U.S. Army Corps of Engineers

New England District
Concord, Massachusetts

FINAL

CONTRACTOR QUALITY CONTROL PLAN

DCN: GE-090701-AAQY

26 September 2001

Environmental Remediation Contract
General Electric (GE)/Housatonic River Project
Pittsfield, Massachusetts

Contract No. DACW33-00-D-0006

Task Order No. 0002

01P-1696

WESTON

26 September 2001

Mr. Peter Hugh
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Work Order No. 20122.001.001.0135

Re: Contract No. DACW33-00-D-0006, Task Order 0002
Contractor Quality Control Plan (DCN: GE-090701-AAQY)

Dear Mr. Hugh:

Roy F. Weston, Inc. (WESTON®) is pleased to provide one copy of the *Contractor Quality Control Plan* (CQCP) for the General Electric (GE)/Housatonic River Project in Pittsfield, MA. WESTON is also providing copies of the CQCP to Mike Nalipinski, EPA; Dean Tagliaferro, EPA; Holly Inglis, EPA; EPA Pittsfield; K.C. Mitkevicius, USACE; Ray Goff, USACE; USACE Pittsfield; Susan Steenstrup, DEP; and the HTRW Center of Expertise.

This submittal has undergone WESTON's technical and quality control review and coordination procedures to ensure: (1) completeness for each discipline commensurate with the level of effort required for the submittal; (2) elimination of conflicts, errors, and omissions; (3) compliance with the project criteria; and (4) overall professional and technical accuracy of the submittal.

Please feel free to contact me at 610-701-7366 if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Lee dePersia, P.E.
Project Manager

cc: M. Nalipinski, EPA
D. Tagliaferro, EPA
H. Inglis, EPA Admin Record
EPA Pittsfield
K.C. Mitkevicius, USACE
R. Goff, USACE
USACE Pittsfield (2 copies)
Susan Steenstrup, DEP (2 copies)
HTRW Center of Expertise
Pittsfield DCN File—D. Jamros
Manchester DCN File—D. Veilleux
West Chester DCN File—A. Kirk

Enclosure

Review and Comments for RF Weston's Contractors Quality Control Plan for SSERC – Submitted by Darrell Moore (CENAE)

Some of these comments may not be appropriate at this time as the comments anticipate that the Task Orders are fully defined and can be addressed completely in this Contractors Quality Control (CQC) Plan.

Comment 1: Document is very general and does not specifically address individual Task Orders. Section 9.1 of Contract requires Contractor to identify the specific requirements for individual Task orders. This appears to be planned for submittal through Supplements to this document.

Response: *As noted in the comment, individual task orders will be addressed in supplements to the Project CQCP. To emphasize this point, Section 1.3 has been moved forward to Section 1.1, so that it is immediately apparent that this CQCP is intended to address the overall project, and that task order-specific scopes of work will be addressed in supplements to the CQCP.*

Comment 2: Figure 1-1 does not identify the area for the scope of work covered under this CQC Plan.

Response: *Since the Draft CQCP was submitted in November 2000, a more up-to-date figure which fully defines the geographic area of the scope of work covered by this plan has been developed. The Draft Figure 1-1 has been replaced with the newer figure.*

Comment 3: There is no mention of the Contractor implementing the RMS Programming Module as required in Section 9.2.1.1 of the Contract. Additionally, the CQC Plan does not incorporate the Government Daily Contractor QC Report Form. Contractor should address and include a copy in Appendix G or L.

Response: *Based on information received on September 6, 2001 from Mr. Darrell Moore, WESTON anticipates using the RMS software. WESTON understands that the software will be made available within 6 weeks, and anticipates conducting a training session for appropriate personnel at that time. Subsection 9.6 has been added to the text of the CQCP to address this. WESTON has used the Government Daily Contractor QC Report form as a basis for the form shown in Appendix L of the CQCP, but has modified the form slightly to incorporate those conditions noted on HTRW sites under previous RAC contracts, with input from Site Superintendents to make the forms easier to use. The same basic information found in the Government form is covered in the modified form found in Appendix L.*

Comment 4: Section 9.2.1.1.1 of the Contract requires that the Contractor have a method set to accept Quality Assurance comments from the Government and to identify when these discrepancies have been addressed and/or completed. The CQC Plan appears to only address internal comments and discrepancies.

