
- Draft Cap Pre-Final Status Report
- Cap Final Remedial Design
- Draft – Final Cap Remedial Action Work Plan
- Bid Documentation.

A-2.3.5 Waste Exhumation

- Two and one-half acres target waste exhumation and target waste packaged for disposition
- Engineering Evaluation/Cost Analysis
- Action Memorandum
- Fiscal Year (FY) 2006 RWMC Annual Safety Analysis Report (SAR) Update.

A-3. TECHNICAL APPROACH

The technical approach employed by the RWMC Project centers around safe, compliant and cost effective completion of activities in pursuit of the ultimate end-state of the project. Details of the technical strategy are summarized in the following subsections.

A-3.1 Technical Strategy

The overall strategy for completing the RWMC Project can be separated into three main work areas: (1) waste management and disposition, (2) deactivation, decommissioning, and demolition, and (3) remediation. Each work area is addressed below:

A-3.1.1 Waste Management and Disposition

The technical strategy for waste management and disposition is presented in Appendix B of the RWMC Project Execution Plan (PEP).

A-3.1.2 Deactivation, Decommissioning, and Demolition

The overall D&D strategy is discussed in detail in the Test Area North (TAN)/Reactor Technology Center (RTC)/Power Burst Facility (PBF) PEP and will not be repeated here since the same organization, processes, philosophies, and scope execution strategies will be applicable to the RWMC Project.

A-3.1.3 Remediation

CERCLA documentation will be prepared in order to satisfy requirements of the FFA/CO in agreement with the DEQ and the EPA. DOE-ID is conducting waste exhumation as a NTCRA and completing the OU 7-13/14 comprehensive remedial investigation/feasibility study for the RWMC. Documents will be prepared to comply with CERCLA and the FFA/CO in the areas of Field Activities (CERCLA monitoring), the ROD and RD/RA for WAG 7.

Target waste exhumation entails the retrieval and packaging of Rocky Flats process 741 sludge, Rocky Flats process 743 sludge, TRU-contaminated graphite wastes, uranium-contaminated roaster oxides, and TRU-contaminated filter and pre-filters from focused retrieval areas. Retrieval of the waste will be performed using conventional excavating equipment and techniques. The retrievals will be conducted under a temporary enclosure with appropriate lighting, ventilation, heating, and step-off pads. The targeted waste will be identified using a variety of techniques including visual and/or field instrumentation.

The targeted waste will be transported to a central packaging station for visual inspection for WIPP Waste Area Acceptance (WAC) compliance and packaging into appropriate storage containers. The drum carcasses, and other incidental non target waste fractions, will be returned to the excavation area. The packaged targeted waste will be transported to storage pending characterization and future disposition.

A-3.2 Project Closure

A closeout report for each area undergoing D&D or remediation in the RWMC project will be prepared upon project completion. The report will describe all activities completed and include any significant variations from original decision documents. It will substantiate the completeness of achieving the ICP goals. The report will also contain sampling results, including data that confirm applicable structural release criteria were met. A description of the waste quantities, types, and disposal path will be included. The report will also include an index of project records and indicate where records will be archived.

A-4. PERFORMANCE CRITERIA

This section discusses the internal and external performance 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 ICP/EXT-05-01082, *CWI ICP Sitewide Project Management Plan*. 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 (Voluntary Protection Plan [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. RWMC performance measures will support and incorporate Safety Performance, Objectives, Measures and Commitments (SPOMC) indicators in the development and use of these criteria when and where applicable. The specific criteria are discussed in this appendix and in Appendix B.

A-4.1 Enforceable and Supporting Milestones

Two primary levels of Schedule Milestones are defined on the CWI ICP External "E" and Internal "I" Milestones. Management Milestones comprise 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 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.

A-4.2 Performance Metrics

A-4.2.1 Safety Performance

The RWMC sub-project of the Environmental Restoration 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, "Environmental Policy." CWI believes that all injuries are preventable and that prevention of all injuries is a fundamental prerequisite for all work at the ICP. RWMC is committed to achieving and sustaining an injury-free workplace. Participation in DOE's Voluntary Protection Program (VPP) enables RWMC and the RWMC Employee Safety Team to endorse this policy and further strengthen it through employee involvement.

RWMC tracks the goal of zero injuries on a monthly basis as part of the RWMC Employee Safety Team (EST) Tracking and Trending subcommittee and through reports generated by the Environment Safety, Health and Quality (ESH&Q) home organization. These indices are:

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

This information is available to all RWMC employees on the RWMC homepage and at various locations throughout the facility.

A-4.2.2 Radiological Controls Performance

RWMC is committed to the as low as reasonably achievable (ALARA) principles in Radiological Controls. To this end the RadCon organization performance measures evaluate and track processes and related exposures. These indices are:

- ALARA Tracking and Trending
- Dose per Production Unit
- Activity per Production Unit
- Radiological Safety/Incident Tracking and Trending.

This information is available to all RWMC employees on the RWMC homepage and at various locations throughout the facility.

A-4.2.3 Safety Program Participation

RWMC uses various tracking mechanism 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 RWMC "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 Tracking and Trending
  - Issue Resolution
- Safety and Health Inspections
  - Finding/Issues Tracking and Trending
  - Resolution Tracking and Trending
- Safety Meeting and Training participation.

This information is available to all RWMC employees on the RWMC homepage and at various locations throughout the facility.

A-4.2.4 Production Performance Indicators

Gold Chart – There are no specific Gold Chart metrics directly for RWMC. Indirectly, RWMC is responsible for the generation of contact-handled (CH)–TRU that will be shipped to WIPP. A performance indicator for this item will be maintained.

Safety and Health – Performance indicators will be maintained that will allow the management team to manage a variety of issues and actions within this category. Examples include authorization basis violations, nuclear safety, security infractions, Occurrence Reporting and Processing System reportables, Price-Anderson Amendment Noncompliance Tracking System (NTS) Reports, Hazard Review Board, and Non-compliance Reports.

Production – Performance indicators will be maintained that will allow the management team to manage a variety of physical work activities within the RWMC Project. Examples include waste volumes shipped, waste volumes disposed, and waste volumes exhumed.

A-4.2.5 Cost, Schedule, and Milestone 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.

A-5. PROJECT RISK MANAGEMENT

CWI will manage risks using the process for identifying, quantifying, and mitigating risks in accordance with MCP-1409, "Risk Management." A key component to risk mitigation will be CWIs 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 A-5 shows the process for assessing and managing the significant project risks discussed in Section A-5.2, Table A-2.

Many of the uncertainties associated with the RWMC's Environmental Restoration 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 A-5.2 below.

A-5.1 Assumptions

Specific assumptions relevant to the detailed work scope included within the Environmental Restoration Project are included in the work package and control account narratives. These narratives are maintained in the Integrated Planning System 2000. A few of the more important and generally relevant assumptions are included below:

- The OU 7-13/14 comprehensive ROD may identify the following remedial actions for the SDA: (a) preparation for and installation of an evapotranspiration surface barrier, (b) in situ grouting of fission and activation products, (c) installation of additional monitoring capability, (d) long-term monitoring and maintenance, (e) long-term institutional controls. Pad A will be left in place. Some form of foundation preparation will be required to support the surface barrier. Additional retrievals beyond those achieved under the NTCRA will likely be required.

- The Agencies will make only minor, mostly editorial comments on the draft final (Rev. C) ROD sent for acceptance subsequent to their formal review of Revision B (External).

- The OU 7-10 interim action ROD will be incorporated into the OU 7 13/14 ROD.
- The Agencies will not invoke dispute over the OU 7-13/14 ROD.
- The Agencies will concur that the preferred alternative for OU 7 13/14 excludes the following elements: (a) grouting for a cap foundation; (b) grouting to immobilize transuranic waste forms; (c) pretreatment for VOCs (e.g., in situ thermal desorption and enhancements to the OCVZ system to increase VOC extraction, shallow extraction, active gas collection layer in the cap); (d) manipulation, treatment, or removal of Pad A waste; (e) ILTSF; and (f) a berm around the cap.

A-5.2 Risks (contained in Appendix A)

The RWMC Project employs the standard risk analysis and risk management process used by the overall ICP to ensure that significant risks are identified and properly addressed. The risk management process and results are documented in PLN-2173, "Idaho Cleanup Project Programmatic Risk Management Plan." The risk management process used by the ICP is summarized in Figure A-5.

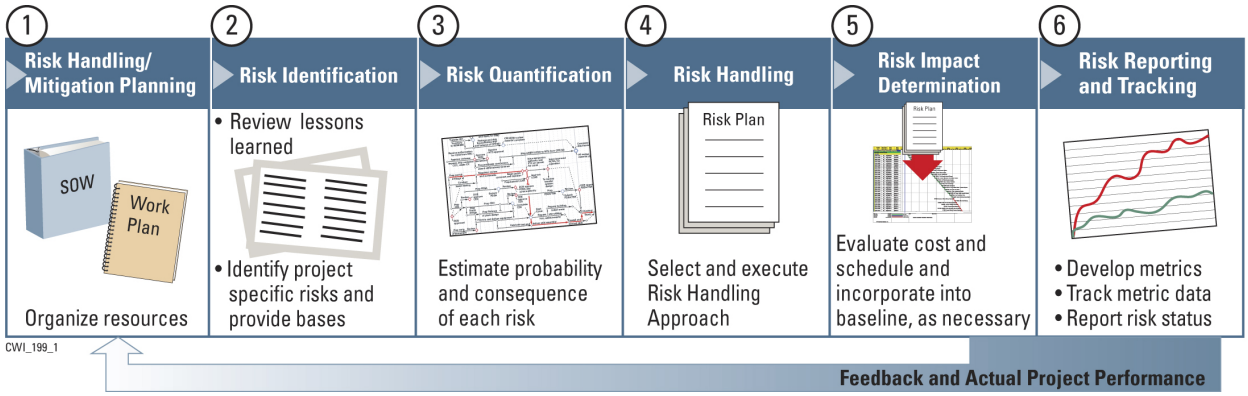

Figure A-5. CWI'S risk management process.

Each of these steps is discussed in detail in the PLN-2173 and will not be reiterated here.

Regarding those risks identified by DOE in contract section H.2, the Environmental Restoration Project owns several of these risks. See PLN-2173 in EDMS. In addition, application of the process shown in Figure A-5 results in additional significant uncertainties and/or other uncertainties. The current significant uncertainties and other uncertainties associated with the RWMC Project are also listed in PLN-2173.

In addition to the detailed risk assessment documented in PLN-2173, each scheduled activity has a risk code applied in order to perform resource leveling and some activity based risk planning and application of contingency. Risk codes range from 1 – 5 and are described in Table A-2.

Table A-2. Code Description.

Code	Description
1	Resources readily available – no special materials, equipment, or labor skills 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 risk exists.
2	Resources 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.
3	Labor resources 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.
4	Required materials, equipment, labor skills, and availability may be limited. Other activities significantly impacted if resources are not available. There has been limited previous experience with this type or 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 significantly impacted if resources are not available. No previous experience with proposed methodology or technology. 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.

A-6. METHOD OF ACCOMPLISHMENT

Completion of the RWMC Project will be accomplished through the use of existing salaried and hourly workforce, supplemented by subcontract resources to accommodate temporary work-load increases resulting from high priority activities. Wherever possible, existing ICP resources will be used. If not available, the RWMC Project will coordinate with the Procurement organization to ensure timely and effective availability of resources to meet ICP objectives. In addition, the work scope will be accomplished through the use of existing physical assets including the SDA and ICDF. This onsite disposal capacity will also be supplemented through the use of commercially available treatment/disposal facilities and/or other DOE disposal facilities if neither onsite or offsite commercial facilities are available or cost effective. It is impossible to predict exactly how the long-term implementation of the RWMC Project scope will be carried out because of the continuing need to balance the priorities of the other ICP Projects with the availability of resources. Actual method of accomplishment will result from an ongoing assessment of the safest, most efficient method of operation.

A-7. ENVIRONMENT, SAFETY, HEALTH, AND QUALITY ASSURANCE

Environment, safety, health, and quality (ESH&Q) support is provided to the project to ensure that tasks are accomplished safely and 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.

A-7.1 Environmental Compliance

Environmental requirements for projects performed by the Environmental Restoration Project (ERP) flow down into work plans from several sources. The first source of environmental requirements originates in the CH2M♦WG Idaho, LLC (CWI) ICP contract with the Department of Energy Idaho Operations Office (DOE-ID) (DOE-ID 2005). For ERP activities conducted pursuant to CERCLA (42 *United States Code* [USC] § 9601 et seq.), the primary environmental requirement is 40 *Code of Federal Regulations* (CFR) 300, "National Oil and Hazardous Substances Pollution Contingency Plan," as implemented by the FFA/CO, (DOE/ID 1991), which contains provisions for negotiating with the EPA and the Idaho Department of Environmental Quality (DEQ) in order to identify all other applicable or relevant and appropriate requirements (ARARs). 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 ERP CERCLA projects, an additional source of environmental requirements originates from the FFA/CO, which implements the requirements of 40 CFR 300 and outlines a process whereby the DOE, EPA, and DEQ sign Records of Decision (RODs) to clean up contaminated sites. The RODs identify ARARs and contain detailed descriptions of the methods to be employed to conduct remedial actions. 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 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 five-year reviews of the selected remedy. Actions conducted as CERCLA removal actions (e.g., the Accelerated Retrieval Project) are also required to identify and implement ARARs, to the extent practicable, and must be consistent with foreseeable future remedial actions for the same release in accordance with CERCLA, Section 121. ARARs and other commitments identified through CERCLA removal action documentation, such as the Engineering Evaluation/Cost Analyses Action Memoranda and other documents (e.g. a Removal Action Plan), also must be satisfied and function to define the specific environmental regulatory requirements and objectives for the removal action. These regulatory plans and documents constitute the lowest level of requirements roll-down and are approved and accepted by the regulatory agencies. In the case of Removal action documentation, the DEQ and EPA generally provide concurrence regarding the DOE lead removal activities. 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 (OIS) ROD records at http://edms/pls/edms/ois.ois_09?p_cerclatype=ROD and explanation of significant differences (ESD) records at http://edms/pls/edms/ois.ois_09?p_cerclatype=ESD.

It should be noted that work conducted pursuant to CERCLA, 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 onsite; the equivalency of the CERCLA public participation process to performing traditional National Environmental Policy Act of 1969 (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 ERPs. 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. If necessary, further roll-down of 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 International Standards Organization (ISO) -14001, "Environmental Management System Standard." Instructions to comply with environmental requirements are contained in Management Control Procedure (MCP)-3480, "Environmental Instructions for Facilities, Processes, Materials and Equipment." Upon initiation of work planning, all Environmental Restoration projects complete an environmental checklist in accordance with MCP-3480. Completion of the environmental checklist ensures identification of environmental regulations and applicable DOE orders.

The CWI contract with DOE-ID (DOE-ID 2005) 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.

A-7.2 Overall Integrated Safety Management

CWI 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 work site 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 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 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.

CWI implements Integrated Safety Management through the company manuals. The program is specifically spelled out in PDD-1004. The functional and project teams establish requirements for individual activity hazards, providing necessary and sufficient controls. The teams identify project requirements using the company manuals and procedures. It is not necessary to re-address the source documents (e.g., DOE orders, regulations, etc.) since 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, Management Self-Assessment, or other independent review depending on the hazards identified.

Safety and health requirements governing all activities are found in current health and safety plans, work orders, company procedures, job safety analyses, and Table of Contents (TOC)-59, “Subcontractor Requirements Manual.” By following the requirements in these documents, CWI 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 the work.

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, subcontractors must comply with all applicable safety codes and regulations.

A-7.3 ERP Integrated Safety Management

The ERP 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 ERP 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 ERP-directed work.

The ERP 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 and/or step back for any environmental, safety, or quality issue. This is a fundamental premise of all ERP-directed or performed work. It is also 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 Employee Safety Team 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 RWMC EST has a formally established charter in the CWI document control system, Charter (CTR)-29, "Charter for the RWMC Employee Safety Team," which identifies its purpose, scope, membership, and responsibilities. ERP employees working at other facilities will be associated with the EST for that facility.

The ERP ensures the safety of the workers and the public through the use of the Site infrastructure and organizations supporting all aspects of ISMS. A summary of the processes routinely used by ERP to implement ISMS are provided in Table A-3.

Table A-3. ISMS processes implemented to support work (STD-101) and operations (MCP-3562) the Environmental Restoration Project.

Function	Purpose	Frequency	Documentation
Hazard Identification and Mitigation			
Environmental Restoration Points-of-Contact	Identifies the responsible person for Environmental Restoration accountable for the requirements within a given area.	Not applicable.	List (LST)-358, "Functional Operations Point-of-Contact for the Environmental Restoration Project"
Hazard Evaluation Group	A group of subject matter experts and other professionals assembled to perform a hazard evaluation.	Procedure development and revision.	MCP-3562, "Hazard Identification, Analysis, and Control of Operational Activities"
Planning Walk-downs	Verify field conditions, system drawings and labeling, evaluate hazards anticipated during the performance of the work, and to understand the complexity of the work activity.	Prior to work planning.	STD-101, "ICP Integrated Work Control Process"
Hazard Review Board	Review selected work activities, typically complex and/or high hazard tasks, to demonstrate the standards and expectations of ERP management.	As needed, depending on work activities.	CTR-163, "ICP Hazard Review Board Charter"
Management Review	Confirms that a project or activity is at a state or readiness to commence unrestricted operation of a defined scope of work.	As needed, depending on work activities.	Form 410.15, "ERP Management Review Checklist"
Work Performance			
Conduct of Operations	Documents applicability of DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*.	Not applicable.	LST-18, "RWMC Conduct of Operations Conformance Matrix" LST-355, "DOE Order 5480.19 Conformance Matrix for Miscellaneous Sites Cleanup Project"
Plan of the Week	Weekly authorization of work by the Facility Managers.	Weekly	Signed Plan of the Week (POW)
Technical Response Team	Assists work crews in resolving issues during work execution that cannot be resolved in a timely manner using available resources.	As needed, depending on work activities.	CTR-206, "Charter for the Environmental Restoration Technical Response Team"

Table A-3. (continued).

Function	Purpose	Frequency	Documentation
Workability Walk-downs	Ensure that the scope of work is adequate and all hazards have been identified and mitigated, the work instructions are clear, and supporting documentation is correct.	Prior to performing work.	STD-101, "ICP Integrated Work Control Process"
Pre-job Briefing	A pre-job briefing is the final confirmation of readiness before performing a task. It helps 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.	Prior to performing work.	MCP-3003, "Performing Pre-job Briefings and Documenting Feedback" Form 434.14, "Pre-Job Briefing Checklist"
Management Workplace Visit	Promotes management presence in the field as a fundamental demonstration of company's values of safety, integrity, teamwork, and productivity.	Management goal for each manager to perform three per month.	GDE-411, "ICP Management Workplace Visit Program"
Operations Assurance			
Independent Safety Review Committee	Provides independent oversight and review of Safety Basis Documents associated with 10 CFR 830, Subpart B Nuclear facilities and Operational Activities.	As needed, depending upon revisions to DSAs.	CTR-156, "Independent Safety Review Committee (ISRC) Charter for the Idaho Cleanup Project (ICP)"
Operational Safety Board	Provides independent reviews of RWMC operations, processes, and activities to assist in line management's responsibility for safety and compliance with the authorization basis.	As needed, depending on changes to DSAs and new operational activities.	CTR-32, "RWMC WAG 7 Operational Safety Board"
Corrective Action Review Board	Promotes operational excellence by ensuring the issues management program is functioning effectively, efficiently, and in accordance with the corrective action system.	As needed, depending on significant deficiencies and occurrence reports.	CTR-185, "Corrective Action Review Boards"

Table A-3. (continued).