Response: *The method for acceptance of Quality Assurance comments is described in Section 10 of the Draft CQCP. The text of Section 10 has been modified to indicate that change orders and QA notifications can be accepted from either the CENAE Contracting Officer (CO), or the CO's Authorized Representative.*

Comment 5: Section 9.2.1.1.2 of the Contract requires the Contractor have a Schedule System in place to address as specific and separate activities, all Preparatory Phase Meetings/ Inspections, all O&M Manuals, Test Plans for any system that requires validation testing. It is not apparent that this item has been addressed.

Response: *This item is intended to be addressed in TO-specific supplements to the CQCP.*

Comment 6: Section 9.2.2.3 of the Contract requires that the Contractor name an Alternate CQC System Manager and have appropriate delegation letter signed. Rich McGrath has been named as alternate. His delegation letter needs to be signed. Recognizing that the Contractor can name additional alternate CQC Managers at a later date, would it not be prudent to name a second alternate CQC Manager at this time considering the scope of work and the complexities of the project.

Response: *Mr. McGrath's Delegation letter has been signed for the Final CQCP. In addition, two alternates have been named and their delegation letters are also included in the Final CQCP. Section 3 has been modified to indicate 2 CQC System Manager Alternates, Mr. Dick McGrath, and Mr. Tony Delano.*

Comment 7: Section 9.2.2.8 of the Contract requires that the Contractor set up procedures for tracking preparatory, initial, and follow-up phases and control, verification, and acceptance tests including documentation. The CQC does address this weakly. It would be stronger to identify the position of the individual performing the above and also who would be checking them.

Response: *The text of Section 9 of the CQCP has been modified to indicate that the CQC System Manager will be responsible for ensuring that all phases of inspection are performed for each definable feature of work. The revised text indicates that although the CQC System manager will have ultimate responsibility for the performance of the inspections, as well as tracking of the inspections and maintenance of the inspection logs, he/she may assign inspection duties for individual definable features of work to the work leader responsible for the definable feature of work, or to appropriate QC personnel, depending upon their area(s) of technical expertise. All inspection results ultimately will be reviewed by the CQC System Manager or Alternate, and he/she will report findings to CENAE.*

Comment 8: Section 9.2.2.9 and 9.2.2.10 of the Contract requires that the Contractor set up procedures for tracking deficiencies from identification through acceptable corrective action. These procedures are to establish verification that identified deficiencies have been corrected. These corrective actions should also be noted on the Daily Contractors QC report so that others know that deficiency was corrected. Include Deficiency Report Form and Tracking Log in Table G, with distribution.

Response: *The Deficiency Report Form and Tracking Log were located in Appendices J and K of the draft document, due to their order of reference within the text of the CQCP. In order to ensure they are not overlooked, they have been referenced in Appendix G.*

Comment 9: Section 9.2.2.11 of the Contract requires that the Contractor prepare a list of definable features of work. The list of definable features of work in the CQC Plan is currently incomplete. When and where will this be identified?

Response: *The TO-specific list of definable features of work will be included in the appropriate CQCP Supplements.*

Comment 10: Section 9.4.1 of the Contract requires that the period of absence for the CQC System Manager and his Alternate, cannot exceed two weeks at any one time, and not more than 30 work days during a calendar year. Include under QC Organization that the period of absence for QC System manager and his alternate cannot exceed 30 workdays during a calendar year.

Response: *The requested information has been added to the text of Section 2 – Quality Control Organization.*

Comment 11: On Figure 2-1 in the CQC Plan there is a reference to Peer Input Group. This should be further defined in the CQC document or removed. EPA should also be reflected on Figure 2-1 as they are identified in the Section 3 -Qualifications of QC Personnel.