Function	Purpose	Frequency	Documentation
Feedback and Improvement			
Issues Management (ICARE)	Identification, reporting, and follow up on issues or potential issues associated with occupational injuries/illnesses, occurrence reporting, and PAAA.	As needed, depending on issues.	MCP-49, "Occupational Injury/Illness Reporting and Follow-up" MCP-190, "Event Investigation and Occurrence Reporting" MCP-598, "Corrective Action System" MCP-2547, "Identification, Reporting, and Resolution of Price-Anderson and Worker Safety and Health Noncompliances"
Assessments, Surveillances & Inspections	Insure ERP items, processes, systems, or services meet specified requirements and are performing effectively.	Identified in the Integrated Assessment System (IAS).	MCP-1221, "Performing Inspections and Surveillances" Form 220.03, "Inspection/ Surveillance Report"
Safety Management Program Reviews	Provide a summary of the SMP performance at a facility. Discuss performance issues and corrective actions; assessment performance and results; activities, initiatives, integration needs; outlook and projections; and appropriate performance measures (leading and lagging indicators).	Identified in LST-358.	Form 220.03, "Inspection/ Surveillance Report"
Safety Assessment Center	Centralized process for timely management involvement in routine reporting, reviewing, and follow-up on safety events.	Daily (Mon – Thur) at 8:30 am.	CTR-159, "Charter for the Safety Assessment Center (SAC)"
Lessons Learned	Documents and reviews noteworthy practices as part of the feedback and improvement process.	Reviewed during pre-job briefing at the beginning of a job and periodically thereafter.	MCP-192, "Processing Lessons Learned and Operating Experience Information"
Post-Job Reviews	Provides a forum for capturing lessons learned and feedback after a project has been completed.	Following completion of a project.	MCP-3003, "Performing Prejob Briefings and Documenting Feedback" Form 433.24, "Task Evolution Feedback Form"

A-7.3.1 Environmental Restoration Cleanup Project Work Scope Definition

As previously discussed, the ERP's work scope is in two of the four cleanup areas specified in DOE Contract DE-AC07-05ID14516 (DOE-ID 2005) and includes programmatic responsibility for the CERCLA activities (except ICDF), VCO characterizations and closures, CERCLA groundwater monitoring activities, long-term stewardship (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, removal action plans, VCO work plans, 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 ERP control account narratives and the ERP Level 4 schedule.

A-7.3.2 Environmental Restoration Project Hazard Identification and Mitigation

ERP has developed and implemented both formal and informal controls and support functions to identify and mitigate hazards that may 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.

A-7.3.2.1 Work Planning. The work planning process defines the hazards analysis approach 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. The process of documenting the physical hazards and contaminants of concern for each activity, establishing initial controls, and developing the activity hazards analysis is defined in MCP-3562, and STD-101.

Work is planned and controlled in accordance with maintenance or construction work package guidance as defined in STD-101 or operational activity guidance as defined in MCP-3562. Work orders primarily used by the ERP 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 Area Project Manager. The operational tasks primarily used by the ERP include operational exempt work, operational related tasks, and work done under technical procedure. The operational work, tasks, and procedures are defined, documented, and developed in accordance with MCP-3562.

Decisions regarding appropriate controls and implementation are typically based on the hazards analysis and 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.

For work activities identified as under the exclusive control of the ERP, personnel will develop and approve the work control documentation, oversee the work, and close out the work control documentation. Work planning will be initiated using Form 433.46, "ERP Initial Work Request" or entered directly into the electronic work control system. All emergent work will be planned and controlled in accordance with STD-101 or MCP-3562 and included on the plan of the week (POW). For efficiency, ERP may also administer work control documentation through the work control administration centers of other organizations. All work control documentation will be closed out in accordance with STD-101 and MCP-3562 requirements.

For all ERP work performed outside the exclusive control of the ERP, the work packages, oversight, and work control documentation closeout may be conducted by other organizations as identified in an interface agreement (IAG).

A-7.3.2.2 Hazard Review Board. CTR-163 describes how CWI and ERP implement the Hazard Review Board (HRB) to integrate 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 ERP management team. For ERP, the Nuclear Facility Manager (NFM), Facility Manager (FM), or designee who is responsible for where the work is to be performed will serve as the HRB Chairperson. In addition to the HRB Chairperson, a minimum HRB team consists of a safety and health representative, work supervisor, representative of the workforce, and principal work document author or system engineer. All completed HRB's will be documented and maintained in EDMS.

A-7.3.2.3 Management Review. Management reviews of new ERP activities will be conducted at the direction of the ERP 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, "ERP Management Review Checklist." The project director, project manager, facility or 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.

A-7.3.2.4 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."

A-7.3.3 Environmental Restoration Project Work Performance

CWI and the ERP 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.

A-7.3.3.1 Work Control Program. Operations use work control to plan and authorize existing and emergent activities for placement on the 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 ERP 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 the work is released either daily on the POD or weekly on the POW depending on the hazards and interfering activities. Activities on the POW are reviewed and approved for the upcoming week. Emergent activities will be added to the POW following Nuclear Facility Manager or Facility Manager approval. Specific activities are then scheduled on the POD and are preceded by a pre-job briefing prior to performance. Depending on the type of activity, core team members and building support personnel may receive a pre-evolution briefing to include a predefined or practiced set of responses to upset conditions.

A-7.3.3.2 Pre-Job Briefings. The ERP uses pre-job briefings as the final confirmation of readiness before performing a task. The pre-job briefings are held to ensure that the participants are prepared, the work scope is defined, hazards and environmental impacts are understood and controlled, and any last-minute questions are answered. ERP management expects the briefings to 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 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 work control center so future planning efforts and projects can benefit from the experiences.

A-7.3.3.3 Technical Response Team. The ERP Technical Response Team (TRT) assists the 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 down time
- Provide real-time feedback to field operations
- Assist with on-the-floor decisions regarding work control issues.

The TRT charter has been formally established in the CWI document control system as CTR-206, which identifies the purpose, scope, membership, and responsibilities of the TRT.

A-7.3.3.4 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.

The ERP 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 ERP-directed or performed work. The CWI policy on step back/stop work can be found in MCP-553, "Step Back and Stop Work Authority."

A-7.3.4 Environmental Restoration Project Operations Assurance

Operations assurance will ensure a consistent pursuit of excellence in safety, radiological controls, operations and engineering via direct surveillance, oversight, independent reviews, issues management, and feedback and improvement for all aspects of the ERP. Operations assurance personnel will facilitate active and aggressive elimination of liabilities associated with operations, radiological controls, maintenance, engineering, integrated planning and scheduling, and operational readiness. Through routine interface with the management team and workers in the field, operations assurance will seek to develop a continuous improvement program and culture where lasting benefit to the project is realized. Operations assurance will play a key role in positively reinforcing behavior and championing safety such that ownership of the continuous improvement program is felt at all levels. Specific areas of focus and responsibilities include independent reviews, issues management, and feedback and improvement.

A-7.3.4.1 Independent Safety Review Committee. The Independent Safety Review Committee (ISRC) provides independent oversight and review of Safety Basis Documents associated with 10 CFR 830, Subpart B, "Management and Administrative Requirements." The ISRC may review other areas of interest at the request of management. The ISRC has the following authority for all RWMC facilities:

- Perform independent reviews for concurrence of all new documented safety analyses (DSAs).
- Perform independent reviews for concurrence of all changes to DSAs.
- Perform reviews for concurrence of Transport Plans that are required by 10 CFR 830, Subpart B.
- Perform reviews of issues or items that have a potential to impact safe and reliable operation of a facility or activity operating under a DSA.
- Obtain advice and services of technical specialists within ERP, and outside consultants through contractual arrangements.
- Review other areas of interest at the request of ERP management.
- A description of the ISRC is provided in CTR-156, "Independent Safety Review Committee (ISRC) Charter for the Idaho Completion Project (ICP)."

A-7.3.4.2 Operational Safety Board. The Operational Safety Board (OSB) performs specific reviews of activities, processes, and procedures at RWMC to assist in the implementation of line management's responsibility for the safety of facility operations and compliance with the authorization basis. The RWMC OSB provides recommendations for approval of applicable documents to the NFMs who retain responsibility for final approval of the documents.

The OSB is responsible for supporting all operations, processes, and activities conducted at RWMC that fall under the scope of the NFMs. Document reviews may be conducted in conjunction with other reviews, (e.g., Independent Safety Review Board) providing the requirements of both groups are met. A formal review must be conducted of the following:

- New facility authorization basis documentation and authorization agreements, or changes to the existing facility authorization bases
- Evaluation, review, and approval of new work or operational activities performed under MCP-2783
- Configuration control packages (including the review and development of configuration change requests) of safety-significant or important-to-safety systems, structures, and components to ensure design and new processes have been properly analyzed and screened, and that controls and processes can be safely and effectively implemented
- New facility procedure revisions (i.e., technical procedure; emergency, abnormal operating, and alarm response procedure; or emergency plan implementing procedure) that change the intent of the procedures, or the periodic review of existing procedures (including a review of applicable safety evaluations and supporting hazard analysis.

A description of the RWMC OSB is provided in CTR-32.

A-7.3.4.3 Corrective Action Review Board. The Corrective Action Review Board (CARB) is to support and promote operational excellence by ensuring that the project and/or functional organization issues management program is functioning effectively, efficiently, and in accordance with the Corrective Action System. The Board will review any cause analysis associated with the identified corrective actions and the closure package for any of the reports listed below:

- Significant deficiencies in ICARE
- Occurrence reports that have a Category 3 significance or above
- Noncompliance Tracking System (NTS) reports
- Issue requested by the project manager.

A description of the CARB is provided in CTR-185.

A-7.3.4.4 Issues Management. The ERP 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 ERP, reporting and follow-up on occupational injuries/illnesses will be conducted in accordance with MCP-49. 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 ERP, Price-Anderson Amendments Act (PAAA) reporting will be conducted in accordance with MCP-2547. 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 ERP, initiating, screening, dispositioning, and closing ICARE deficiencies, nonconformances, and Occurrence Reporting and Processing System reports will be conducted in accordance with MCP-190. Unusual or off-normal occurrences will be investigated and reported in accordance with MCP-190. 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.

A-7.3.4.5 Management Workplace Visit. The ERP management supports the ICP Management Workplace Visit Program to promote management presence in the workplace as a fundamental demonstration of the value that the company places on safety, integrity, teamwork, productivity, and results. The effectiveness of communication, coaching to achieve desired behaviors, worker involvement, 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, 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 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 ISM 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; an appointed, exempt person; a functional support manager or subject-matter expert; and a worker. The team will observe an activity within the ERP identified by the area project manager or operations manager during the ERP POW.

A-7.3.4.6 Assessments/Surveillances/Inspections. The ERP management sponsors assessments to review, evaluate, inspect, test, check, survey, audit, or otherwise determine and document whether ERP 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 ERP 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 ICARE tracking system in accordance with MCP-598, and submit noteworthy practices in accordance with MCP-192.

ERP management sponsors inspections and surveillances of designated ERP 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 and will be documented on Form 220.03. 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.

A-7.3.4.7 Safety Management Program Reviews. A process where ISMS program requirements as implemented through Functional Support Areas (FSAs) and Safety Management Programs (SMPs) Subject Matter Experts provide evaluation of their respective responsibilities to the ERP management team. The scheduling of these reviews is identified using LST-358 to provide frequency of reviews and assignment of responsibilities for the ERP. The review frequency as identified in LST-358 is risk-based dependent upon the area project manager (APM) and senior management evaluations.

These reviews will provide the management team opportunity to discuss specific ISMS program elements with their respective SME. The reviews will be centered on ISMS program requirements and established performance indicators and measures to determine achievement of the established performance objectives. In most cases these goals and evaluation criteria will be based on the criteria selected as part of the Executive Safety Review Board (ESRB) review of the equivalent LST-1 reviews conducted at a company level (refer to MCP-1270, "Performing Annual Evaluations of the Integrated Safety Management System." Organizational responsibility is assigned for collecting and analyzing data for each indicator and measure.

Each performance report is reviewed to determine performance issues. Appropriate actions are initiated to address identified issues. These actions are monitored and tracked to completion.

A summary of the results of the evaluation are documented in a report that contains the safety performance commitments and the current set of safety performance objectives and measures established. Responsibilities for addressing the issues and commitments identified in the report are assigned. The resulting action plans are monitored and tracked to completion.

A-7.3.4.8 Safety Assessment Center. The Safety Assessment Center provides a centralized process for timely management involvement in routine reporting, reviewing, and assigning follow-up on safety events; supports safety performance monitoring; and provides a resource for periodic safety performance summary reporting. Data is collected about events and conditions that have the potential for adversely affecting safe operations now and in the future, as well as good practices. The data collected is analyzed for adverse and/or positive trends, and the results are disseminated. A description of the Safety Assessment Center is provided in CTR-159.

A-7.3.4.9 Lessons Learned. ERP management promotes use of 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 ERP 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 ERP work control documentation, including work orders, procedures, and job safety analyses. Applicable lessons learned will be reviewed during pre-job briefs prior to starting ERP-related work.

A-7.3.4.10 Post-Job Reviews. ERP 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 ERP 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 Form 433.24 developed for the project.

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

A-7.3.4.11 Employee Concerns. The ERP organization encourages managers and employees to maintain open communications based on trust and respect. Consistent with our 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 an issue or concern with their immediate supervisor they may discuss it with any level of management within ERP. Finally, the Employee Concerns Program is a mechanism available to employees who have a concern—including a safety concern—but may be uncomfortable bringing it to management, wish to remain anonymous, or have not been satisfied with management response. This program is accessed through the ICP website or employee concerns hotline. It is administered independently at the company level and concerns are promptly addressed and tracked for completion.

A-7.4 Quality Assurance

The ERP complies with the Quality Assurance Program without exception. This program is defined in the following documents:

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

Quality Assessment (QA) 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 QA program requirements. QA additionally provides engineering support through the review of documents, reports and test plans.

A-7.4.1 Quality Management

The CWI Quality Assurance Manual (Manual 13) 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 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."

A-7.5 Information Management Services (IMS)

ERP management promotes the use of the assigned Records Liaison for the primary point of contact or interface between ERP and IMS personnel for all IMS work processes and standards for writing/editing, document management, records management, correspondence control, print shop, graphics, and external review.

The ERP records will be managed in accordance with MCP-557, "Records Management" and the ERP controlled documents will be managed in accordance with MCP-135, "Document Management." External release will be managed in accordance with MCP-2809 "External Release of Information and Technical and Scientific Products." Project numbers will be assigned to the ERP 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. Other services under IMS include writing/editing, printing, and graphics.

A-8. WASTE MANAGEMENT AND MINIMIZATION

See Appendix B for Waste Management and Minimization discussion.

A-9. COMMUNICATIONS

The ERP 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 ERP 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.

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

A-10. ORGANIZATION AND RESPONSIBILITIES

The vice president and area manager for the ER Project is the project head. He is supported by five 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 Life Cycle Baseline. Additionally, a critical component of successful completion will include interaction with various agencies, including DOE, State of Idaho, EPA, and local and national stakeholders.

A-10.1 General Responsibilities

A-10.1.1 Internal Organizations

Table A-4 shows the general responsibilities for the internal organizations.

Table A-4. 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

A-10.1.2 External Organizations

Table A-5 shows the external organizations with interest in the ER Project and their responsibilities.

Table A-5. 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 X	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)	

A-10.2 Project Organizational Structure

Program management and control will function under an integrated scope, schedule, and cost control system that identify 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 A-6.

Environmental Restoration Project
Org. 8000

June 2007

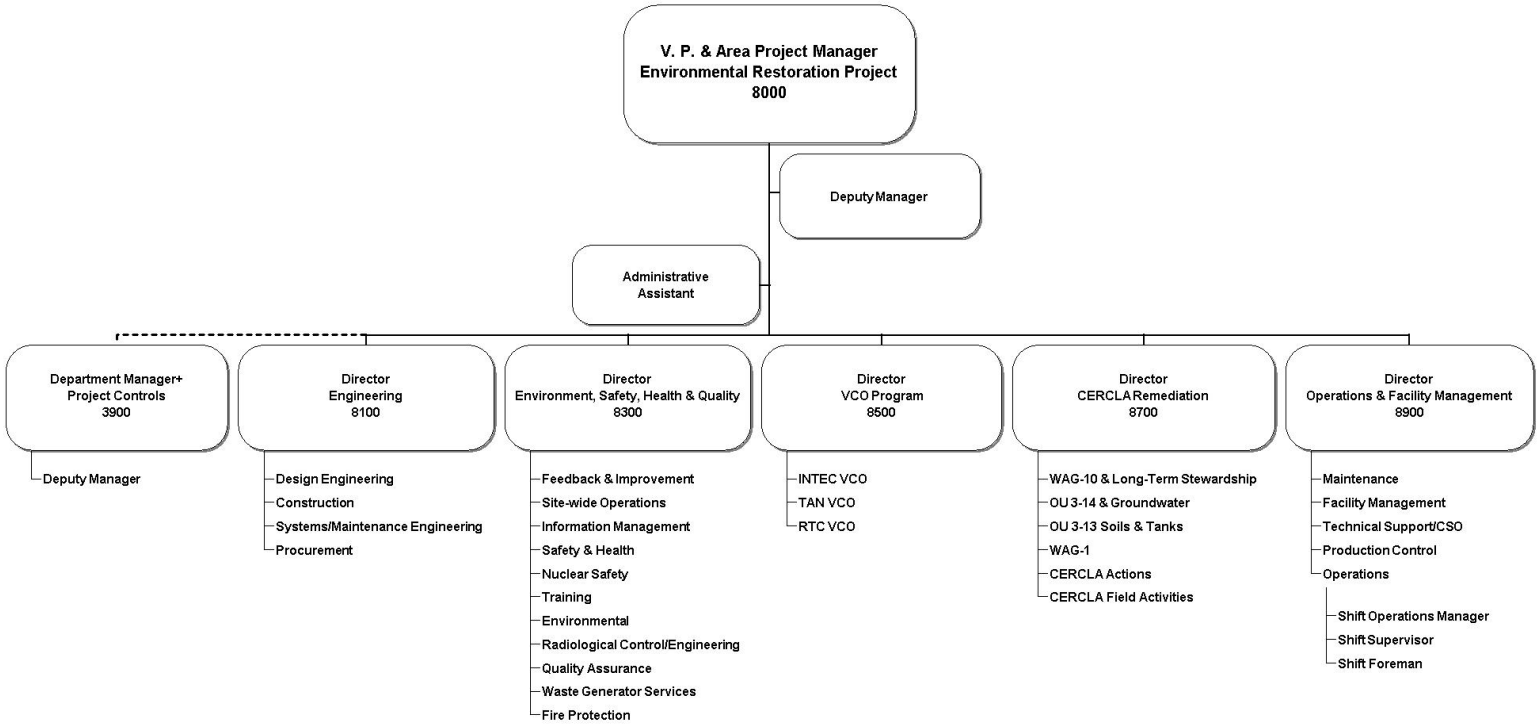

Figure A-6. ER Project Organization Chart.

A-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.

A-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.

A-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 Interface Agreements.

A-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 BEA 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.

A-10.4.3 Interfaces With External Organizations

The "Environmental and Regulatory Structure and Interface Protocol" (CCN 302274) 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 EM 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, the TRU Waste Project routinely interfaces with WIPP 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. An interface document, CCP-PO-024, "CCP/INL Interface Document" is in place that describes the respective roles and responsibilities of CWI and the Central Characterization Project.

A-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 have 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 provide final interpretation of state and federal rules and regulations, respectively. Therefore, effective interface is necessary with this agency to complete the project successfully.

A-10.5 Facility Interfaces

Where ER work activities are performed as nonexclusive-use projects within facility boundaries outside the RWMC, the ER Project retains the programmatic responsibilities, and facility management is responsible for implementing the fieldwork. These interfaces are defined in specific interface agreements that are prepared and approved by the project and facility management and affected organizations to ensure that boundaries, duties, and responsibilities are clearly assigned. Interface agreements will address the following: purpose; scope of work; roles, responsibilities, and accountabilities; and list of affected organizations that have responsibilities under the interface agreement. The level of detail in the interface agreement will vary depending on the complexity of the activity, project milestones, and the need to assure consistent and acceptable results. Interface agreements will be reviewed and, if necessary, updated

annually. If an interface agreement 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, "Developing Tenant Use Agreements."

A-10.6 Subcontractor Interfaces

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

A-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.

A-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.

A-10.6.3 Subcontract Technical Representative

The subcontract technical representative—as required by MCP-1186—provides field coordination, direction, and oversight to subcontractors for subcontracted work. The subcontract 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 subcontract 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).

A-10.6.4 Functional Support Area Representatives

The functional support area representatives identified in LST-358 will provide independent inspection, surveillance, monitoring, and/or oversight of subcontracted work in accordance with project plans and procedures, as applicable.

A-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.

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 life-cycle baseline (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.

A-11.1 Project Meetings

Table A-6 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.

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

Table A-6. Environmental Restoration project meetings.

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

A-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 budgeted cost of work scheduled (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.

A-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.

A-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.

A-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, cost variance, schedule variance, 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 cost variance beyond the 10% threshold
- Negative schedule variance 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.

A-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.

A-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, and area project). The format is currently maintained in the IPS2000 system and the final variance analysis reports will be archived there.

A-11.3.3.2 Internal Project Reporting. Table A-7 presents the list of project documents and the approval, transmittal, and customer distribution requirements for the major project documents.

Table A-7. Environmental Restoration project reporting.

Document	Frequency	Creator	Approval Authority	Distribution
Project Execution Plan	As needed	Project team (PP&I 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 (BCP)	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

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.

A-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.

A-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 Idaho Cleanup Project Request for Proposal (RFP), 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.

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.

The ER Project will be generally managed via resources already existing within the project organization. In cases where the expertise does not exist internal to ER, the specialty resources will be sought from other ICP and/or INL organizations (e.g., some ESH&Q functions, large maintenance items, fire department, medical). Finally, it may also be necessary to use offsite resources in cases where: (1) it is economically advantageous, (2) additional flexibility is required that can not be gained utilizing on-site resources, (3) the resource is unavailable on-site (e.g., macroencapsulation of lead at Envirocare).

Without exception, the ER Project directors also occupy the role of control account manager. A control account manager has the authority and responsibility to plan and budget the work, control the resources and execute activities within an approved technical, schedule and cost baseline. A complete description of the control account manager responsibilities is contained in the Project Control System Description.

The organization below the vice president and area manager consists of operating entities and program entities. In general, the program entities define the goals and objectives of the various aspects of the project. Additionally, the program entities establish the over-arching technical, financial, and schedule attributes through which the operating entities can successfully achieve the desired end stat established by the program. The operating entities provide the resources necessary to operate and maintain all structures and facilities in order to accomplish the desired end state. Management Control Procedure (MCP)-1963 outlines the responsibilities of the operating and program entities for the ER Project and are therefore not repeated here.

The ER Project interfaces with internal and external organizations and other stakeholders who have an interest in the progress of accomplishing the cleanup work. Those interfaces, their general responsibilities, followed by a detailed description of the project organization, team member responsibilities, and interface responsibilities are described below.

A-11.5.1 Internal Organizations

Table A-8 shows the general responsibilities for the internal organizations.

Table A-8. 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.

Table A-8. (continued).

Organization	Responsibilities
ER 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 the 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 the documentation as required by contract.

A-11.5.2 External Organizations

Table A-9 shows the external organizations with interest in the ER Project and their responsibilities.

Table A-9. External organizations with interest in the RWMC Project.

Organization	Responsibilities
Idaho Department of Environmental Quality (IDEQ)	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 X	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, etc.)	

A-11.6 ER Project Organizational Structure

Program management and control will function under an integrated scope, schedule, and cost control system that identify responsibilities and interfaces. The project organization, under the direction of the Area Project manager, is an integrated team of qualified individuals for each project, as shown in Figure A-7.

Environmental Restoration Project
Org. 8000

April 2007

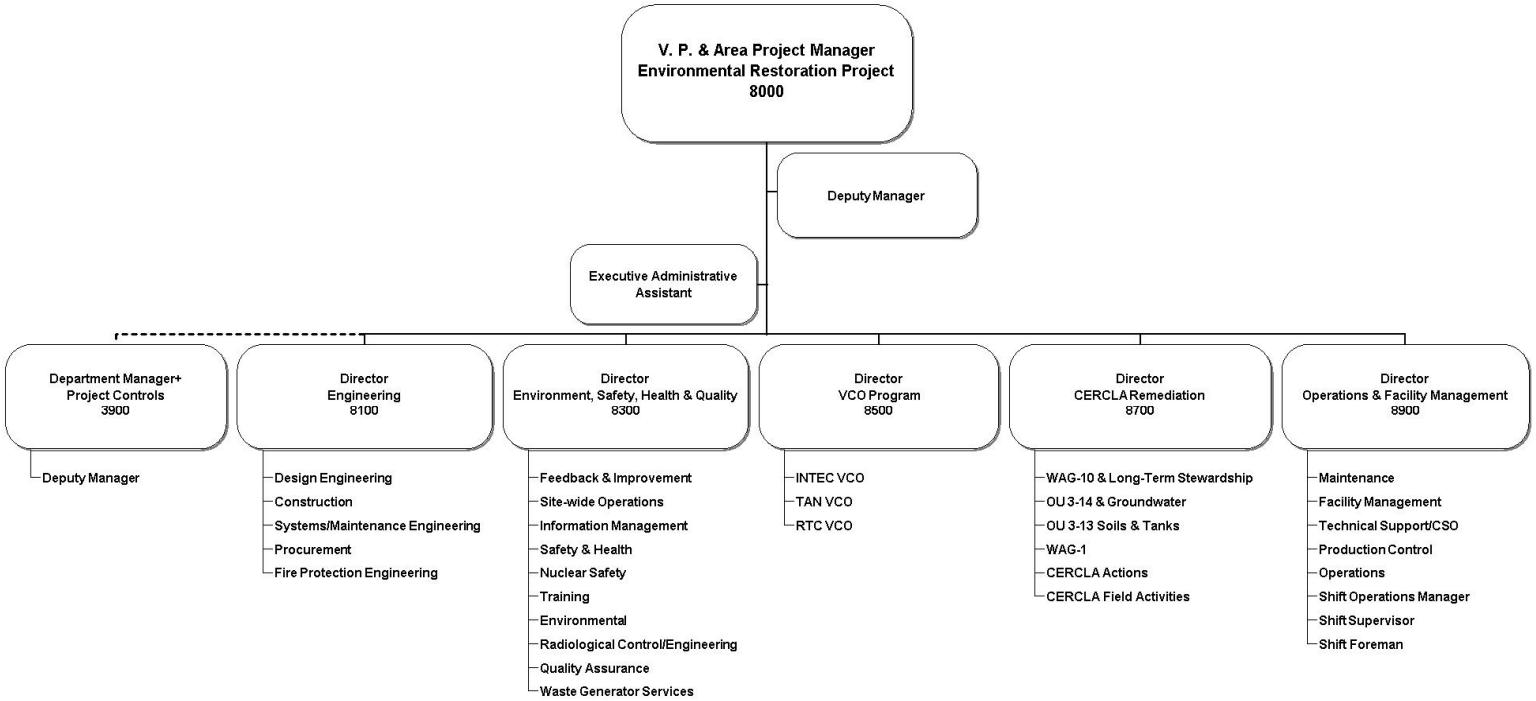

Figure A-7. ER Project Organization.

A-11.7 Responsibilities

Overall responsibilities for the ER Project are defined in detail in MCP-1963. While much of the CWI organizational nomenclature differs from that described in the MCP, all of the functions remain intact. Brief descriptions of each organizational level can be found below.

A-11.7.1 Vice President and Area Manager

The VP and Area Manager provide management leadership, direction, and integration for the ER Project. Responsibilities include:

- As core members of the ICP integrated management team, maintain effective communication and working relationship with the ICP president and project manager, other area managers, directors, subproject managers, and DOE-ID counterparts
- Set mission, vision, direction, and strategy for projects to ensure implementation of ICP project objectives
- Define the scope and priority, and request the funding to accomplish projects in a safe, secure, cost-effective, and compliant manner
- Align the project organization and establish a work culture consistent with ICP mission, vision, and strategy
- Ensure that work is performed in a safe, secure, cost-effective, and compliant manner
- Complete project activities within the project scope, schedule, and budget
- Act as project safety champions
- Provide single points of contact and accountability to management and customers
- Ensure that commitments related to subprojects and other projects are maintained and communicated regularly
- Ensure excellence in project team communication
- Maintain partnership with tribal nations, stakeholders, and the public
- Support the ICP regulatory strategy with regulatory agencies and oversight organizations
- Manage and ensure program implementation and compliance with ISMS, the Voluntary Protection Program (VPP), conduct of operations, conduct of engineering, conduct of maintenance, nuclear facility startup and restart, hoisting and rigging, non-nuclear safety analysis, the International Organization for Standardization (ISO) 14001 Environmental Management System (EMS), criticality safety, appropriate regulatory and permit requirements, Settlement Agreements, Federal Facilities Agreement/Consent Order, and Site Treatment Plan
- Support PAAA reporting requirements
- Ensure that facilities are operated safely, meeting the requirements of authorization agreements, permits, and other safety basis documents

- Implement the ICP Nuclear Safety Management Program for compliance with DOE requirements contained in Code of Federal Regulations (CFR), Title 10, "Energy," Parts 820, "Procedure Rules for DOE Nuclear Facilities," 830, "Nuclear Safety Management," and 835, "Occupational Radiation Program"
- Establish and maintain detailed work plans and life-cycle baselines
- Monitor project performance and take corrective actions to execute program compliance with company procedures
- Obtain and integrate feedback from employees concerning quality, health, safety, and environmental issues into facility and company lessons learned
- Ensure that employees under their direction are trained and qualified to perform their jobs safely and efficiently
- Maintain high ethical standards and expectations, and demonstrate corporate citizenship in the community.

A-11.7.2 Project, Operations and Program Directors

Project directors also provide management leadership, direction, and integration for ICP projects. In general, the responsibilities of project directors are the same as for the Area Project Manager (above) but apply only to their individually assigned divisions within the Area Project.

Principal responsibilities of this level of the organization include:

- Ensures that work is performed safely within the assigned area of responsibility
- Provides leadership and direction in implementing the ICP conduct of operations and conduct of maintenance processes
- Implements ISMS, VPP, Integrated Safety and Safeguards Management (ISSM), the QA Program, ISO 14001, conduct of operations, and conduct of maintenance activities in their respective organizations and facilities
- Ensures that operations are conducted within facility requirements (such as the authorization basis, DOE rules and regulations, and environmental regulations and permits)
- Provides operations authorization for activities through a POW or POD process—precluding work from occurring that is not on the approved schedule
- Chairs OSBs and ensures that critiques or investigations are held for unusual events and near misses so that feedback is given to workers and lessons learned are captured
- Identifies resource needs, and obtains and manages operational resources to accomplish project milestones and objectives
- Interfaces with functional managers to improve processes through application of lessons learned and feedback

- Ensures that organization-specific training requirements are defined and implemented for each employee, establishes as necessary organization-specific training procedures, provides direction to other line managers for training objectives, approves organization-specific training plans, coordinates the development of an effective training process, and ensures that all employees within the Operations organization are trained and qualified to perform their jobs safely and efficiently
- Provides technically accurate and usable activity-level operations procedures and specific direction for usage of these procedures
- Implements the ICP PAAA program
- Strives to enhance the effectiveness of the organizational structures and processes in support of ICP goals
- Obtains feedback from employees concerning quality, health, safety, and environmental issues
- Implements a self-assessment process to provide continuous improvement to support operational excellence.

A-11.7.3 Project Controls Manager

The project controls manager supporting the ER work scope at RWMC reports directly to the ER Project Controls Manager and serves as the deputy. The deputy has the responsibility for providing planning and controls support to the project. Specific responsibilities include development of project plans and budgets, monitoring actual cost and schedule status for the various work packages and control accounts, developing monthly reports, variance analysis and variance corrective action plans in conjunction with the work package/control account managers, and managing the change control process for the project as it matures.

A-11.7.3.1 Project Controls Engineers. The project controls engineers supporting the ER Project have the responsibility to work directly with the work package managers and control account managers to ensure status of the project is accurately captured and entered into the financial control systems used to measure progress of the project.

A-12. REFERENCES

10 CFR 820, "Procedural Rules for DOE Nuclear Facilities," *Code of Federal Regulations*, Office of the Federal Register,

10 CFR 830, Subpart A, 2002 "Quality Assurance Requirements," *Code of Federal Regulations*, Office of the Federal Register, February 2002.

10 CFR 830, Subpart B, "Management and Administrative Requirements," *Code of Federal Regulations*, Office of the Federal Register,

10 CFR 835, 2002 "Occupational Radiation Protection," *Code of Federal Regulations*, Office of the Federal Register, February 2002.

10 CFR 851, "Worker Safety and Health Program," *Code of Federal Regulations*, Office of the Federal Register,

40 CFR 300, 2006, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*, Office of the Federal Register, September 2006.

42 USC 4321, "National Environmental Policy Act of 1969," *United States Code*, January 1, 1970.

42 USC 6901, Resource Conservation and Recovery Act of 1976, *United States Code*, October 21, 1976.

42 USC 9601, Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA/Superfund), *United States Code*, December 11, 1980.

CCN 302274, "Environmental and Regulatory Structure and Interface Protocol."

CCP-PO-024, 2007, "CCP/INL Interface Document," Rev. 6, ftp://q.wipp.ws/, Waste Isolation Pilot Plant, Central Characterization Project, May 2007.

Companywide Manual 13, *Quality Assurance Program.*

CTR-29, 2006, "Charter for the RWMC Employee Safety Team," Rev. 9, Idaho National Laboratory, Idaho Cleanup Project, October 4, 2006.

CTR-32, 2007, "RWMC WAG 7 Operational Safety Board," Rev. 7, Idaho National Laboratory, Idaho Cleanup Project, February 8, 2007.

CTR-156, 2006, "Independent Safety Review Committee (ISRC) Charter for the Idaho Cleanup Project (ICP)," Rev. 1, Idaho National Laboratory, Idaho Cleanup Project, June 16, 2006.

CTR-159, 2007, "Charter for the Safety Assessment Center," Rev. 3, Idaho National Laboratory, Idaho Cleanup Project, May 18, 2007.

CTR-163, 2006, "Idaho Cleanup Project Hazard Review Board Charter," Rev. 1, Idaho National Laboratory, Idaho Cleanup Project, November 2, 2006.

CTR-185, 2006, "Corrective Action Review Boards," Rev. 0, Idaho National Laboratory, Idaho Cleanup Project, April 20, 2006.

CTR-206, 2007, "Charter for the Environmental Restoration Project Technical Response Team," Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, May 23, 2007.

DEQ 2000, Voluntary Consent Order.

DOE-ID, 1991, *Federal Facilities Agreement and Consent Order* (FFA/CO).

DOE-ID, 2002, *Environmental Management Performance Management Plan for Accelerating Cleanup of the Idaho National Engineering and Environmental Laboratory*, DOE/ID-11006, Rev. 0, U.S. Department of Energy Idaho Operations Office, July 2002.

DOE-ID, 2004, *Community Relations Plan: A Guide to CERCLA Public Involvement in the Cleanup Program at the INEEL*, DOE/NE-11149, Rev. 0, U.S. Department of Energy, Idaho Operations Office, February 2004.

DOE-ID, 2005, CWI Contract with DOE-ID, Contract DE-AC07-05ID14516.

DOE-ID 2006, *Quality Assurance Project Plan for Waste Area Groups 1,2,3,4,5,6, 7,10, and Removal Actions*, DOE/ID-10587, Rev. 9, U.S. Department of Energy, Idaho Operations Office, July 2006.

DOE O 414.1C, 2005, "Quality Assurance," U.S. Department of Energy, June 17, 2005.

DOE O 5480.19, "Conduct of Operations Requirements for DOE Facilities.

Form 220.03, 2003, "Inspection/Surveillance Report," Rev. 4, Idaho National Laboratory, Idaho Cleanup Project, December 3, 2003.

Form 410.15, 2007, "ERP Management Review Checklist," Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, May 17, 2007.

Form 433.24, 2006, "Task Evolution Feedback Form," Rev. 8, Idaho National Laboratory, Idaho Cleanup Project, August 27, 2006.

Form 433.46, 2007, "ERP Initial Work Request," Rev. 1, Idaho National Laboratory, Idaho Cleanup Project, June 21, 2007.

Form 434.14, 2006, "Pre-job Briefing Checklist," Rev. 10, Idaho National Laboratory, Idaho Cleanup Project, October 11, 2006.

GDE-72, 2006, "Remedial Design and Remedial Action," Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, June 14, 2006.

GDE-203, 2006, "Planning, Scheduling, and Performing Assessments," Rev. 1, Idaho National Laboratory, Idaho Cleanup Project June 6, 2007.

GDE-411, 2006, "ICP Management Workplace Visit Program," Rev. 0, Idaho National Laboratory, Idaho Cleanup Project, April 11, 2006.

IAG-368, 2006, "Interface Agreement Between Miscellaneous Sites Nonexclusive-Use Projects and the INTEC and TAN/RTC/PBF Areas," Rev. 0, Idaho National Laboratory, Idaho Cleanup Project, May 8, 2006.

ICP, *CWI ICP Sitewide Project Management Plan,* ICP/EXT-05-01082, Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, June 28, 2006.

Idaho Cleanup Project, ICP Contract DE-AC07-051ID14516.

INL, 2005, *Idaho Completion Project Execution Plan (Interim Revision),* INEEL/EXT-03-00387, Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, April 2005.

ISO-14001, Environmental Management System Standard,

LST-1, 2007, "Responsible Managers, Functional Support Managers, and Subject Matter Experts," Rev. 52, Idaho National Laboratory, Idaho Cleanup Project, May 7, 2007.

LST-18, 2006, "RWMC Conduct Of Operations Conformance Matrix (DOE ORDER 5480.19)," Idaho National Laboratory, Idaho Cleanup Project, November 1, 2006.

LST-355, 2006, "DOE Order 5480.19 Conformance Matrix for Miscellaneous Sites Cleanup Project," Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, April 17, 2006.

LST-358, 2007, "Functional Operations Points-of-Contact Environmental Restoration Project," Rev. 5, Idaho National Laboratory, Idaho Cleanup Project, April 24, 2007.

MCP-8, 2007, "Performing Management Assessments and Management Reviews," Rev. 10, Idaho National Laboratory, Idaho Cleanup Project, May 18, 2007.

MCP-49, 2006, "Occupational Injury/Illness Reporting and FollowUp," Rev. 6, Idaho National Laboratory, Idaho Cleanup Project, October 5, 2006.

MCP-73, 2006, "Incorporating Lessons Learned into Training," Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, May 9, 2006.

MCP-135, 2007, "Document Management," Rev. 23, Idaho National Laboratory, Idaho Cleanup Project, May 29, 2007.

MCP-190, 2007, "Event Investigation and Occurrence Reporting," Rev. 14, Idaho National Laboratory, Idaho Cleanup Project, May 24, 2007.

MCP-192, 2007, "Processing Lessons Learned and Operating Experience Information," Rev. 12, Idaho National Laboratory, Idaho Cleanup Project, April 4, 2007.

MCP-553, 2006, "Step Back and Stop Work Authority," Rev. 11, Idaho National Laboratory, Idaho Cleanup Project, June 7, 2006.

MCP-557, 2007, "Records Management," Rev. 12, Idaho National Laboratory, Idaho Cleanup Project, April 23, 2007.

MCP-598, 2007, "Corrective Action System," Rev. 23, Idaho National Laboratory, Idaho Cleanup Project, May 23, 2007.

MCP-1126, 2007, "Performing Management Self-Assessments for Readiness," Rev. 5, Idaho National Laboratory, Idaho Cleanup Project, April 18, 2007.

MCP-1185, "Material Acquisitions," Rev. 8, Idaho National Laboratory, Idaho Cleanup Project, April 2007.

MCP-1186, "Service Acquisitions," Rev. 11, Idaho National Laboratory, Idaho Cleanup Project, June 2007.

MCP-1221, Rev. 3, 2007, "Performing Inspections and Surveillances," Idaho National Laboratory, Idaho Cleanup Project, May 18, 2007.

MCP-1270, 2006, "Performing Annual Evaluations of the Integrated Safety Management System," Rev. 1, Idaho National Laboratory, Idaho Cleanup Project, June 15, 2006.

MCP-1409, 2007, "Risk Management," Rev. 4, *Manual 5-Project Cost and Schedule Controls,* Idaho National Laboratory, Idaho Cleanup Project, May 23, 2007.

MCP-1414, 2006, "Change Control," Rev. 8, *Manual 5-Project Management and Controls*, Idaho National Laboratory, Idaho Cleanup Project, December 1, 2006.

MCP-1963, 2007, "Environmental Restoration Project Roles and Responsibilities," Rev. 1, Idaho National Laboratory, Idaho Cleanup Project, June 14, 2007.

MCP-2547, 2007, "Identification, Reporting and Resolution of Price-Anderson and Worker Safety and Health Noncompliances," Rev. 12, Idaho National Laboratory, Idaho Cleanup Project, May 1, 2007.

MCP-2783, 2007 "Startup and Restart of Nuclear Facilities," Rev. 8, Idaho National Laboratory, Idaho Cleanup Project, March 21, 2007.

MCP-2809, 2006, "External Release of Information and Technical and Scientific Products," Rev. 2, Idaho National Laboratory, Idaho Cleanup Project, May 25, 2006.