Response: *At the time the Draft CQCP was written, the Peer Input Group was more heavily involved in the remedial efforts ongoing at the Housatonic River Site. However, in the ensuing months, their involvement has substantially decreased. Therefore, the reference to this group in Figure 2-1 has been removed.*

Comment 12: In Section 7 *Procedures for Submittals* of the CQC Plan, Section 7.4 should list the appropriate number of submittals to be forwarded and to whom or done as an appendix. In Section 7.5 *Submittals of Vendors and Subcontractors* the subcontractor/vendor should sign agreement that meets the requirements of the contract between Weston and Government.

Response: *The appropriate number and types of submittals are TO-specific, and as such, cannot be addressed in this project CQCP. However, Subsection 7.1 of the CQCP does discuss the mechanism and form (ENG Form 4288 – Submittal Register) for listing the submittals required for the TO, and tracking their submission and reviews. It is WESTON's understanding that for each applicable TO, CENAE will provide a Submittal Register which will indicate the required submittals for the TO. For TOs where ENG Form 4288 is not required, CENAE would list required deliverables in another document, such as in a Request for Proposal.*

Comment 13: Section 13 *Transportation and Disposal of Hazardous Materials* of the Contract requires the Contractor to manage submittals for the transportation and disposal of hazardous materials. The CQC Plan needs to address Spill Response and Tabulated Waste Handling Information in more detail if the CQC Plan is document being used to maintain the plan. In the submitted CQC Plan the *State Reporting Requirements* are documented under *Tabulated Waste Handling Information*. The Exception Reports should be forwarded to the Contracting Officer within 37 days of shipment initiation, not 44 as shown on page 17-6 of CQC Plan.

Response: *Numerous project documents already exist which address transportation and disposal, waste handling, and spill response. In order to ensure that consistency with these documents is maintained, the majority of the text of Section 17.2 (Transportation and Disposal) has been removed, and the project Waste Management Plan (WESTON, 2001) and Environmental Compliance Plan (WESTON, 2001), as well as the Transportation and Disposal Contract Management Procedure (WESTON, 2000) have been referenced. CMP 15 has been amended to reflect that exception reports will be forwarded to the CO within 37 days of shipment initiation.*

Comment 14: In Section 15 - *Audits*, of the CQC Plan, it is stated that the site safety and health audits are to follow Weston's Safety and Health Program. Is this program the Site Specific Health and Safety Plan or a Weston internal document? Audit should be performed in accordance with the Site Specific HASP.

Response: *The text has been amended to indicate that audits will be performed in accordance with the Site-Specific HASP.*

Comment 15: Additionally, under *Audits* section of the CQC Plan, is a one audit minimum sufficient to identify whether a system is working appropriately? With this being a long-term project, would the entire QC system be better served by having a one audit minimum every 6 months or one year?

Response: *The referenced text will be amended to reflect that audits will be conducted at a minimum frequency of once every 6 months.*

Comment 16: In Section17 *Environmental Requirements* of the CQC Plan, in the *Notices of Noncompliance* is a statement that if any activity is not in order or not in compliance then the Contracting Officer shall be notified. Additionally, this should also be logged in as a deficiency and included in the Daily CQC Report.

Response: *In accordance with the response to Comment 13, the referenced text has been removed from Section 17. However, the following statement has been added to the text of Section 17: "Should a Notice of Noncompliance related to transportation and disposal activities for the ERC project be received by WESTON, all responses to the notice will be in accordance with pertinent sections of CMP 15. In addition, the Notice of Noncompliance will be noted in the Daily CQC Report."*

CONTRACTOR QUALITY CONTROL PLAN

GENERAL ELECTRIC (GE)/HOUSATONIC RIVER PROJECT
PITTSFIELD, MASSACHUSETTS

Contract No. DACW33-00-D-0006
Task Order No. 0002
DCN: GE-090701-AAQY

Prepared for

U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 Virginia Road
Concord, Massachusetts 01742-2751

Prepared by

ROY F. WESTON, INC.
Manchester, New Hampshire 03101

Lee de Persia, Project Manager	24 Sep 01 **Date**
Rich Zoppel, CQC System Manager	Sept 17, 2001 **Date**
Pam Hoskins, Lead Technical Author	9/13/01 **Date**