MCP-3003, 2006, "Performing Pre-job Briefings and Documenting Feedback," Rev. 14, Idaho National Laboratory, Idaho Cleanup Project, November 27, 2006.

MCP-3480, 2007, "Environmental Instructions for Facilities, Processes, Materials, and Equipment," Rev. 13, Idaho National Laboratory, Idaho Cleanup Project, March 20, 2007.

MCP-3562, 2006, "Hazard Identification Analysis and Control of Operational Activities," Rev. 10, Idaho National Laboratory, Idaho Cleanup Project, December 4, 2006.

MCP-9141, 2006, "Tenant Use Agreements," Rev. 5, Idaho National Laboratory, Idaho Cleanup Project, December 4, 2006.

PDD-1004, 2006, "Integrated Safety Management System" Rev. 10, Idaho National Laboratory, Idaho Cleanup Project, September 28, 2006.

PDD-1012, 2007, "Environmental Management System," Rev. 12, Idaho National Laboratory, Idaho Cleanup Project, April 26, 2007.

PLN- 2173, 2007, "Idaho Cleanup Project Programmatic Risk Management Plan," Rev. 1, Idaho National Laboratory, Idaho Cleanup Project, May 10, 2007.

POL-104, 2005, "Environmental Policy" Rev. 0, Idaho National Laboratory, Idaho Cleanup Project, June 29, 2005.

Public Law 100-408, 1988, Price-Anderson Amendment Act (PAA), August 20, 1988.

STD-101, 2006, "ICP Integrated Work Control Process," Rev. 19, Idaho National Laboratory, Idaho Cleanup Project, October 26, 2006.

TOC-59, 2007, "Subcontractor Requirements Manual," Rev. 55, Idaho National Laboratory, Idaho Cleanup Project, May 10, 2007.

Appendix B

Waste Management Scope

CONTENTS

ACRONYMS 76

B-1. PROJECT IDENTIFICATION 79

B-2. PROJECT SCOPE 79

B-2.1 Waste Management Scope Detail 80

B-2.1.1 ICP Waste Management Work Breakdown Structure 80

B-2.2 Waste Management Boundaries 91

B-2.3 Waste Management Project Deliverables 91

B-2.3.1 TRU Waste Disposition 91
B-2.3.2 MLLW Waste Disposition 91

B-3. WASTE MANAGEMENT TECHNICAL APPROACH 91

B-3.1 Waste Management and Disposition 92

B-3.2 Project Closure 94

B-4. WASTE MANAGEMENT PERFORMANCE CRITERIA 95

B-4.1 Waste Management Enforceable and Supporting Milestones 95

B-4.2 Waste Management Performance Metrics 95

B-4.2.1 Waste Management Safety Performance 95
B-4.2.2 Waste Management Cost, Schedule, and Milestone Performance 95

B-5. WASTE MANAGEMENT PROJECT RISK MANAGEMENT 96

B-5.1 Waste Management Assumptions 96

B-5.2 Risks 97

B-6. METHOD OF ACCOMPLISHMENT 98

B-7. ENVIRONMENTAL, SAFETY, HEALTH & QUALITY ASSURANCE 99

B-7.1 Applicable Regulatory Requirements Documentation 99

B-7.2 Health and Safety 100

B-7.2.1 Integrated Safety Management 102
B-7.2.2 Step Back, Stop Work 104

B-7.3 Quality Assurance 104

B-8. WASTE MANAGEMENT AND MINIMIZATION 105

B-8.1 Waste Management 105

B-8.2 Waste Minimization 106

B-9. COMMUNICATIONS 106

B-10. WASTE MANAGEMENT ORGANIZATION & RESPONSIBILITIES 107

B-10.1 General Responsibilities 107

B-10.1.1 Internal Organizations 107
B-10.1.2 External Organizations 108

B-10.2 Waste Management Project Organizational Structure 109

B-10.3 Responsibilities 109

B-10.3.1 Vice President 109
B-10.3.2 Director - Projects and Operations 111
B-10.3.3 Manager - Project Controls 112

B-10.4 Project Interfaces 112

B-10.4.1 Interfaces with other ICP Organizations 112
B-10.4.2 Interfaces with other INL Organizations 113
B-10.4.3 Interfaces with External Organizations 113
B-10.4.4 Interfaces with DOE 114

B-10.5 Facility Interfaces 114

B-10.6 Subcontractor Interfaces 114

B-11. PROJECT CONTROLS, REPORTING, AND DOCUMENTATION 114

B-11.1 Project Meetings 115

B-11.2 ICP Project Control Interface 116

B-11.3 Project Control 116

B-11.3.1 Status Measurement 116

B-11.3.2 Analysis 117
B-11.3.3 Project Reports 117

B-11.4 Change Management 118

B-11.5 Value Engineering 118

B-12. REFERENCES 119

FIGURES

B-1. RWMC Area Project Work Breakdown Structure 79

B-2. INTEC Waste Disposition WBS (Level 5, Work Package) 81

B-3. RWMC Waste Disposition WBS (Level 5, Work Package) 83

B-4. TAN/RTC/PBF Waste Disposition WBS (Level 5, Work Package) 84

B-5. ICP Waste Management WBS (Level 5, Work Package) 86

B-6. ICDF CERCLA Work Breakdown Structure (Level 5, Work Package) 89

B-7. CWI'S Risk Management Process 97

B-8. Waste Management Organization 109

TABLES

B-1. Waste Management Sub-Project WBS elements 80

B-2. Code Description 98

B-3. RWMC waste generation estimate 106

B-4. RWMC lifecycle waste disposition projection 106

B-5. General responsibilities for the internal organizations 108

B-6. External organizations with interest in the RWMC Project 108

B-7. RWMC project meetings 115

B-8. Project Reporting 117

ACRONYMS

ACWP	actual cost of work performed (actuals)
AMWTP	Advanced Mixed Waste Treatment Project
ARAR	applicable or relevant and appropriate requirement
BCWP	budgeted cost of work performed (earned value)
BCWS	budgeted cost of work scheduled (budget)
BEA	Battelle Energy Alliance, LLC
CCP	Central Characterization Project
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH	contact-handled (waste)
CPI	Cost Performance Index
CV	cost variance
CWI	CH2M♦WG Idaho, LLC
D&D	decommissioning and demolition
DEQ	(Idaho) Department of Environmental Quality
DOE	Department of Energy
DOE-HQ	Department of Energy Headquarters
DOE-ID	Department of Energy Idaho Operations Office
DOT	Department of Transportation
EAC	estimate at completion
EPA	Environmental Protection Agency
ESH&Q	Environment, Safety, Health, and Quality Assurance
FFA/CO	Federal Facility Agreement and Consent Order
FY	fiscal year

GFS/I	government furnished services and items
HFEF	Hot Fuel Examination Facility
ICDF	Idaho CERCLA Disposal Facility
ICP	Idaho Cleanup Project
ILTSF	Intermediate Level Transuranic Storage Facility
ISMS	Integrated Safety Management System
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
IWTS	Integrated Waste Tracking System
LCB	life-cycle baseline
LLW	low-level waste
MCP	management control procedure
MFC	Materials and Fuels Complex
MLLW	mixed low-level waste
NTCRA	non-time critical removal action
OCVZ	organic contamination in the vadose zone
OU	operable unit
P3	primavera project planner
PBF	Power Burst Facility
PDD	program description document
PEP	Project Execution Plan
POD	plan of the day (meeting)
POW	plan of the week (meeting)
PRD	program requirements document
RCRA	Resource Conservation and Recovery Act

RD/RA	Remedial Design/Remedial Action
RH	remote-handled
ROD	Record of Decision
RTC	Reactor Technology Complex
RWMC	Radioactive Waste Management Complex
SDA	Subsurface Disposal Area
SPI	schedule performance index
SSSTF	Staging, Storage, Sizing, and Treatment Facility
STP	Site Treatment Plan
SV	schedule variance
TAN	Test Area North
TRM	transuranic mixed (waste)
TRU	transuranic (waste)
USQD	unresolved safety question determination
VE	value engineering
VOC	volatile organic compound(s)
VPP	Voluntary Protection Program
WAG	waste area group
WM	Waste Management
WBS	Work Breakdown Structure
WGS	Waste Generator Services (Organization)
WIPP	Waste Isolation Pilot Plant

B-1. PROJECT IDENTIFICATION

Section 1 of the main body of PLN-2085 contains a general discussion of the project including purpose, facility description and history, justification and funding.

B-2. PROJECT SCOPE

As noted in Section 1, Project Identification, the RWMC Area Project (P.2) scope includes those functions and activities within the geographical boundaries of the RWMC, the ICDF, and provides cross-cutting Waste Management (WM) integration across all other ICP and INL entities. The Work Breakdown Structure (WBS), shown in Figure B-1 below, was structured to capture the entire scope of the RWMC Area Project.

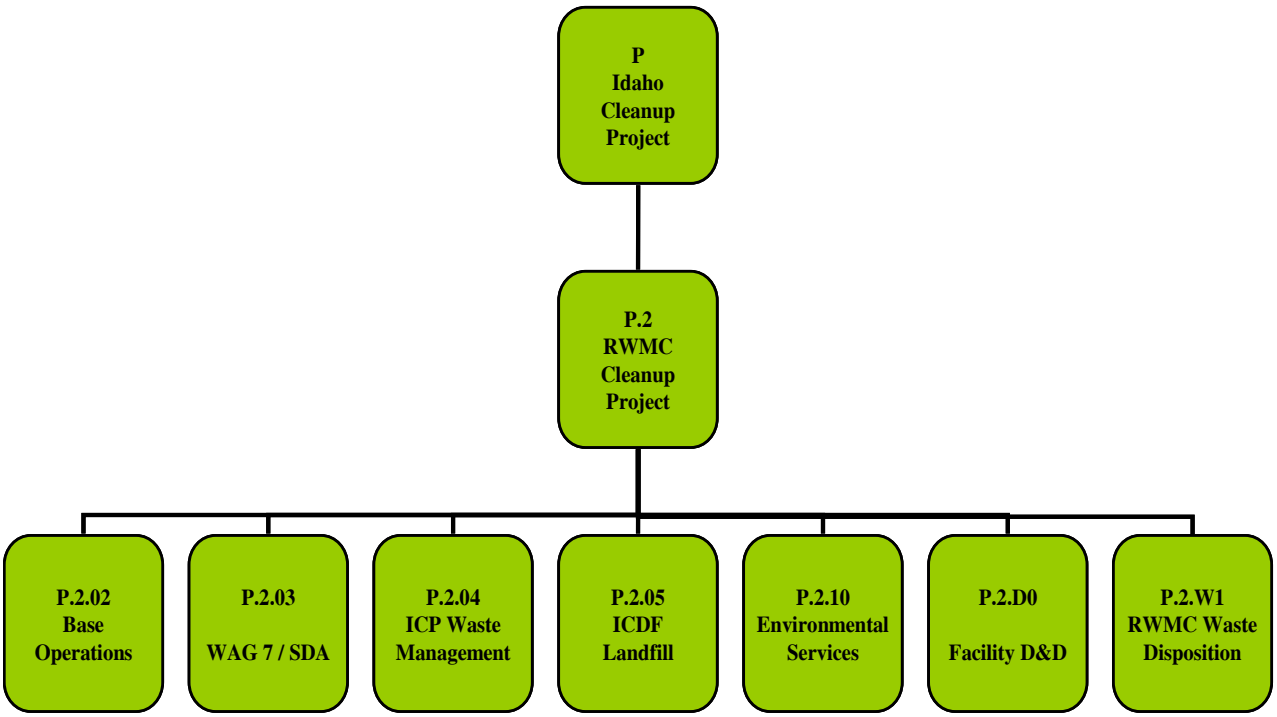

Figure B-1. RWMC Area Project Work Breakdown Structure.

Not specifically identified, but contained within the lower levels of the WBS is Project Management scope. Project Management scope includes the identification of 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 WBS element the work scope is planned. For high risk activity mitigation, a separate activity and charge number will be established to track specific mitigation actions.

In addition to the scope contained within the RWMC Area Project WBS, Waste Management also oversees the delivery of Waste Disposition services for the INTEC (P.1.W1), Miscellaneous (P.4.W1) and TAN/RTC/PBF (P.3.W1) Area Projects as well as payment for use of capacity at the Sanitary Landfill (W.1.09).

B-2.1 Waste Management Scope Detail

B-2.1.1 ICP Waste Management Work Breakdown Structure

Table B-1 contains the Sub-Project WBS elements administered and managed by the Waste Management organization. The following list includes the B.5 work for others WBS elements that are managed by the Waste Management organization.

Table B-1. Waste Management Sub-Project WBS elements.

WBS ID	WBS (Sub-Project) Description
P.1.W1	INTEC Waste Disposition
P.2.W1	RWMC Waste Disposition
P.2.04	ICP Waste Management
P.2.05	ICDF CERCLA Landfill
P.3.W1	TAN/RTC/PBF Waste Disposition
P.4.W1	Miscellaneous Projects Waste Disposition
W.1.09	Sanitary Landfill and Waste Operations
T.A.01	Remote Waste Disposition Project (B.5 Work for Others)
T.A.02	Disposition of MFC Filters (B.5 Work for Others)
T.A.03	Remote Waste Disposition (RWDP) Phased Approach (B.5 Work for Others)
T.P.12	Waste Management Support to BEA (B.5 Work for Others)
T.R.01	Waste Management Support to BEA (B.5 Work for Others)
T.R.05.02	Sludge Pan (NRF) (B.5 Work for Others)

B-2.1.1.1 INTEC Waste Disposition (P.1.W1)—The scope under this subproject encompasses the management of industrial, hazardous, low-level radioactive, mixed low-level radioactive, and backlogged wastes generated by INTEC activities. Management includes everything from pre-generation planning through disposition at a Treatment, Storage, and Disposal Facility (TSDF) or other facility. Specific scope elements include:

- Hazardous waste determinations
- Waste characterization
- Waste Acceptance Criteria (WAC) evaluations
- Waste streams documentation
- Disposition path determinations
- Land disposal restriction forms
- Underlying hazardous constituent evaluations

- Waste verifications
- P&T personnel consulting for packaging wastes in regulatory compliant containers
- Evaluations of waste generated in high-level waste (HLW) for envelopment by either a citation waste incidental to reprocessing (WIR) determination or an evaluation WIR
- Temporary Accumulation Areas (TAAs) and centralized Satellite Accumulation Areas (SAAs) evaluations
- Records for waste characterization and management activities
- Coordination of scheduling and special requirements with TSDFs
- Work control documentation reviews for incorporation of waste management practices into the work process
- Annual reviews for waste streams
- Management and operation of CPP-1617
- Planning meetings for scheduling and authorization of activities involving waste generation
- Facility modifications and startup for processing fluorinel dissolution process (FDP) cell HEPA filters as RH TRU waste.

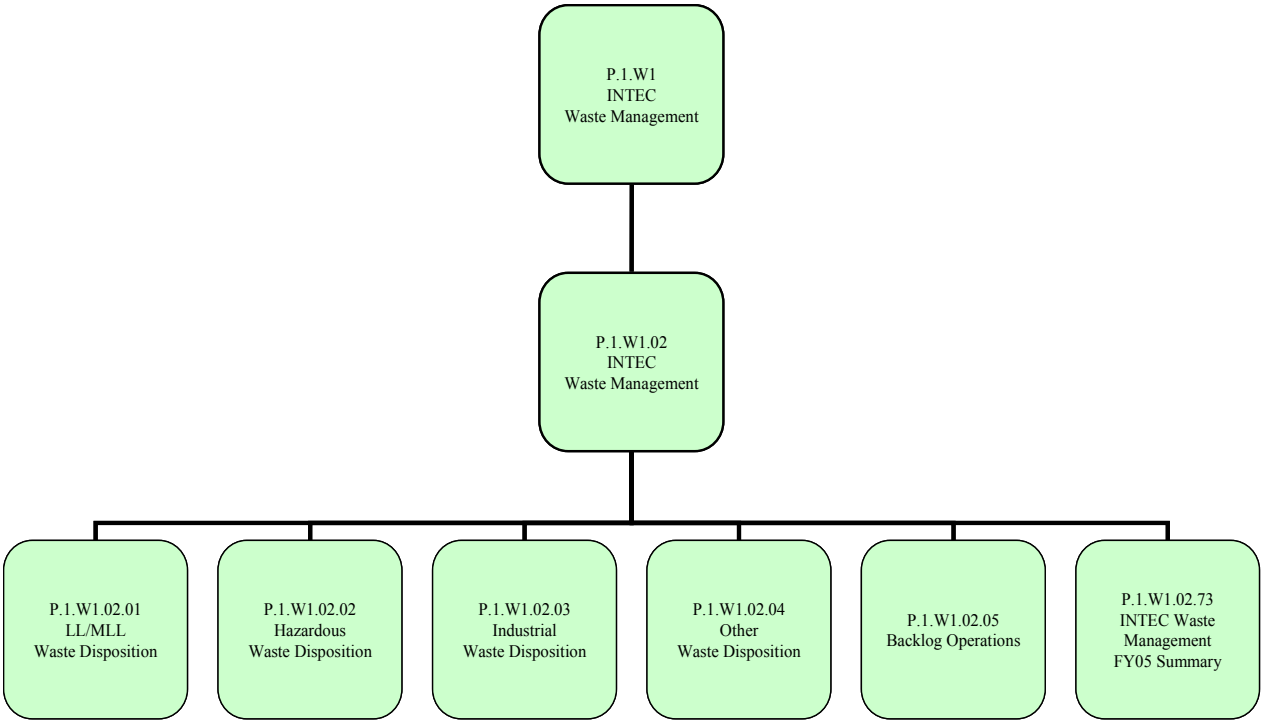

Figure B-2. INTEC Waste Disposition WBS (Level 5, Work Package).

B-2.1.1.2 RWMC Waste Disposition (P.2.W1)—this subproject includes scope for management of all radioactive and non-radioactive waste generated from routine operating activities and cleanup activities associated with the WAG 7/SDA project. Specific waste types include low-level waste (LLW), mixed low-level waste (MLLW), hazardous (non-radioactive) waste, industrial (non-radioactive, non-hazardous) waste, and other (recyclables, CERCLA, liquids and excess materials) waste. Specific scope elements include:

- Hazardous waste determinations
- Waste characterization
- Waste Acceptance Criteria (WAC) evaluations
- Waste streams documentation
- Disposition path determinations
- Land disposal restriction forms
- Underlying hazardous constituent evaluations
- Waste verifications
- P&T personnel consulting for packaging wastes in regulatory compliant containers
- Evaluations of waste generated in high-level waste (HLW) for envelopment by either a citation waste incidental to reprocessing (WIR) determination or an evaluation WIR
- TAAs and centralized SAAs evaluations
- Records for waste characterization and management activities
- Coordination of scheduling and special requirements with TSDFs
- Work control documentation reviews for incorporation of waste management practices into the work process
- Annual reviews for waste streams
- Planning meetings for scheduling and authorization of activities involving waste generation.

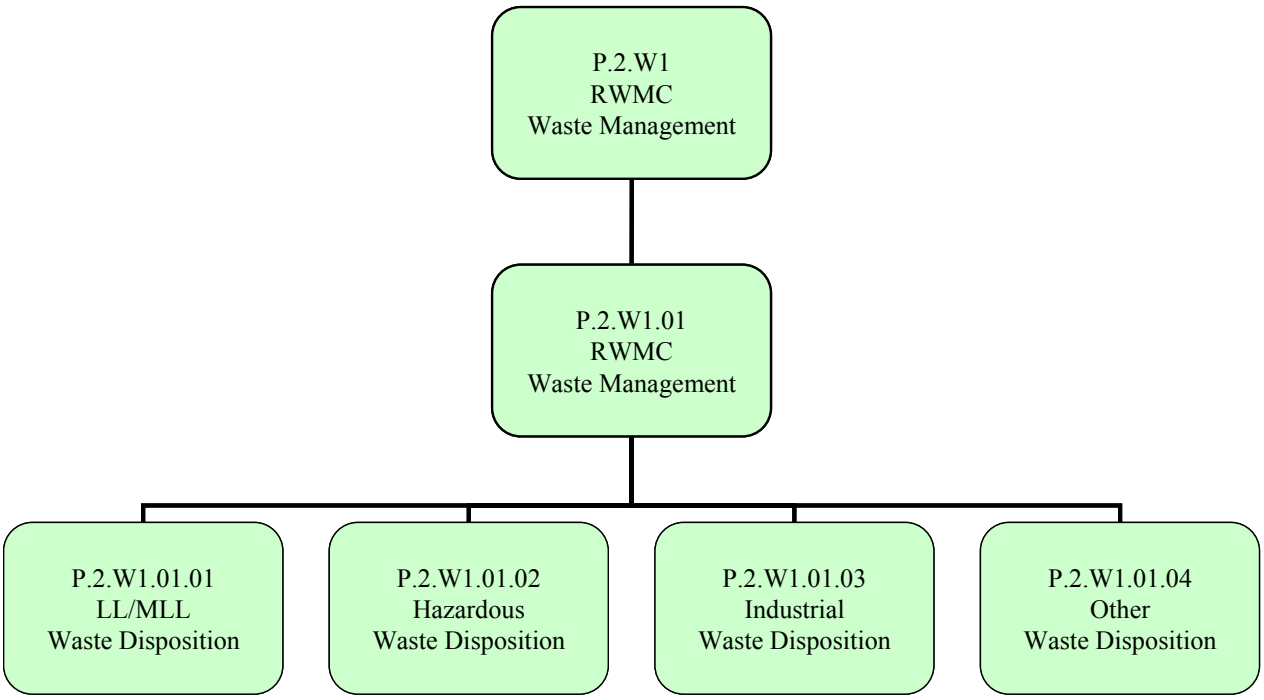

Figure B-3. RWMC Waste Disposition WBS (Level 5, Work Package).

B-2.1.1.3 TAN/RTC/PBF Waste Disposition (P.3.W1)—this subproject includes scope for management of all radioactive and non-radioactive waste generated from routine operating activities and cleanup activities associated with the TAN/RTC/PBF projects. Specific waste types include LLW, MLLW, hazardous (non-radioactive) waste, industrial (non-radioactive, non-hazardous) waste, and other (recyclables, CERCLA, liquids and excess materials) waste.

The scope generally consists of support provided by the Waste Generator Services (WGS) organization for the safe and compliant management and disposition of the various waste types generated from TAN/RTC/PBF facilities. Additionally, it includes the labor and other direct costs associated with transportation, treatment, and disposal (as applicable) of the various waste forms. The WGS works with the generator to ensure the waste is properly characterized and packaged for disposition. The waste generator will perform these initial activities, while the WGS will ensure adequate disposition from that point forward. This subproject also includes scope for maintaining SAAs and TAAs for storage of waste awaiting disposition.

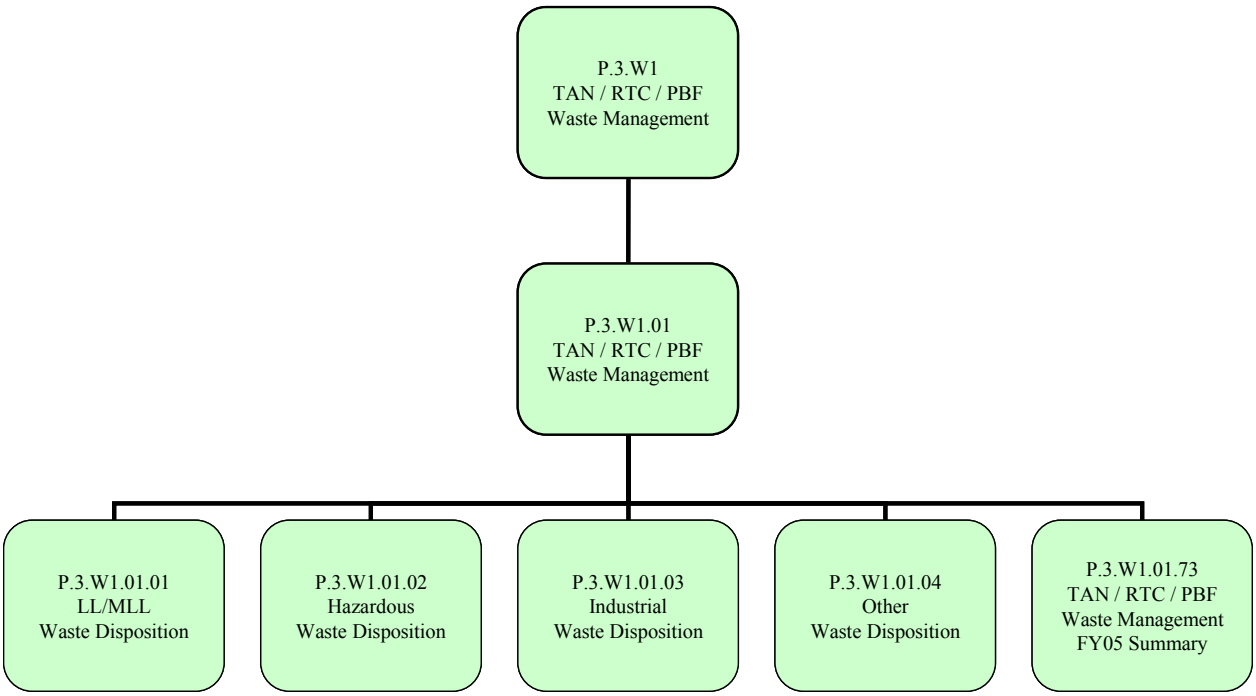

Figure B-4. TAN/RTC/PBF Waste Disposition WBS (Level 5, Work Package).

B-2.1.1.4 Miscellaneous Sites Waste Management (P.4.W1)—This subproject provided the resources necessary to disposition waste generated from the Miscellaneous Sites Project. Future Miscellaneous Sites LLW/MLLW shipping activities are not anticipated.

B-2.1.1.5 ICP Waste Management (P.2.04)—this subproject includes scope for management of all radioactive and non-radioactive waste generated from routine operating activities and cleanup activities associated with ICP Waste Disposition. Specific waste types include LLW, MLLW, hazardous (non-radioactive) waste, industrial (non-radioactive, non-hazardous) waste, other (recyclables, CERCLA, liquids and excess materials) waste, and transuranic (TRU) waste. In addition, this subproject includes the scope necessary for the management and safe operations of the Waste Management program.

Specific control account scope detail is described in the following sections:

B-2.1.1.5.1 LLW/MLLW Waste Disposition (P.2.04.01)—the scope generally consists of support provided by WGS organization for the safe and compliant management and disposition of the various waste types generated from RWMC facilities. Additionally, it includes the labor and other direct costs associated with transportation, treatment, and disposal (as applicable) of the various waste forms. WGS works with the generator to ensure the waste is properly characterized and packaged for disposition.

The waste generator will perform these initial activities, while the WGS will ensure adequate disposition from that point forward. This element also includes scope for maintaining SAAs and TAAs for storage of waste awaiting disposition.

In conjunction with the services described above, this element also contains the scope for continued operation of the SDA at RWMC. The SDA provides the on-Site location for disposal of RH and CH LLW from ICP and other INL tenant contractors.

The Sitewide Program scope includes the resources, such as labor, materials, transportation, and treatment/disposal costs associated with life-cycle management of LLW/MLLW generated at various sites prior to ICP contract transition and anticipated newly generated wastes. This waste typically consists of personal protective equipment, debris, and various liquids. LLW consists of radiological contaminated waste only. MLLW consists of radiological contaminated waste that is also hazardous as defined by Title 40 of the Code of Federal Regulations Part 261 (40 CFR 261).

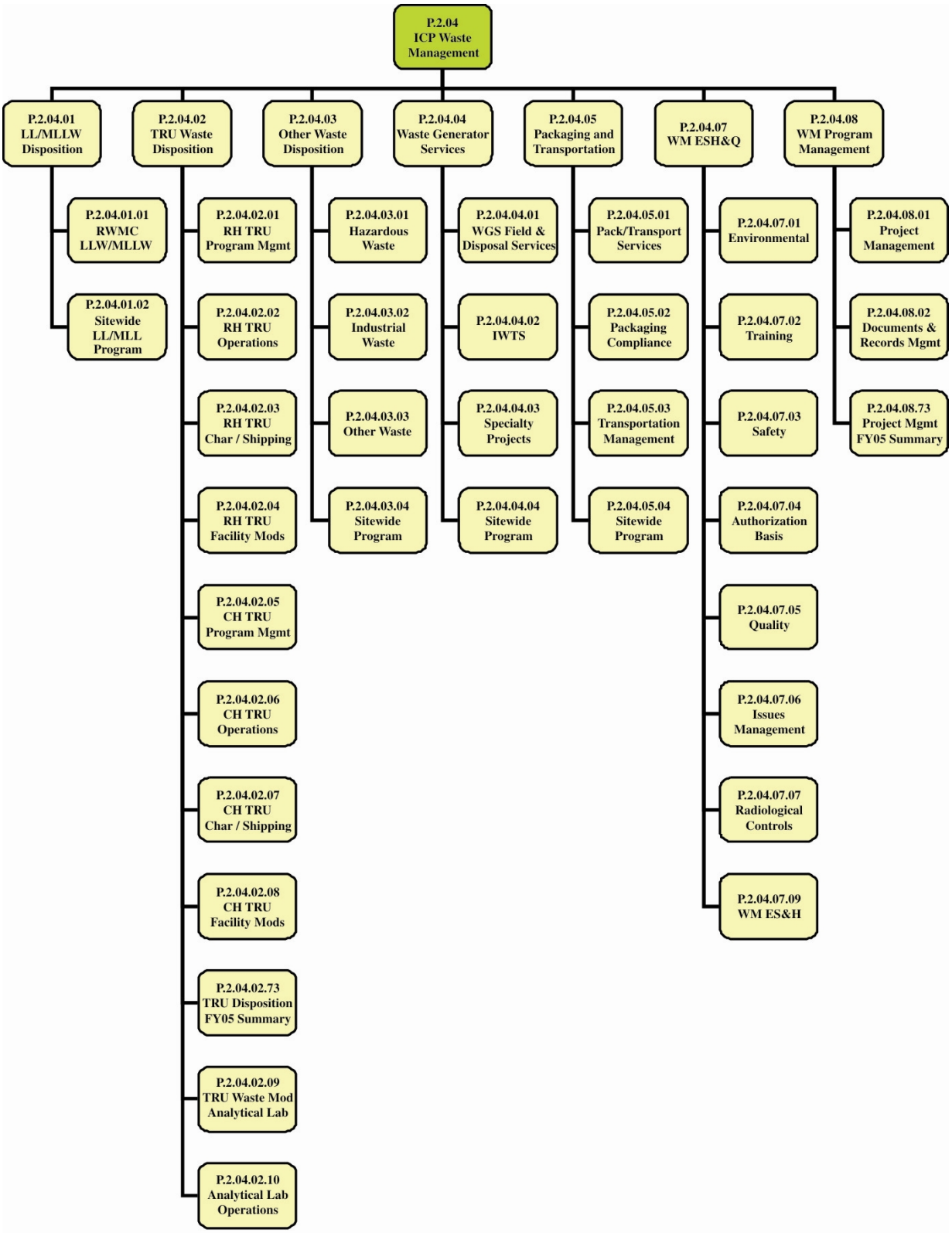

Figure B-5. ICP Waste Management WBS (Level 5, Work Package).

B-2.1.1.5.2 TRU/TRM Waste Disposition (P.2.04.02)—there are four major work activities of this element. The first is to provide programmatic and operations support for the retrieval, storage, characterization, certification, and transport of CH TRU waste to the Waste Isolation Pilot Plant (WIPP) by March 31, 2011. This element provides for the project management and the operations support necessary for the retrieval and waste handling of CH TRU waste (buried waste) in support of characterization performed by the WIPP Central Characterization Project (CCP) in WMF-610 and WMF-628, transport of CH TRU waste to lag storage, waste handling supporting transfer of characterized waste to the AMWTP for payload assembly, TRUPACT-II vessel loading, and shipment to the WIPP.

The second work activity is to provide programmatic and operations support for the retrieval, storage, characterization, certification, and transport of RH TRU waste to WIPP by March 31, 2010. This element provides for the project management and operations support for the retrieval and venting of RH TRU waste at the Intermediate-Level Transuranic Storage Facility (ILTSF), transport of RH TRU waste to INTEC lag storage, waste handling supporting the storage (Radioactive Material Storage Area and CPP-1617), characterization and re-packaging at CPP-659, payload assembly, and RH-72B cask loading, supporting shipment of RH TRU waste to the WIPP. Also included is the retrieval and transport of 30 Hot Fuel Examination Facility (HFEF) canisters to INTEC for processing and subsequent shipment to WIPP for disposal. INTEC Waste Management Operations will also prepare for transportation, receipt, processing and disposal of other MFC Remote Handled waste forms. These waste forms include low level, partial fuel assemblies, transuranic and reactive metals. Waste may or may not include other hazardous materials regulated by RCRA and/or TSCA. Treatment, storage and disposal will be accomplished with existing hot cell facilities (CPP-659 and CPP-666) that are retooled to accept the waste forms and package sizes. Waste will be segregated, treated, repackaged and shipped to WIPP, commercial LL disposal, DOE LL disposal, fuel returned to MFC and secondary waste disposed of according to waste type.

Figure B-6. RH TRU retrieval.

The third major work activity of this element is to establish an RH TRU Radioactive Material Storage Area at INTEC and modify CPP-659 to receive, process, characterize, store, and ship RH TRU waste. In general, this will require facility modifications, authorization basis changes, and startup activities to support receipt, sizing, repackaging, characterization, transfer, storage, staging, and RH-72B cask shipping operations.

The fourth major work activity is relocation of the Analytical Laboratory from CPP-602 managed by INTEC to RWMC with management being transferred to Waste Management. Included is the operation of the Analytical Laboratory.

Waste generation rates will ultimately dictate the full magnitude of the scope of this element. As such, the current estimates, as shown in Section 8 of this PEP, were used to define the projected scope of this element.

B-2.1.1.5.3 Other Waste Disposition (P.2.04.03)—this element includes scope for management of all radioactive and non-radioactive waste generated from routine operating activities and cleanup activities associated with the Waste Management program. Specific waste types include hazardous (non-radioactive), industrial (non-radioactive, non-hazardous), and other (recyclables, CERCLA, liquids, and excess materials) waste. The scope generally consists of support provided by the WGS organization for the safe and compliant management and disposition of the various waste types generated from RWMC facilities. Additionally, it includes the labor and other direct costs associated with transportation, treatment, and disposal (as applicable) of the various waste forms. The WGS works with the generator to ensure the waste is properly characterized and packaged for disposition. The waste generator will perform these initial activities, while the WGS will ensure adequate disposition from that point forward. This control account also includes scope for maintaining SAAs and TAAs for storage of waste awaiting disposition.

Waste generation rates will ultimately dictate the full magnitude of the scope of this element. As such, the current estimates, as shown in Section B-8 of this PEP, were used to define the projected scope of this element.

B-2.1.1.5.4 Waste Generator Services (P.2.04.04)—this element includes the programmatic scope for overall management, maintenance, and operation of the variety of programs and systems necessary to allow the WGS organization to perform disposition activities in accordance with scope defined in other WBS elements.

The scope for the WGS Field and Disposal Services representatives has been distributed to the project work packages directly supported by the field representatives. As a result, this WBS element includes scope for operation, maintenance, and management of the Integrated Waste Tracking System (IWTS) and specialized and/or Site-wide support for emerging waste management issues.

B-2.1.1.5.5 Packaging and Transportation (P.2.04.05)—this element addresses programmatic and technical compliance support for the Packaging and Transportation Department which provides packaging and transportation services for the ICP and the INL. Specific functions are discussed below:

- Packaging and Transportation Services: Assignment, oversight, and administration of resources to facilities and projects for the shipping and packaging activities. This work package addresses the domestic and international shipment of both incoming and outgoing shipments of hazardous and general commodity goods.

- Packaging Compliance Engineering: Planning and coordination of non-Department of Transportation (DOT) compliant shipments, non-routine on-Site and off-Site shipments, regulatory compliance support, and maintenance/surveillance of controlled packaging. Identify and acquire standard and unique packaging to support program needs.

- Transportation Management: Provide management oversight, training, reporting, and systems required to meet program and regulatory requirements.

- Site-wide Programs: This element addresses packaging and transportation related activities that cut across the department and the ICP. It includes maintenance of shipping and driver records, training, freight negotiations, freight invoice and damaged goods processing, and maintenance of department documents.

B-2.1.1.5.6 Waste Management ESH&Q (P.2.04.07)—this element addresses the scope for administration and management of the Environment, Safety, Health and Quality (ESH&Q) aspects of the projects delivered by the WM organization. It includes scope for WM specific ESH&Q activities as well as integration with the Site-wide ESH&Q organizational activities. Specific scope includes environmental permitting, reporting and documentation, Training, Quality Assurance, Emergency Management, Industrial Safety/Industrial Hygiene, Issues Management, authorization basis documentation, and Radiological Control. All elements are designed to ensure projects are staffed with qualified Health and Safety professionals to ensure facility operations are performed in a safe and compliant manner.

B-2.1.1.5.7 Waste Management Project Management (P.2.04.08)—this element includes work scope associated with three distinct aspects of overall project management of the WM Projects:

- WM Project Management--this element provides the resources for staffing the management team responsible for managing WM projects. It includes scope for the WM vice president, project directors, project administrative staff, and project controls management. The scope covered by this work package also allows for subcontract management and integration across the WM WBS elements, and provides for general project communications support. General scope includes management and administration of day-to-day activities within the WM projects.

- WM Documents/Records Management--this element provides the resources for Document Control and Records Management services for WM and all project elements within WM.

B-2.1.1.6 ICDF CERCLA Landfill (P.2.05)

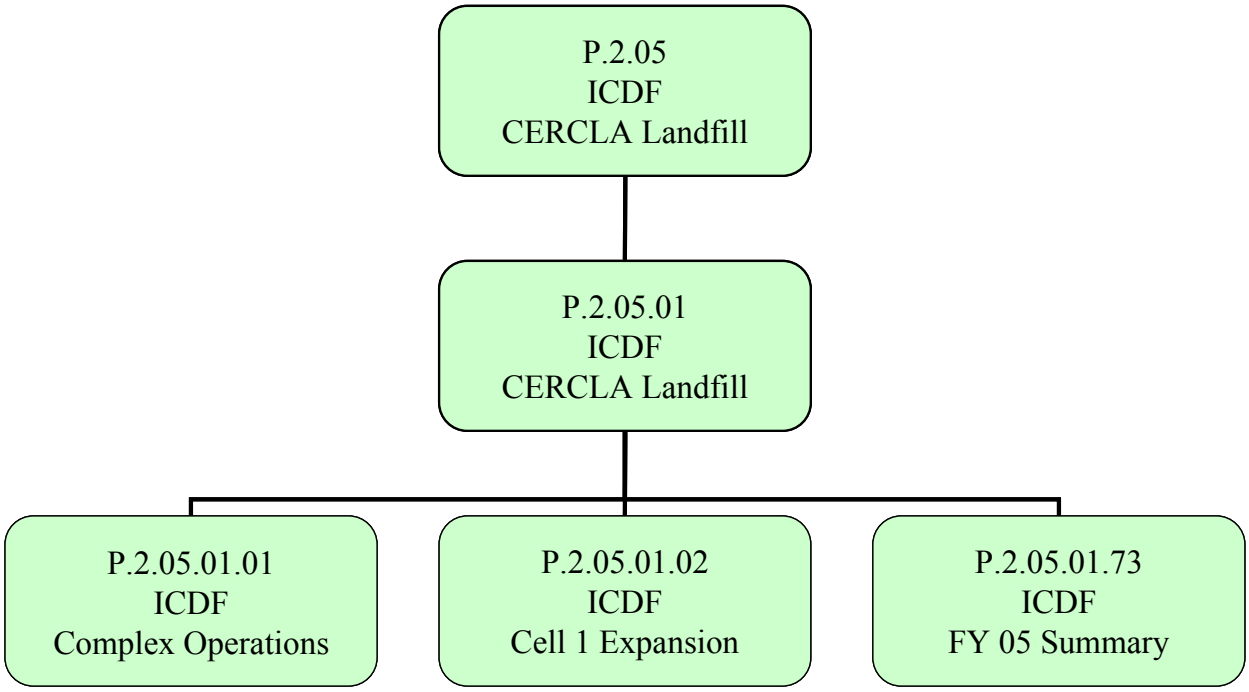

Figure B-7. ICDF CERCLA Work Breakdown Structure (Level 5, Work Package).