26 September 2001
W.O. No. 20122.001.001.0135

Printed on recycled paper

Date:
Revision No.:

Addendum Summary

Addendum Number	Date	Comments (affected pages, reason for change)

TABLE OF CONTENTS

Section **Page**

TABLE OF CONTENTS
(Continued)

Section **Page**

TABLE OF CONTENTS
(Continued)

Section **Page**

LIST OF APPENDICES

LIST OF FIGURES

Title **Page**

LIST OF TABLES

Title **Page**

LIST OF ACRONYMS

A/Es	architects/engineers
AFCEE	Air Force Center for Environmental Excellence
ASTM	American Society for Testing and Materials
CADD	Computer Aided Design and Drafting
CEGS	Corps of Engineers Guide Specifications
CENAE	U.S. Army Corps of Engineers, North Atlantic Division, New England District
CIH	Certified Industrial Hygienist
CQC	Contractor Quality Control
CQCP	Contractor Quality Control Plan
DCN	Document Control Number
DCQCR	Daily Contractor QC Report Form
DOT	Department of Transportation
EDQAMP	Engineering Design Quality Assurance Management Plan
EDQAPP	Engineering Design Quality Assurance Project Plan
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
ERC	Environmental Remediation Contract
FIO	For Information Only
FSP	Field Sampling Plan
GA	Government Approval
GE	General Electric Company
HTRW	Hazardous, Toxic, and Radioactive Waste
IATA	International Air Transportation Association
NWD	U.S. Army Corps of Engineers, Northwest Division
NOV	Notice of Violation
O&M	operation and maintenance
PCB	polychlorinated biphenyl
PM	Project Manager
POJW	P.O. Justification Worksheet
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RA	Removal Action
RD	Remedial Design
RE	Resident Engineer

LIST OF ACRONYMS
(Continued)

RFP	Request for Proposal
RI	Remedial Investigation
RMS	Resident Management System
RS	Regulatory Specialist
SAP	Sampling and Analysis Plan
SOW	statement of work
SSHASP	Site-Specific Health and Safety Plan
SSHO	Site Safety and Health Officer
SSHP	Site (Project) Safety and Health Plan
T&D	Transportation and Disposal
T&M	Time and Materials
TL	Technical Lead
TM	TO Manager
TOs	Task Orders
TSCA	Toxic Substances Control Act
TSDF	treatment, storage, and disposal facility
USACE	U.S. Army Corps of Engineers
WBS	Work Breakdown Structure
WESTON®	Roy F. Weston, Inc.

1. INTRODUCTION

1.1 PURPOSE OF THE PROGRAM CONTRACTOR QUALITY CONTROL PLAN

The purpose of the Project CQCP is to outline the QC measures to be implemented for activities completed within the ERC. The plan provides the mechanism to ensure that activities affecting quality are recorded within the document control system and are accomplished in accordance with contract specifications, drawings, and procedures. The Project CQCP provides for inspections, tests, and controls necessary to achieve specified quality. It identifies personnel, procedures, controls, instructions, tests, records, and forms to be used.

As appropriate, a TO-specific CQCP Supplement also will be completed for each TO issued. The Supplement to the Program CQCP will provide information specific to the TO. Operations for each remediation TO will not begin until CENAE has accepted the corresponding CQCP Supplement (or interim plan applicable to the particular features of work to be started). A sample outline for a typical CQCP Supplement is provided in Appendix A.

1.2 PROJECT DESCRIPTION

Roy F. Weston, Inc. (WESTON®) has been contracted by the U.S. Army Corps of Engineers, North Atlantic Division, New England District (CENAE), to conduct remediation activities at the General Electric/Housatonic River Site in Pittsfield, Massachusetts. Work elements are assigned by Task Orders (TOs) issued under Contract No. DACW33-00-D-0006, indefinite delivery/indefinite quantity contract for the remediation of the General Electric Company (GE)/Housatonic River Site.