B-2.1.1.6.1 ICDF Complex Operations (P.2.05.01.01)—this element contains the scope for operation of the ICDF complex (i.e., the ICDF, the Staging, Storage, Sizing and Treatment Facility, and the evaporation ponds). Operation of the ICDF complex is currently accomplished via subcontract. Operation of the ICDF complex includes safe and compliant disposal of CERCLA soil and debris into the landfill, safe and compliant disposal of CERCLA waste liquids into the evaporation pond, safe and compliant operation of the treatment and decontamination facility (CPP-1688), management and operation of leachate collection systems, and maintenance of all facilities, grounds, and operating systems within the ICDF complex, including the landfill and related crest pad building, the evaporation pond and related crest pad building, the Staging, Storage, Sizing, and Treatment Facility, and the administrative facilities (CPP-1689) at the complex.

B-2.1.1.6.2 Landfill Expansion (Cell 2) Construction (P.2.05.01.02)—the scope of this element includes completion of construction of Cell 2 in order to achieve the desired operating capacity of 510,000 yd^3. Construction began in FY 2004, continued in FY 2005, and was completed in early FY 2006.

B-2.1.1.7 Sanitary Landfill and Waste Operations (W.1.09)— This sub-project was originally planned and executed utilizing a mandatory service agreement with Battelle Energy Alliance, LLC (BEA) (DE-AC07-05ID14516). On January 31, 2007, all BEA service agreements expired per the Idaho Cleanup Project Contract. CWI now purchases landfill services from BEA under a Blanket Master Agreement (#509028) and Statement of Work (6398).

B-2.1.1.8 B.5 Work for Others — The following elements are not included in the Target Cost of the Idaho Cleanup Project, Contract DE-AC07-05ID14516. Separate funding is provided by DOE to perform approved work scope.

B-2.1.1.8.1 Remote Waste Disposition Project (T.A.01), Disposition of MFC Filters (T.A.02), and Remove Waste Disposition (RWDP) Phase Approach (T.A.03)— On December 16, 2008, CWI received DOE CO direction to process the Phase I and II containers, plus up to 45 additional HFEF-5 Cans. CWI developed a preliminary cost estimate and schedule and presented this to DOE on January 13, 2009. A formal cost estimate and schedule for processing a total of 139 HFEF-5 Canisters was submitted to DOE-ID in February. 2009. DOE CO direction did specifically state to immediately begin execution of this work scope. A performance measurement baseline was being developed for this work scope when new contracting officer direction and Contract Modification 97, Attachment 4 was received on April 17th to include this scope to be funded through the Recovery Act.

B-2.1.1.8.2 Waste Management Support to BEA (T.P.12) — This element includes CWI waste management support services provided to BEA.

B-2.1.1.8.3 Waste Management Support to BEA (T.R.01) — This element includes CWI waste management support services for non-CWI customers.

B-2.1.1.8.4 Sludge Pan (T.R.05.02) — This element supports the agreement between Bechtel Bettis, Inc. and CWI, as outlined in Purchase Order #3014008. Specifically, the necessary management and services required to support the disposal of 92 Bechtel Bettis Inc., Sludge Pan Container Waste at WIPP. Note: Contract Modification 97, Section B.5.b.4 included acceleration of 67 of the 92 Sludge Pan Containers stored in a Hot Cell at NRF to support disposal at WIPP.

B-2.2 Waste Management Boundaries

ICDF is an approximately 40-acre site enclosed within a boundary fence. The area is designated as a CERCLA waste site and requires facility specific access training for entrance. The ICDF can only accept CERCLA waste for disposal.

B-2.3 Waste Management Project Deliverables

Throughout the life-cycle of the project, numerous deliverables will be provided to internal and external customers. The following provides a list of major project deliverables.

B-2.3.1 TRU Waste Disposition

- Initiate CH TRU waste shipments to WIPP
- Complete initial certification audit for RH TRU waste
- Receive WIPP certification for RH TRU waste
- Maintain WIPP certification status for RH TRU and CH TRU waste
- Initiate RH TRU waste shipments to WIPP
- Complete disposition of RH TRU waste
- Complete disposition of CH TRU waste
- Complete shipment of HFEF inserts to INTEC for processing and subsequent disposal at WIPP
- Processing and disposition of MFC RH waste forms.

B-2.3.2 MLLW Waste Disposition

- HEPA filters dispositioned
- Backlog MLLW treated and disposed
- Site Treatment Plan (STP) inventory maintained current
- HEPA filter leach STP milestones completed
- STP commercial treatment milestones completed
- Processing and disposition of MFC waste forms.

B-3. WASTE MANAGEMENT TECHNICAL APPROACH

The technical approach employed by the Waste Management program centers around safe, compliant, and cost effective completion of activities in pursuit of the ultimate end-state of the project. Details of the technical strategy are summarized in the following subsections.

B-3.1 Waste Management and Disposition

In general, the strategy for waste management and disposition involves the use of centralized waste, environmental and core service functions in order to provide the greatest integrated benefit to the rest of the INL, and to minimize fixed support costs.

Waste management and disposition covers a variety of operations and functions including: (1) storage of waste pending disposition, (2) characterization of waste in order to allow it to be placed in storage or offered for transportation/treatment/disposal, (3) transportation of waste to on-Site and/or off-Site locations for treatment and/or disposal, (4) treatment of waste prior to disposal, and (5) disposal.

1. **Storage**--the strategy for storage is to minimize the need for long-term on-Site storage by moving generated waste expeditiously from generation to ultimate disposal. Newly generated waste will not routinely be kept on-Site in long-term storage unless treatment/disposal options are unavailable at the time of generation. The fact that there is existing on-Site disposal for LLW at the SDA, and for CERCLA waste at the ICDF, greatly simplifies the strategy for minimization of on-Site storage. Current storage locations include:

   - CPP-1617
   - CPP-659
   - ILTSF
   - ICDF (for CERCLA waste)
   - Designated Interim Storage Areas for RH TRU.

   For TRU storage, WMF-698 will be used for interim storage of retrieved buried TRU waste until the containers can be characterized through CCP.

   The goal of any storage strategy, to the maximum extent possible, is consolidate in the minimum number of locations. This approach tends to minimize worker risk and maximize cost effectiveness.

2. **Characterization**--waste characterization is currently accomplished through the combination of extensive process knowledge coupled with sampling and analysis where necessary. When analytical data is required, on-Site analytical facilities and off-Site subcontract facilities will be used. Typically, off-Site facilities will be used only when schedule constraints exist or a specific capability (i.e., Utah certification) is sought. For CH TRU waste characterization, the strategy is to use the Washington TRU Solutions CCP mobile/modular characterization systems and operate under the CCP certification authority. Development of acceptable knowledge supporting characterization operations will be completed for identified retrieval locations. Retrieved targeted buried waste forms are visually examined at the time of packaging for compliance with WIPP Waste Acceptance Criteria and Waste Analysis Plan requirements. Sampling of waste is performed during examination of the waste to meet WIPP permit requirements. Analysis of samples is performed using on-Site laboratories certified by WIPP. Waste containers will be transferred to WMF-628 for headspace gas sampling and radioassay using systems located in either WMF-628 or WMF-610. Gas generation testing of waste containers will be performed, as necessary, to ensure compliance with transportation requirements.

For RH TRU, venting of the RH TRU drums will be performed using subcontracted services at INTEC facilities. After venting, the RH TRU containers will be transported for characterization at CPP-659. Facility modifications to support characterization and transportation operations will be completed and will include installation of non-destructive examination and assay equipment, upgrades to existing hot cells, and establishing the capability to perform payload assembly and loading of the RH-72B cask. Physical characterization of container contents will be performed by either radiography or visual examination. Determination of radiological parameters will be based on either sampling or use of an acceptable knowledge based computational methodology followed by confirmation using gamma spectroscopy. Headspace gas sampling will be performed to comply with WIPP Waste Analysis Plan and transportation requirements.

3. **Transportation**--waste shipments on-Site and off-Site will be accomplished using approved government owned vehicles, or approved commercial carriers. All shipments are required to be made in accordance with the requirements of the DOT as promulgated in 49 CFR and the DOE as promulgated in 10 CFR 830. The Packaging and Transportation organization will serve as the central integration point for all transportation activities.

   For CH TRU waste transportation to WIPP, certified waste containers will be transferred to the AMWTP for assembly into payloads and loading into TRUPACT-II vessels. For RH TRU, certified waste containers will be assembled into payloads for loading into the RH-72B cask for shipment to WIPP. DOE, as part of the contractual obligation for providing government furnished services and items (GFS/I), is responsible for supplying TRUPACTs, Nuclear Regulatory Commission casks, trucks, trailers, and drivers for shipment of TRU waste to WIPP.

   Additionally, 30 HFEF canisters, stored as RH TRU in the ILTSF vaults at the RWMC will be retrieved and transported to the INTEC for storage, treatment, and disposition. The HFEF inserts will be shipped to INTEC as an out of commerce shipment using the Battelle Energy Alliance LLC (BEA) HFEF-5 cask or other evaluated shielded shipping container.

4. **Treatment**--waste treatment will be performed by a combination of on-Site and off-Site facilities. Each waste stream requiring treatment prior to disposal will be evaluated against the disposal facility waste acceptance criteria, and an appropriate treatment facility will be selected. If required, a commercial treatment facility may treat waste prior to disposal in a government facility.

   The Staging, Storage, Sizing, and Treatment Facility (SSSTF) will continue to be used for treatment of CERCLA MLLW prior to placement in the ICDF. Additionally, it may be used to treat waste prior to off-Site disposal.

   Waste treatment opportunities will constantly be evaluated to ensure costs are minimized and do not adversely impact risk.

   INTEC Waste Management Operations will also prepare for transportation, receipt, processing and disposal of other MFC Remote Handled waste forms. These waste forms include low level, partial fuel assemblies, transuranic and reactive metals. Waste may or may not include other hazardous materials regulated by RCRA and/or TSCA. Treatment, storage and disposal will be accomplished with existing hot cell facilities (CPP-659 and CPP-666) that are retooled to accept the waste forms and package sizes. Waste will be segregated, treated, repackaged and shipped to WIPP, commercial LL disposal, DOE LL disposal, fuel returned to MFC and secondary waste disposed of according to waste type.

Per the Federal Facility Agreement and Consent Order (FFA/CO), a cost/benefit analysis is to be performed for each major waste stream to determine the appropriate disposition path for ICP CERCLA wastes.

5. **Disposal**--a combination of off-Site and on-Site disposal facilities will be used. On-Site, the SDA has approximately 30,000 m^3 of available disposal capacity for CH LLW. This capacity will generally be used prior to shipping LLW off-Site for disposal. The SDA is scheduled to be closed to CH LLW by the end of FY 2008 because capacity will be exhausted. After 2008, CH LLW will be sent to an off-Site commercial or government disposal facility. RH LLW can be disposed at the SDA through FY 2009 at which point it is projected the entire SDA capacity will be exhausted. No additional generation of RH LLW is projected after FY 2009. For CERCLA LLW and MLLW, the ICDF will be used for on-Site disposal. If the MLLW originates from INTEC, it can be disposed without treatment to land disposal restriction standards. For CERCLA wastes from other areas of INL, the waste must meet the land disposal restriction standards, or must be treated prior to placement. CERCLA waste which does not meet the ICDF Waste Acceptance Criteria will be disposed off-Site at a commercial or government facility.

   For waste for which there is no current option for disposal (e.g., Class B/C), the waste will be stored on-Site until a suitable DOE site (i.e., Hanford, NTS) is available to receive this waste.

   For TRU waste, WIPP remains the only option for disposal. TRU and TRM will be characterized and certified in accordance with the WIPP Waste Acceptance Criteria and shipped for disposal.

   Waste disposal opportunities will constantly be evaluated to ensure costs are minimized and do not adversely impact risk.

B-3.2 Project Closure

A closeout report for the WM program will be prepared upon ICP completion. The report will describe all activities completed and include any significant variations from original decision documents. It will substantiate the completeness of achieving the ICP goals. The report will also contain sampling results, including data that confirm applicable release criteria were met. A description of the waste quantities, types, and disposal path will be included. The report will also include an index of project records and indicate where records will be archived.

In July 2003, DOE issued DOE Policy 455.1 “Use of Risk-Based End States.” The policy is based on the premise that effectiveness of cleanup programs can be improved by focusing efforts on cleanup that is aimed at, and achieves, clearly defined risk-based end states. Risk-based end states are representations of site conditions that are based on the planned future land use of the property and are protective of human health and the environment consistent with that use.

A draft risk-based end state vision for the INL Site (DOE/ID-1110) has been prepared. The development and finalization of the risk-based end state vision will be integrated with the implementation of the ICP contract and subsequent life-cycle baseline that has been developed.

B-4. WASTE MANAGEMENT PERFORMANCE CRITERIA

Internal and external performance criteria have been identified by the WM program, as necessary, to successfully accomplish the project and support the overall ICP programmatic requirements. These criteria (milestones, performance indicators, and measures) are discussed in the following sections.

B-4.1 Waste Management Enforceable and Supporting Milestones

All milestones applicable to the WM program are managed through inclusion in the WBS and the Primavera Project Planner (P3) schedule. The P3 schedules with milestones are maintained and controlled within the project control system.

B-4.2 Waste Management Performance Metrics

Appropriate performance indicators can become a very powerful tool in the effective management of any project. This is especially true for the WM program. A variety of indicators and metrics have been developed that will assist the project team in completing the cleanup goal in a safe, compliant, and cost effective manner. Some examples of specific metrics include safety performance, cost, schedule, and milestone performance.

B-4.2.1 Waste Management Safety Performance

Safety performance indicators that express incidents in terms of hours worked will be tracked and analyzed. Total recordable case rates, lost workday case rates, and lost workday severity rates will be recorded and compared to industry averages and averages recorded by other decommissioning projects. Industrial and radiological safety incidents will be assigned a significance category for reporting purposes. Authorization basis violations and criticality safety infractions will also be tracked and reported.

A Safety Assessment Center will be maintained by CWI for the purpose of Site-wide safety issues integration and resolution. The Safety Assessment Center includes a daily conference call in which all CWI projects participate and share lessons learned. Safety trends, specific incidents, and recordables are reported and discussed among projects.

Trends in recordable safety and other data will be analyzed by safety personnel and management for use in assessing performance and implementing corrective actions.

B-4.2.2 Waste Management Cost, Schedule, and Milestone 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.

Production Indices--weekly performance indicators will be maintained that will allow the management team to manage a variety of physical work activities within the Waste Management program. Examples include waste volumes shipped and waste volumes disposed. A specific example of a production index results from the contract itself. Key Performance Measures, also known as the “Gold Chart Metrics” will be monitored as noted in the overall CWI ICP Site-wide Project Management Plan.

B-5. WASTE MANAGEMENT PROJECT RISK MANAGEMENT

CWI will manage risks using the process for identifying, quantifying, and mitigating risks in accordance with MCP-1409, "Risk Management." 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 7 shows the process for assessing and managing the significant project risks discussed in Section 5.2, Table 2.

Many of the uncertainties associated with the WM Program will be managed internally through the WM Program Management Team. Assumptions were prepared during the planning process and it will be up to the WM Program Management Team to monitor progress relative to those assumptions. Risk items identified as "high" in nature must be managed via the formal risk management process described in Section B-5.2.

B-5.1 Waste Management Assumptions

Specific assumptions relevant to the detailed work scope included within the WM program are included in the work package and control account narratives in Appendix A. A few of the more important and generally relevant assumptions are included below:

- Waste generation rates will not change significantly from those projected at project start.
- Regulatory and procedural changes will not change significantly from those currently in place.
- GFS/I will be available as requested on a schedule that supports the baseline plan.
- Characterization and certification of RH and CH TRU waste will be performed under the auspices of the WIPP-CCP program.
- Requirements for characterization of RH and CH TRU waste are based on the revised permit modification request submitted April 29, 2005, by DOE-Carlsbad Field Office to the New Mexico Environment Department that consolidated Section 311 (Public Law 108-137)/Section 310 (Public Law 108-447) addressing TRU waste characterization requirements. No changes occur in RH and CH TRU waste characterization requirements from the April 29, 2005, revised program management review.
- RH WIPP Waste Acceptance Criteria is issued December 2005, and WIPP is ready to receive RH TRU waste by October 2006.
- AMWTP provides access to the WMF-610/628 CCP characterization capability to support shipment of CH TRU waste to WIPP beginning in August 2006. Transfer of CH TRU storage and characterization capability in WMF-610/628 from AMWTP to CWI is completed by May 1, 2006.
- AMWTP provides payload assembly and loading of the TRUPACT-II shipping packages for CH TRU waste.
- DOE-ID will provide contract direction to transfer the 30 HFEF at RWMC to INTEC and process for disposal at WIPP.
- DOE provides TRUPACT-II vessels and RH-72B casks to support ICP shipping schedule.

- WIPP requirements documents are revised to accept RH TRU waste packaged in double heat-sealed bags.
- Commercial or government disposal facilities are available for Class A, B, C, LLW, and MLLW.
- Commercial or government treatment facilities are available for Class B, C, LLW, and MLLW.
- No RH LLW is generated after SDA closure to RH LLW in 2009.

B-5.2 Risks

The Waste Management program employs the standard risk analysis and risk management process used by the overall ICP to ensure that significant risks are identified and properly addressed. The risk management process and results are documented in PLN-2173, "Idaho Cleanup Project Programmatic Risk Management Plan." The risk management process used by the ICP is summarized in Figure B-8.

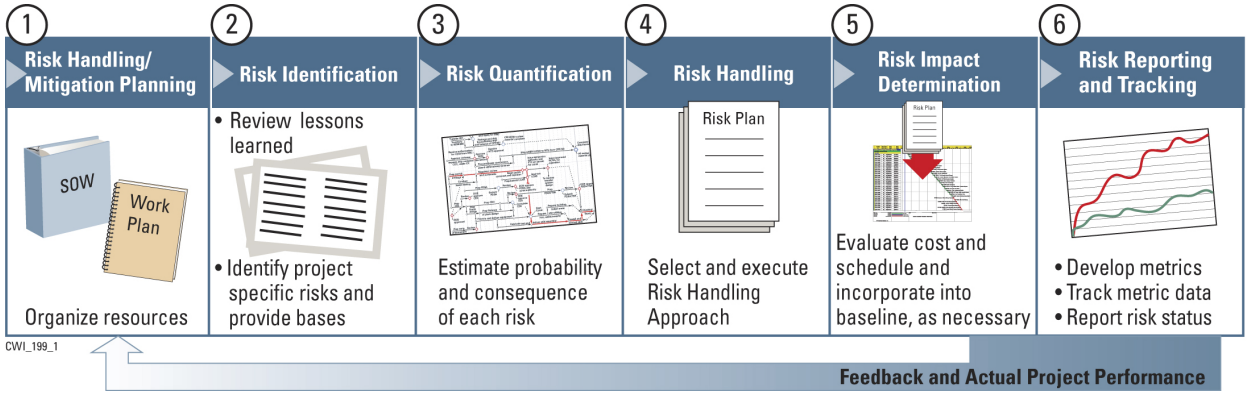

Figure B-8. CWI'S Risk Management Process.

Each of these steps is discussed in detail in PLN-2173 and will not be reiterated here.

Regarding those risks identified by DOE in contract Section H.2, the WM program owns several of these risks. In addition, application of the process shown in Figure B-10 results in additional significant uncertainties and/or other uncertainties. The significant uncertainties and other uncertainties associated with the WM program are listed in PLN-2173.

In addition to the detailed risk assessment documented in the PLN-2173, each scheduled activity has a risk code applied in order to perform resource leveling and some activity based risk planning and application of contingency. Risk codes range from 1–5 and are described in Table B-2.

Table B-2. Code Description.

Code	Description
1	Resources readily available – no special materials, equipment, or labor skills 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 risk exists.
2	Resources 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.
3	Labor resources 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.
4	Required materials, equipment, labor skills, and availability may be limited. Other activities significantly impacted if resources are not available. There has been limited previous experience with this type or 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 significantly impacted if resources are not available. No previous experience with proposed methodology or technology. 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.

B-6. METHOD OF ACCOMPLISHMENT

Completion of the WM program will be accomplished through the use of existing salaried and hourly workforce, supplemented by subcontract resources to accommodate temporary work-load increases resulting from high priority activities. Wherever possible, existing ICP resources will be used. If not available, the WM program will coordinate with the Procurement organization to ensure timely and effective availability of resources to meet ICP objectives. In addition, the work scope will be accomplished through the use of existing physical assets including the SDA and ICDF. This on-Site disposal capacity will also be supplemented through the use of commercially available treatment/disposal facilities and/or other DOE disposal facilities, if neither on-Site nor off-Site commercial facilities are available or cost effective. It is impossible to predict exactly how the long-term implementation of the WM program scope will be carried out because of the continuing need to balance the priorities of the other ICP Projects with the availability of resources. Actual method of accomplishment will result from an ongoing assessment of the safest, most efficient method of operation.

B-7. ENVIRONMENTAL, SAFETY, HEALTH & QUALITY ASSURANCE

The WM program provides ESH&Q management, support, and coordination for the scope delivered by the Waste Management organization. Typical functions performed include liaison activities between ESH&Q functional home organizations. In addition, maintenance of general ESH&Q programs is maintained via the technical expertise within the organization. It also provides coordination of consistent ESH&Q program implementation, support of Voluntary Protection Program (VPP) activities, maintenance and evaluation of the self-assessment program, performance of required self-assessment activities, and maintenance and evaluation of the Conduct of Operations matrix. The Waste Management program also provides for 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, and ESH&Q support of company-level procedure reviews. Safety and Health professional support, ad hoc project director requested efforts, emerging issues, support for VPP Unit activities, and Radiological Control management support are also provided.

The WM program Radiological Control program is described by Program Requirements Document (PRD)-183, "ICP Radiological Control Manual" (Manual 15A). This manual describes the program for controlling exposure to ionizing radiation and for handling radioactive materials. PRD-183 contains those requirements that are fundamental to the Radiation Protection Program, including those mandated by 10 CFR 835. The Radiological Control Program includes all aspects of radiological control applicable to performing hazardous work, including:

- Excellence in radiological control
- Radiological standards
- Conduct of radiological work
- Radioactive materials
- Radiological health support operations
- Training and qualification
- Radiological records.

B-7.1 Applicable Regulatory Requirements Documentation

The ICP contract specifies a list of applicable DOE directives that govern the various work scope elements. These in turn reference other prevailing federal, state, and local statues, standards, laws, regulations, and guidance principles.

The ICP Integrated Requirements Management described in MCP-2447, "Requirements Management," assigns responsibilities and provides instructions for the process used to direct and maintain traceability of requirements into implementing documents. This process provides a solid infrastructure for requirements identification, implementation, and compliance. This function mandates compliance with requirements, including ESH&Q requirements derived from source documents. Compliance with these requirements ensures protection of the health and safety of the worker, the public, and the environment. Requirements Management also ensures protection of national security from

vulnerabilities and hazards, including those that may arise as company activities and/or missions change. Requirements Management is administered by:

- Maintaining the traceability of requirements from their source to implementing documents
- Communicating applicable requirements to affected organizations and areas for implementation
- Tracking requirement implementation status
- Supporting functional area and compliance assessments and audits.

B-7.2 Health and Safety

The WM organization is committed to the ideology that (1) all accidents are preventable, and an injury and illness free workplace is achievable, and (2) all work can be performed in a safe, compliant, and environmentally responsible manner. The WM Health and Safety Program includes the functional areas of Industrial Safety, Hygiene, and Fire Protection.

The Industrial Safety Program is established to prevent employee injury from industrial hazards that may be encountered in the workplace. Site-wide program requirements and procedures that establish a baseline for compliance with applicable industrial safety codes and standards are found in Manual 14A, "Safety and Health–Occupational Safety and Fire Protection." Industrial Safety requirements are integrated in various safety management processes as they apply to the identification and analysis of hazards and to determining the appropriate controls for employee protection. The responsibility for establishing Site-wide Industrial Safety program requirements and interpretations belongs to the Safety and Health Directorate. Implementation of the Industrial Safety requirements is the responsibility of line management, supported by Industrial Safety professionals who are assigned to the area/facility ESH&Q managers.

The Industrial Hygiene Organization is involved in the recognition, evaluation, and control of environmental factors or stresses arising in or from the workplace, which may cause illness, impaired health and well being, or significant discomfort among workers. The industrial hygienists work as members of a Safety and Health team using Integrated Safety Management System (ISMS) principles in the evaluation of work areas and employee work activities. Specific Industrial Hygiene requirements, procedures and general policies are presented in Manual 14B, "Occupational Medical and Industrial Hygiene." The responsibility for establishing the Site-wide Industrial Hygiene program requirements and interpretations belongs to the Occupational Safety and Health Directorate. Implementation of the Industrial Hygiene requirements is the responsibility of line management, supported by Industrial Hygiene professionals who are assigned to the area/facility ESH&Q managers.

The Fire Protection Program is implemented through Manual 14A. The Fire Protection Program focuses on recognizing, evaluating, preventing, and controlling fire hazards in the work place, minimizing fire losses, and ensuring that the level-of-life safety is in compliance with applicable National Fire Protection Association standards. The responsibility for establishing Site-wide Fire Protection Program requirements and interpretations belongs to the Safety and Health Directorate. Implementation of the Fire Protection Program requirements is the responsibility of line management, supported by Fire Protection professionals who are assigned to the facility ESH&Q managers. Specific Fire Protection Program responsibilities also reside with the Site Fire Department, the Life Safety Systems Technical Support Organization, and Engineering. The program description document for Fire Protection is PDD-1009, "Idaho Cleanup Project Fire Protection Program Plan."

The Fire Marshal's Office has been established to support the DOE-ID authority having jurisdiction responsibilities and to serve as the ID authority having jurisdiction as necessary. This includes Fire Protection and Life Safety related activities and conditions that are to be approved, inspected, witnessed, and/or performance tested in accordance with minimum national codes and standards. The fire marshal is authorized to issue interpretations of the National Fire Codes, Uniform Building, and Uniform Fire Code. The fire marshal establishes acceptable policy, program and procedures for the review and approval of all fire protection systems and life safety systems. The fire marshal also investigates fires, explosions, accidents, and occurrences involving installed fire protection and life safety systems and other hazardous conditions, as determined necessary.

Implementation of the programs described above ensures that processes and procedures are in place so that RWMC Project work can be performed safely and compliantly with federal, state, and local requirements. By following the requirements in these documents, the WM program 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 waste management.

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.

The DOE VPP was established to promote and give recognition to highly effective Safety and Health programs. The focus of VPP is on management commitment, worker involvement, work site analysis, hazard prevention and control, and safety and health training. The VPP criteria as established in the U.S. Department of Energy Voluntary Protection Program, Part I: Program Elements and Part IV have been successfully implemented: On-Site Review Handbook. As a result of a DOE Headquarters on-Site review conducted in April 2001, the Site was recognized with DOE VPP Star status in July 2001. The Site will be re-evaluated in the Star program every three years. The purpose of the re-evaluation is to determine continued qualification in the program. Each February, the contractor is required to submit a VPP report which includes injury incidence and lost workday rates for the past year, employment figures, hours worked by the employees and contractors, and results from the annual program evaluation.

As specified by DOE VPP Part I: Program Elements, an annual evaluation of the program is performed assessing the effectiveness of each element and sub-element described in Section II.E. The evaluators identify areas for improvement and the VPP units develop corrective action plans to improve these areas. Employees who are trained and competent evaluate the program, actively participating in their own safety process.

DOE encourages all contractor sites to strive toward continuous improvement of Occupational Safety and Health, and that certainly is the expectation of VPP. As a Star site, we strive for continuous improvement and are willing to share our experience and methodology with other sites who are working toward the same recognition. The overarching goal of VPP is to continue our work toward zero injuries and illnesses using worker involvement and management leadership. This goal is obtained by an ongoing emphasis on the five key elements of VPP:

1. Management commitment is essential to empower employees to be active participants in the safety program. The safety policy is the foundation to the safety program, and it is a document that is practiced in day-to-day work activities. Management must continue to be visible to the workforce; this is done by obviously participating in the various programs themselves—setting the example.

2. Employee involvement is the key in maintaining full implementation of the VPP criteria. Employees have active and meaningful ways of participating in and contributing to the structure and operation of the safety program. This involvement results in ownership of the Safety and Health program by all employees.

3. Work site analysis includes all aspects of the work control process, the analysis of new facilities and processes, comprehensive safety and health surveys, routine inspections, a process for employees to report hazards and participate in their correction, an injury/illness investigation process, and tracking and trending. All of these systems together bring a comprehensive understanding of potentially hazardous situations and the ability to recognize and mitigate hazards.

4. Hazard prevention and control provides the mechanisms for controlling hazards, which can be substitution, engineering controls, administrative controls, or the use of personal protective equipment. Written rules and procedures are in place to prevent potential hazards from appearing in the work areas. The Medical and Emergency Preparedness programs are integrated into and are an essential compliment to the Safety and Health program.

5. Safety and Health training is vital in ensuring that employees are familiar with their responsibilities and are competent to perform their work activities. Employees are properly trained in hazard recognition and Safety and Health protection before they are assigned to a task. Employees are fully aware of their responsibilities and duties as it pertains to emergency situations.

B-7.2.1 Integrated Safety Management

The ISMS infrastructure includes company-level ESH&Q functional areas that have existed for many years. The ISMS focuses on integrating these functional areas using the line manager as the focal point through which all work activity is planned and authorized. The integration of the ESH&Q functional areas and the work control processes that exist at the core of the ISMS relies on the implementation of a compliance management system. Programmatic requirements flow down from DOE requirements and regulations and from applicable industry standards. Company-level programs that implement these requirements are institutionalized through company-level procedures. These procedures and manuals define the roles and responsibilities for implementing the ESH&Q functional area requirements, with a strong focus on the responsibilities of line management for functional area performance.

The WM program 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, and supplying the appropriate safety and health training. Work planning will include appropriate safety analysis to determine potential safety and health risks, and the means for appropriately mitigating the risks. The WM program actively encourages worker involvement and feedback on all work activities through the work control process. The Waste Management program implements Integrated Safety Management (ISM) through company-level procedures.

The program team establishes requirements for individual activities providing necessary and sufficient controls as required by the ISMs process. Built into this process is the expected use of a graded approach that is based on the risk, consequence, and complexity of the identified work. The integrated work control process establishes a methodology to identify necessary controls to prevent and/or mitigate identified work hazards. Work execution is accomplished via an appropriate graded readiness demonstration. It may range from pre-job briefings (for low-hazard, low-risk, routine activities) to an operational readiness review.

Integrated safety management is accomplished by the commitment to the following eight guiding principles:

- Line management is responsible for safety
- Clear roles of responsibility
- Competence commensurate with responsibility
- Balanced priorities
- Identification of safety standards and requirements
- Identification of safety standards and requirements
- Hazards controls tailored to the work being performed
- Operations authorized.

The five core functions of the ISMS are:

- Define the work scope
- Identify and analyze the hazards
- Identify and implement controls
- Perform the work
- Provide feedback.

Managers within the WM program use work control to plan and authorize existing and emergent activities for placement on the plan of the day (POD). Thus work control is an integral part of daily operation within the WM program 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 emergent activity is defined and a graded hazard assessment is performed, as necessary, to establish appropriate procedure level controls and to verify the adequacy of the facility level control set established by the authorization basis. If the activity and its hazards are not within the scope of the authorization basis, the unreviewed safety question determination (USQD) process is invoked.

STD-101, “ICP Integrated Work Control Process” is the method by which the ISMS and VPP are implemented for ICP maintenance for construction activities. (STD-101 establishes the process by which maintenance work and project work orders for construction, decontamination, decommissioning, and demolition, and environmental restoration work are screened consistently to uniform criteria to ensure that hazards are appropriately identified, analyzed, and controlled.)

Subcontractors either perform work to CWI requirements and procedures or have the ISMS Program requirements flowed down to them through contract inclusion of the appropriate requirements from PDD-1001, "Subcontractor Requirements Program Description."

B-7.2.2 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.

The WM program 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 WM 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 WM program ensures the safety of workers and the public through the use of Site infrastructure and organizations supporting this process.

B-7.3 Quality Assurance

The Quality Assurance program consists of systems used to manage, perform, and assess work, including activities assigned to external organizations. Program requirements are contained in Manual 13, "Quality Assurance Program." The Quality Assurance program is based primarily on 10 CFR 830.120, "Quality Assurance Requirements" and DOE Order 414.1C, "Quality Assurance." 10 CFR 830.120 provides Quality Assurance requirements for managing nuclear facilities. DOE 414.1C provides Quality Assurance requirements for managing nuclear and non-nuclear facilities. Additional source documents include ASME NQA-1, "Quality Assurance Requirements for Nuclear Facility Applications," 1 CFR 60 Subpart G, 10 CFR 71 Subpart H, 10 CFR 72 Subpart G, DOE/RW/0333P, and DOE and industry standards.

Quality engineering for the WM program ensures compliance with company requirements through document reviews, surveillances, and assessments. The Quality Engineering staff supporting the WM program provides coordination and issue management expertise to project personnel. The support includes initiating, screening, disposition, tracking, and closing nonconformance and deficiency reports. In addition to issue management, the quality engineer provides back-up Occurrence Report Processing System reporting services to the WM program.

A designated quality engineer providing support for characterization, certification packaging, and shipping of TRU waste to WIPP for disposal provides day-to-day guidance to the project staff on quality-related matters, using CCP WIPP QA procedures. This quality engineer performs laboratory/testing facility assessments, nonconformance tracking, corrective action verification, data validation/verification, data quality assurance documentation verification, and evaluating trends in compliance, which ensures compliance.

B-8. WASTE MANAGEMENT AND MINIMIZATION

One of the major components of the WM program is to provide WM services to the other area projects, as well as to other INL tenant contractors. This service, provided by the WM organization, includes but is not limited to, guidance in identification/characterization of newly generated waste, guidance in packaging for disposal, and evaluation of on-Site and off-Site disposal resources to determine the most effective path for disposition. Within the geographical boundaries of the RWMC complex there is an operating low-level waste disposal facility and several former disposal locations that will be remediated as part of the RWMC Area Project. It is anticipated that the current available capacity for disposal of CH LLW at the SDA will be consumed by September 2008, and by September 2009, for RH LLW. The WM organization will continue to monitor waste generation from other INL sources and will determine the most effective and efficient use of both on-Site and off-Site disposal resources.

B-8.1 Waste Management

Wastes generated during the completion of the RWMC Area Project include sanitary/industrial waste from routine continuing operation of existing facilities; low-level waste from deactivation, decontamination, decommissioning, and demolition of RWMC structures, and low-level, low-level mixed, and TRU waste from remediation of past disposal practices. Waste generated from routine operations and D&D activities will be managed in accordance with existing ICP policies and procedures related to the generation, characterization, storage, treatment, transportation and disposal of the waste. It is generally expected that sanitary/industrial waste will be transported to the CFA landfill and disposed there via a Blanket Master Agreement (#509028) and Statement of Work (3687) with BEA. LLW will continue to be managed in the SDA, or at an off-Site location(s) as economics and physical/chemical features of the waste would dictate. Mixed LLW will continue to be managed at off-Site commercial locations, or at an appropriate DOE site should MLLW disposal be allowed at some future date. TRU/TRM waste generated will continue to be packaged, characterized, and certified for disposal at the WIPP. It is expected that characterization support will be provided to the ICP by the CCP through WIPP. Additionally, it is expected that the DOE will continue to provide transport vessels, trucks, and drivers for the transport of waste from the INL to WIPP.

Waste generated from remediation activities is addressed through a variety of project-specific documentation created in accordance with the requirements of the corrective action. This documentation provides the details of the waste estimate for the project, and details of the specific disposition pathways necessary to remove the waste from the ICP.

In addition to the SDA, the WM organization is responsible for the management and operation of the ICDF. This facility, located outside the fence at INTEC, is available for the receipt and disposal of CERCLA remediation waste from the variety of remediation projects associated with the ICP. Waste specific acceptance criteria are defined in the ICDF Complex Waste Acceptance Criteria. In addition to the disposal aspect of the ICDF, there is a treatment facility, referred to as the Staging, Storage, Sizing, and Treatment Facility, available to treat waste prior to on-Site or off-Site disposal.

Table B-3 shows the life cycle project waste generation estimate included in the Waste Management program at baseline inception.

Table B-3. RWMC waste generation estimate.

Category	Projected Volume (m^3)
TRU	7,422
LLW	1,506
Industrial	10,820

In addition to the RWMC projected waste volumes, the WM organization will also provide the interface with the other projects in the disposition of waste generated from these other projects.

Table B-4 provides a summary of disposition quantities resulting from generation of waste from all projects originally planned within the ICP baseline. The "Gold Chart" metrics referenced in Section B-4.2.2 contain the latest and current waste quantity projections.

Table B-4. RWMC baseline life cycle waste disposition projection.

Category	Subcategory	Projected Volume (m^3)
TRU	CH	7,587
	RH	151
LLW	non-ER	32,700
	ER	59,711
MLLW	non-ER	1,070
	ER	180,811
Hazardous		1,436
Industrial		78,373
Other		213

B-8.2 Waste Minimization

Waste minimization practices within the ICP, and specifically within the WM program include source reduction, recycling, reuse, disposal and treatment, best management practices, and training. Additionally, the ICP has an active Pollution Prevention Program with applicability to all aspects of the ICP. The Pollution Prevention Program defines responsibilities for coordinating Site-wide programs that assist a waste generator in the reduction, reuse and recycling of their waste streams.

To the maximum extent practical, and within the boundaries of ALARA, non-radioactive wastes will be segregated from radioactive wastes and hazardous wastes will be segregated from non-hazardous wastes whenever feasible. Additionally, the project will strive to achieve maximum progress and maximum packaging efficiency for waste that is generated as a result of the D&D and remediation of structures and land within the RWMC.

B-9. COMMUNICATIONS

Internal communications with WM organization team members occur on a frequent basis through a variety of conduits, including written word (e.g., daily/weekly status reports), building announcements, electronic media (e.g., ICliPs), and verbal means (e.g., POD meetings).

Regarding external communications, the WM program will facilitate communications and public participation activities related to cleanup activities. The WM program will promote stakeholders involvement in understanding and resolving cleanup issues associated with all aspects of the WM program.

B-10. WASTE MANAGEMENT ORGANIZATION & RESPONSIBILITIES

The WM organization is led by an ICP vice president, who in turn is supported by directors heading up the management of various aspects of the Waste Disposition Project scope. The vice president reports directly to the president of CWI and the ICP. The WM organization exists to ensure timely, effective and efficient integration of all aspects of waste management within the ICP. The management team will directly interface with every other project within the ICP to ensure effective use of resources in the generation, characterization, transportation, treatment, and disposal of every waste type resulting from activities within the ICP. Additionally, a critical component of successful completion will include interaction with a variety of external agencies as well, including the DOE, the State of Idaho, the EPA, and other local and national stakeholders.

B-10.1 General Responsibilities

The WM work scope will be generally managed via resources already existing within the project organization. In cases where the expertise does not exist internal to WM, the specialty resources will be sought from other ICP and/or INL organizations (e.g., some ESH&Q functions, large maintenance items, Fire Department, and Medical). Finally, it may also be necessary to use off-Site resources in cases where: (1) it is economically advantageous, (2) additional flexibility is required that can not be gained utilizing on-Site resources, and (3) the resource is unavailable on-Site (e.g., macroencapsulation of lead at Envirocare).

Directors within the WM organization may also occupy the role of control account manager (CAM). A CAM has the authority and responsibility to plan and budget the work, control the resources and execute activities within an approved technical, schedule and cost baseline. A complete description of the CAM responsibilities is contained in PDD-146, "Project Control System Description**."**

The WM organization reporting to the WM vice president consists of operating entities and program entities. In general, the program entities define the goals and objectives of the various aspects of the project. Additionally, the program entities establish the over-arching technical, financial, and schedule attributes through which the operating entities can successfully achieve the desired end state established by the program. The operating entities provide the resources necessary to operate and maintain all structures and facilities in order to accomplish the desired end state. The WM organization interfaces with internal and external organizations and other stakeholders who have an interest in the progress of accomplishing the cleanup work. Those interfaces, their general responsibilities, followed by a detailed description of the project organization, team member responsibilities, and interface responsibilities are described below.

B-10.1.1 Internal Organizations

Table B-5 shows the general responsibilities for the internal organizations.

Table B-5. 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 RWMC Project, including funding and overall contract direction.
	Interfacing with other regulatory agencies, stakeholders, and the public.
Waste Management	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 the EPA and State of Idaho on behalf of DOE
Subcontractors	Communications with RWMC 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 the documentation as required by contract.

B-10.1.2 External Organizations

Table B-6 shows the external organizations with interest in the RWMC Project and their responsibilities.

Table B-6. External organizations with interest in the RWMC Project.