The purpose of this project is to support the U.S. Environmental Protection Agency (EPA), through a contract between CENAE and WESTON, in a removal action at the GE/Housatonic River Site in Pittsfield, MA. The proposed removal action involves the removal of bank soils and sediments in the 1½-Mile Reach of the Housatonic River from Lyman Street to the confluence of the East and West Branches. The preferred removal action has been recommended by EPA, based on information contained in the *Engineering Evaluation/Cost Analysis (EE/CA)* (WESTON, 2000a, 2000b). After review and comment by federal and state agencies, GE, and

the public, this removal action was documented in an EPA Action Memorandum. In addition to actions in the 1½-Mile EE/CA Reach, this contract may also be used to perform investigation activities, or to provide oversight to GE remedial actions at the facility and in the first ½-Mile Reach of the river, floodplains in the Upper 2-Mile Reach, along the "Rest of River," and in off-site areas impacted by GE's operations. Figures 1-1 and 1-2 depict the geographic areas addressed by this Contractor Quality Control Plan (CQCP). Other services to be provided include, but are not limited to:

- Site definition studies
- Removal investigations
- Feasibility studies
- Designs
- Removal/remediation actions
- Short-term operation and maintenance (O&M)
- Oversight of GE activities and any other actions necessary to complete remediation activities at the site.

WESTON is responsible for quality control (QC) of TOs conducted under this Environmental Remediation Contract (ERC) and maintains an effective QC system. The QC system consists of plans, procedures, and the organization necessary to produce an end product that complies with governing regulations and the contract requirements. The QC system is described in this document and is applicable to all operations, both on-site and off-site, completed as part of the ERC.

1.3 WESTON'S QUALITY POLICY

WESTON is committed to quality as embodied in and communicated through our Quality Policy Statement. It is the policy of WESTON to:

- Understand and meet the requirements of its clients while exceeding their service expectations.
- Provide services and deliverables that are technically sound and are responsive to its clients' needs.

- Maintain a focus on continuous improvement.

WESTON will implement this Quality Policy for all efforts completed for the ERC.

1.4 DOCUMENT ORGANIZATION

This document has been organized into the following 18 sections with appendices:

Section	Title
1	Introduction
2	Quality Control Organization
3	Qualifications of QC Personnel
4	Delegation of QC Authority
5	Procedures for Controlling Investigation/Study Activities
6	Procedures for Controlling Design Activities
7	Procedures for Submittals
8	Testing Procedures
9	Control Phases and Inspection Procedures
10	Tracking Deficiencies and Corrective Actions
11	Reporting Procedures
12	Definable Features of Work
13	Notification of Changes to Procedures in CQCP
14	Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP)
15	Audits
16	Safety and Health
17	Environmental Requirements
18	References

Appendix	Title
Appendix A	Sample CQCP Supplement Table of Contents
Appendix B	Resumes of Contractor Quality Control (CQC) Personnel
Appendix C	Delegation of Authority Letters
Appendix D	Submittal Register Form (Eng Form 4288)
Appendix E	Transmittal Form (Eng Form 4025)
Appendix F	Purchase Order/Subcontract Checklist
Appendix G	Tables and Forms
Appendix H	Checklist for Tests
Appendix I	Quality Control Inspections Forms
Appendix J	Deficiency and Corrective Action Log
Appendix K	Deficiency Report Form
Appendix L	Daily Contractor QC Report Form (DCQCR)
Appendix M	QA Audit Checklist
Appendix N	Notification and Certification Requirements for Deactivation of Characteristic Wastes