Organization	Responsibilities
Idaho Department of Environmental Quality (IDEQ)	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 X	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, etc.)	

B-10.2 Waste Management Project Organizational Structure

Program management and control will function under an integrated scope, schedule, and cost control system that identifies responsibilities and interfaces. The Waste Management organization (see Figure B-9), under the direction of the WM vice president, is an integrated team of qualified individuals for each project.

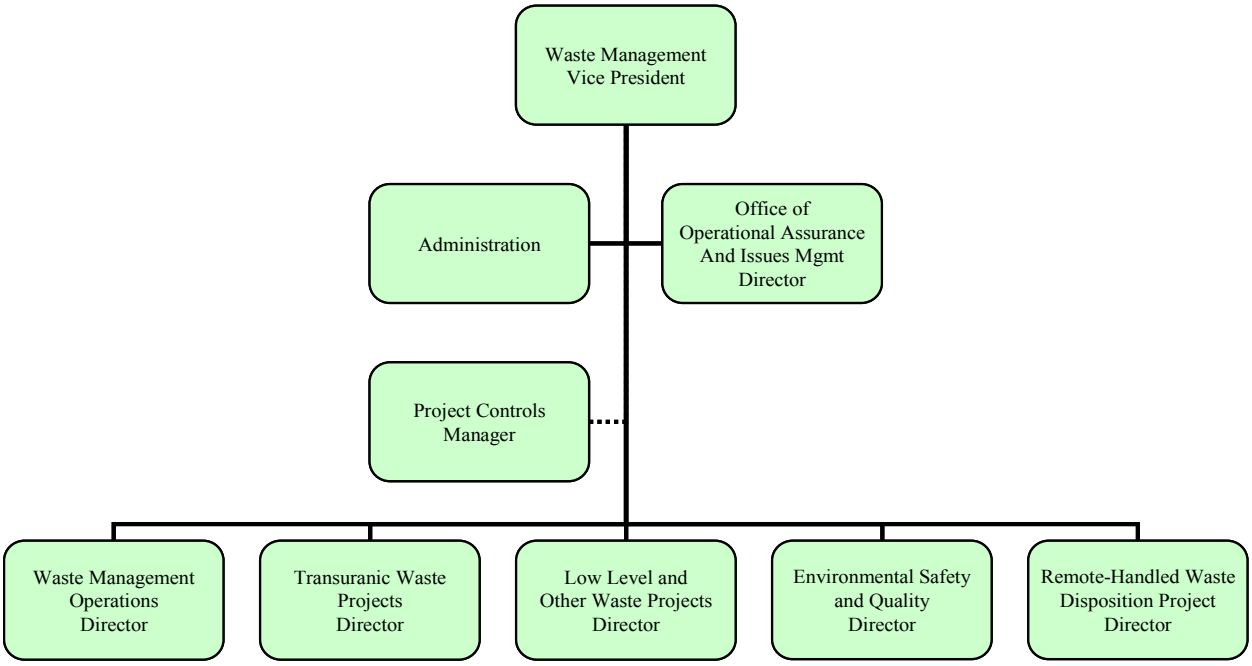

Figure B-9. Waste Management Organization.

B-10.3 Responsibilities

Brief descriptions of specific WM organizational levels can be found below.

B-10.3.1 Vice President

The vice president provides management leadership, direction, and integration for the Waste Management organization and reports directly to the ICP president. Responsibilities include:

- As core members of the ICP integrated management team, maintain effective communication and working relationship with the ICP president and project manager, other area managers, directors, subproject managers, and DOE-ID counterparts.
- Set mission, vision, direction, and strategy for projects to ensure implementation of ICP project objectives.
- Define the scope and priority, and request the funding to accomplish projects in a safe, secure, cost-effective, and compliant manner.

- Align the project organization and establish a work culture consistent with ICP mission, vision, and strategy.
- Ensure that work is performed in a safe, secure, cost-effective, and compliant manner.
- Complete project activities within the project scope, schedule, and budget.
- Act as project safety champions.
- Provide single points of contact and accountability to management and customers.
- Ensure that commitments related to subprojects and other projects are maintained and communicated regularly.
- Ensure excellence in project team communication.
- Maintain partnership with tribal nations, stakeholders, and the public.
- Support the ICP regulatory strategy with regulatory agencies and oversight organizations.
- Manage and ensure program implementation and compliance with ISMS, the Voluntary Protection Program (VPP), conduct of operations, conduct of engineering, conduct of maintenance, nuclear facility startup and restart, hoisting and rigging, non-nuclear safety analysis, the International Organization for Standardization (ISO) 14001 Environmental Management System (EMS), Criticality Safety, appropriate regulatory and permit requirements, settlement agreements, Federal Facilities Agreement/Consent Order, and site treatment plan.
- Support Price-Anderson Amendments Act (PAAA) reporting requirements.
- Ensure that facilities are operated safely, meeting the requirements of authorization agreements, permits, and other safety basis documents.
- Implement the ICP Nuclear Safety Management Program for compliance with DOE requirements contained in Code of Federal Regulations (CFR), Title 10, “Energy,” Parts 820, “Procedure Rules for DOE Nuclear Facilities,” 830, “Nuclear Safety Management,” and 835, “Occupational Radiation Program.”
- Establish and maintain detailed work plans and life-cycle baselines.
- Monitor project performance and take corrective actions to execute program compliance with company procedures.
- Obtain and integrate feedback from employees concerning quality, health, safety, and environmental issues into facility and company lessons learned.
- Ensure that employees under their direction are trained and qualified to perform their jobs safely and efficiently.

- Maintain high ethical standards and expectations, and demonstrate corporate citizenship in the community.

B-10.3.2 Director - Projects and Operations

Waste Management directors provide management leadership, direction, and integration for ICP projects and report directly to the vice president for Waste Management. In general, the responsibilities of Waste Management directors are the same as for the vice president (above) but apply only to their individually assigned divisions within the scope of work for which they oversee delivery. In some instances, directors are asked to fill the role of control account manager (CAM), ensuring delivery and execution of ICP scope.

Principal responsibilities of this level of the organization include:

- Ensures that work is performed safely within the assigned area of responsibility
- Provides leadership and direction in implementing the ICP conduct of operations and conduct of maintenance processes
- Implements ISMS, VPP, Integrated Safety and Safeguards Management (ISSM), the Quality Assurance (QA) Program, ISO 14001, conduct of operations, and conduct of maintenance activities in their respective organizations and facilities
- Ensures that operations are conducted within facility requirements (such as the authorization basis, DOE rules and regulations, and environmental regulations and permits)
- Provides operations authorization for activities through a POW or POD process—precluding work from occurring that is not on the approved schedule
- Chairs operational safety boards (OSBs), and ensures that critiques or investigations are held for unusual events and near misses so that feedback is given to workers and lessons learned are captured
- Identifies resource needs, and obtains and manages operational resources to accomplish project milestones and objectives
- Interfaces with functional managers to improve processes through application of lessons learned and feedback
- Ensures that organization-specific training requirements are defined and implemented for each employee, establishes as necessary organization-specific training procedures, provides direction to other line managers for training objectives, approves organization-specific training plans, coordinates the development of an effective training process, and ensures that all employees within the Operations organization are trained and qualified to perform their jobs safely and efficiently
- Provides technically accurate and usable activity-level operations procedures and specific direction for usage of these procedures
- Implements the ICP PAAA program

- Strives to enhance the effectiveness of the organizational structures and processes in support of ICP goals
- Obtains feedback from employees concerning quality, health, safety, and environmental issues
- Implements a self-assessment process to provide continuous improvement to support operational excellence.

B-10.3.3 Manager - Project Controls

The manager of project controls supporting the WM Program reports directly to the ICP Project Planning and Integration Project director, but is matrixed to the WM vice president. The manager of project controls supporting the WM Program has the responsibility for providing planning and controls support for the W Management work scope. Specific responsibilities include development of project plans and budgets, monitoring actual cost and schedule status for the various work packages and control accounts, developing monthly reports, variance analysis and variance corrective action plans in conjunction with the work package/control account managers, and managing the change control process for the project as it matures.

B-10.3.3.1 Project Controls Engineers. The project controls engineers supporting the WM Program have the responsibility to work directly with the work package managers and control account managers to ensure status of the project is accurately captured and entered into the financial control systems used to measure progress of the project.

B-10.4 Project Interfaces

Interfaces with other projects include management and disposition of wastes generated from all other projects within the ICP. Specifically, radioactive and non-radioactive wastes will be generated as a result of ongoing INL contractor operations and due to the continuing cleanup mission that will require some action to be taken to ensure disposition at the appropriate on-Site or off-Site repository. The Waste Generator Services Organization and the Packaging and Transportation Organization will provide the primary means of interface with the other site generators.

B-10.4.1 Interfaces with other ICP Organizations

There are other functional interfaces as well. In particular, the WM Program will interface on a daily basis with the INTEC Cleanup Project relative to the work being performed within INTEC associated to backlog MLLW treatment and disposition. CPP-1617 is managed within the WM Program, and within the INTEC Project.

Because the WM Program provides cross-cutting waste management integration support for the entire ICP, there is a direct interface with all the other area projects. Schedules are logically tied to indicate the waste generation/disposition relationship and to ensure the influence of delays/accelerations in the generating projects are accurately reflected in the WM Program status.

B-10.4.2 Interfaces with other INL Organizations

Relationships with other INL organizations will also need to be established and managed. By contract, CWI (through the WM Program) is required to provide waste management services to the other INL tenant contractors. These tenant contractors currently include Bechtel Bettis at Naval Reactors Facility (NRF), BEA at INL, and Bechtel BWXT Idaho at the AMWTP. These relationships will be managed via formal procurement arrangements which include service agreements/task baseline agreements, blanket master subcontracts/task baseline agreements, and similar documents.

For example, interfaces for the TRU Waste Project with other INL organizations include BEA and AMWTP. Specialized technical resources support from BEA is periodically needed in the area of nuclear engineering, physics, and environmental chemistry laboratory services. Support from BEA will also be needed for the transport of the HFEF inserts from the RWMC to INTEC and process for disposal at WIPP. 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. The TRU Waste Project interfaces with AMWTP due to the shared CCP resource. Periodic meetings are held to discuss areas of concern and needed actions to resolve concerns to enable CWI and BBWI to meet project goals relative to disposition of TRU waste. The use of AMWTP TRUPACT-II loading capability for ARP-generated waste is planned for in FY 2006 and out-years. Establishing a service agreement will be key to transporting CH TRU waste to WIPP. Similar arrangements have been, or will be, established for other interface points.

B-10.4.3 Interfaces with External Organizations

External stakeholders can influence actions associated with the WM Program. Stakeholders include, but are not limited to:

- The Idaho Department of Environmental Quality
- The United States Environmental Protection agency
- The INL Site EM Citizen's Advisory Board
- The 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 organizations are vital to the project's success. The vehicle for communicating RWMC Project progress and changes to members of public stakeholders is through public awareness meetings and press statements.

In the case of government owned disposal, the TRU Waste Project routinely interfaces with WIPP organizations to support the development, implementation, startup, and operation of ongoing and future planned waste characterization, certification, and transportation operations. The principle interfaces occur with Washington TRU Solutions, and on occasion with DOE-Carlsbad Field Office. An interface document, CCP-PO-024, "CCP/INL Interface Document" is in place that describes the respective roles and responsibilities of CWI and CCP.

The DOE 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. The 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 realize successful project completion.

B-10.4.4 Interfaces with DOE

The 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 to the extent that such authority is not contradicted by the prime contract. As such, the WM Vice President and his directors must maintain close and constant interface with DOE officials to ensure prompt and efficient realization of completion of the WM Program scope.

B-10.5 Facility Interfaces

Most of the WM Program scope of work is performed within the boundaries of the RWMC complex. Where WM Program work activities are accomplished inside other established facility boundaries, an interface agreement between the WM organization and the applicable facility will be established. Interface agreements are prepared and approved by the project and facility management to ensure that duties and responsibilities are assigned. This document identifies activities necessary to accomplish tasks, the responsible organization, and the responsible manager. These interface agreements support the work control process.

B-10.6 Subcontractor Interfaces

Subcontractors currently provide, and will continue to provide, a valuable service to the WM Program. Subcontractors are accessed via the procurement policies and procedures established by the Procurement Organization. In addition to providing the typical technical support services (e.g., Radiological Control personnel, Document Control personnel, and Project Controls personnel), the WM organization also manages a significant subcontract associated with the management of the ICDF. Management of the ICDF via subcontract will likely continue as long as the service provided remains economical.

B-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 WM program 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 WBS reflects work packages (at Level 5 of the WBS) and control accounts (at Level 4 of the WBS) that contain both level of effort activities, traditional project related activities, and in the case of the Waste Management program, quantitative based waste disposition activities.

Project schedules are created and maintained via P3 software. The WM program 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 critical path schedule. The lowest level of the WBS has clearly defined predecessors and successors. Such predecessors and successors can be internal to waste management, 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 waste management work scope.

The working Level IV schedule translates the requirements of the Level III schedule into a viable execution plan. The Level IV schedule breaks down 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 one 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 life-cycle baseline (LCB) schedule. The POD/POW are updated weekly and distributed for use by operations.

POD meetings are used to integrate the project schedule with facility management's plan-of-the-day 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.

B-11.1 Project Meetings

Table B-7 provides a schedule of regular project meetings that are held to communicate project status, 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. Collectively, these periodic meetings provide a systematic mechanism to ensure the project remains fully integrated and cognizant of emerging issues and/or progress.

Table B-7. RWMC project meetings.

Subject	Frequency
Staff Meetings	Weekly
Plan of the Day	Daily
Safety	Monthly
Client Status	As necessary
Project Financial Review	Monthly
Safety Pauses	As required

B-11.2 ICP Project Control Interface

A set of program planning and integration standards and work instructions describe the project planning and control system at the ICP level, and 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. The work instructions provide detail on how to use the systems.

The focus of the information summarization for the WM program 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 WM program, the activities establish the budgeted cost of work scheduled (BCWS) or the baseline cost curve that the WM program is evaluated against within the overall ICP. Work package managers, control account managers, and the vice president are required to report activity status monthly, resulting in the WM program budgeted cost of work performed (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 actual cost of work performed (ACWP).

B-11.3 Project Control

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

B-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 an earned value management is also commonly referred to as the status function, whereby earned value management 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. For the WM program, only the first two are used. Standard earned value management system techniques are also used by the WM Program and the ICP to measure progress and include:

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

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

B-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 WM program. The analysis will include an evaluation of funding variance, cost variance, schedule variance, and milestone status. If necessary, change control may need to be invoked if circumstances are such that the Waste Management program 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, and to look for ways to accelerate the project and reduce costs. Triggers for formal analysis include:

- Negative cost variance beyond the 10% threshold
- Negative schedule variance beyond the 10% threshold
- Critical path behind schedule
- Non-critical 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.

B-11.3.3 Project Reports

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

B-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 (Level 4-Control Account, and Level 3-Sub-Project). The format and final variance analysis reports are currently maintained and archived in the IPS2000 system.

B-11.3.3.2 Internal Project Reporting. Table B-8 presents the list of project documents, the approval, transmittal, and customer distribution requirements for the major project documents.

Table B-8. Project Reporting.

Document	Frequency	Creator	Approval Authority	Distribution
Project Execution Plan	As needed	Project Team (PP&I Support)	VP, PP&I	Project Team ICP Managers DOE-ID
WBS Dictionary	As needed	Project Team (PP&I Support)	PP&I Manager	Intranet, IPS 2000

Table B-8. (continued).

Document	Frequency	Creator	Approval Authority	Distribution
Primavera Project Planner (P3) schedule	Baseline – one time	Project Team (PP&I Support)	VP	Intranet, P3
Cost estimate	LCB – one time Work Plan – annual	Project Team (PP&I Support)	VP	Intranet, Cobra
Baseline change proposals (BCP)	As needed	Project Team (PP&I Support)	VP, Change control board authority	Change control board, Area Project Manager
Monthly reports	Monthly	Project Team (PP&I Support)	VP	Project Team, DOE-ID
Milestone completion reports	As required	Project Team (PP&I Support)	VP	DOE-ID

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, a "time now" l in, 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.

B-11.4 Change Management

The WM program will follow the process outlined in MCP-1414, "Baseline Change Control," which outlines the thresholds and criteria for performing change control actions and the level of approvals required for each.

B-11.5 Value Engineering

Value Engineering (VE)–also known as 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 Idaho Cleanup Project RFP–consideration of the proposal requirements, investigation and determination of various remediation techniques, and potential strategies, characterizing and evaluating 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 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.

The CWI vice presidents have overall responsibility for implementing VE principles for their respective projects. It is the vice president who 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 to 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 accomplishing accelerated cleanup and for getting the best overall project value for the taxpayer. CWI recognizes that the accelerated cleanup is a cooperative undertaking with the 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 of the divisions within the ICP who are charged with seeking out and investigating opportunities to identify 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 and assist in identifying seemingly “non-value added” activities or excess, legacy requirements, and to pursue their elimination. Financial incentives are in place to encourage participation in both the identification and resolution phases of the process.

B-12. REFERENCES

10 CFR 60, Subpart G, 2005, “Quality Assurance,” *Code of Federal Regulations*, Office of the Federal Register, November 18, 2005.

10 CFR 71, Subpart H, 2005, “Quality Assurance,” *Code of Federal Regulations*, Office of the Federal Register, November 18, 2005.

10 CFR 72, Subpart G, 2006, “Quality Assurance,” *Code of Federal Regulations*, Office of the Federal Register, May 22, 2006.

10 CFR 820, “Procedural Rules for DOE Nuclear Facilities,” Code of Federal Regulations, Office of the Federal Register.

10 CFR 830, Subpart A, “General Provisions.” Code of Federal Regulations, Office of the Federal Register.

10 CFR 830, Subpart B, “Management and Administrative Requirements,” Code of Federal Regulations, Office of the Federal Register.

10 CFR 835, “Occupational Radiation Protection,” Code of Federal Regulations, Office of the Federal Register.

40 CFR 261, "Identification and Listing of Hazardous Waste," Code of Federal Regulations, Office of the Federal Register.

CPP-PO-024, 2007, "CCP/INL Interface Document," Rev. 6, ftp://q.wipp.ws/, Waste Isolation Pilot Plant, Central Characterization Project, May 2007.

ICP, 2005, *Idaho Completion Project Execution Plan (Interim Revision),* INEEL/EXT-03-00387, Rev. 2, Idaho National Laboratory, Idaho Completion Project, March 2005.

ICP, 2006, *CWI ICP Sitewide Project Management Plan,* ICP/EXT-05-01082, Rev. 2, Idaho Cleanup Project, June 28, 2006.

DOE-ID, 2002, *Environmental Management Performance Management Plan for Accelerating Cleanup of the Idaho National Engineering and Environmental Laboratory*, DOE/ID-11006, Rev. 0, U.S. Department of Energy Idaho Operations Office, July 2002.

DOE O 414.1C, 2005, "Quality Assurance," U.S. Department of Energy, June 17, 2005.

DOE P 455.1, 2003, "Use of Risk-Based End States," U.S. Department of Energy, July 15, 2003.

MCP-1409, 2007, "Risk Management", Rev. 4, *Manual 5-Project Management and Controls*, Idaho Cleanup Project, May 23, 2007.

MCP-1414, 2006, "Change Control," Rev. 8, *Manual 5-Project Management and Controls*, Idaho Cleanup Project, December 1, 2006.

MCP-1752, 2006, "Wag 7 and Waste Management Roles and Responsibilities," Rev. 21, Idaho Cleanup Project, November 2006.

MCP-2447, 2006, "Requirements Management," Rev. 8, Idaho Cleanup Project, October 2006.

PDD-146, 2007, "Project Control System Description," Rev. 9, Idaho Cleanup Project, June 20, 2007.

PDD-1001, 2007, "Subcontractor Requirements Program Description," Rev. 5, Idaho Cleanup Project, May 09, 2007.

PDD-1009, 2006, "Idaho Cleanup Project Fire Protection Program Plan," Rev. 2, Idaho Cleanup Project, February 16, 2006.

PLN- 2173, 2007, "Idaho Cleanup Project Programmatic Risk Management Plan," Rev. 1, Idaho Cleanup Project, May 10, 2007.

PRD-183, 2007, "Radiological Control Manual," Rev. 9, *Manual 15a-ICP Radiological Control*, Idaho Cleanup Project, June 2007.

STD-101, 2006, "ICP Integrated Work Control Process," Rev. 19, Idaho Cleanup Project, October 26, 2006.