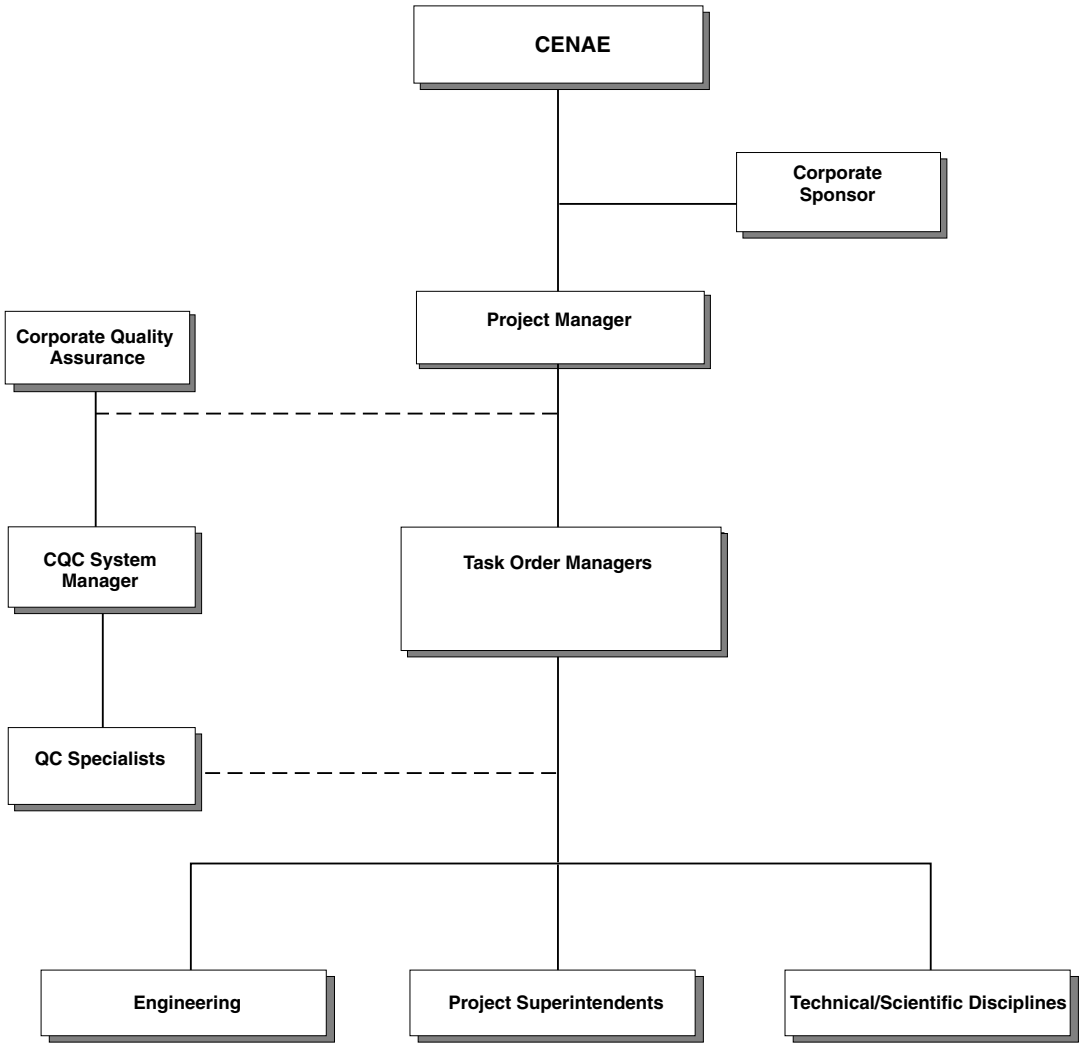
2. QUALITY CONTROL ORGANIZATION

A central element for controlling quality is to establish a control organization that is independent of those persons actually performing the work. The function of the organization is to implement this written Plan and Supplements prescribing the responsibilities for all contract/project-related activities, techniques, and schedules for the performance of appropriate well-documented inspections, testing, and sampling. The organization is responsible for observing, measuring, recording, and documenting the work performed and for controlling the quality by providing timely feedback to those persons actually performing the work. Feedback, in the form of documented inspections, tests, or other evaluations, is to provide approval/disapproval of an activity based on pre-selected standards. Work that is disapproved must be corrected or redone before subsequent work can be implemented.

Although various individuals have the ability to stop work that is being done incorrectly, it must be stressed that one of the primary functions of the QC organization is, in fact, to ensure that all work is completed within the project requirements, including that it be completed without deficiency and to the satisfaction of the client. To that extent, the focus of the QC organization is to ensure that the right staff with the right training and procedures are in place from the inception of the project through completion.

An organizational chart showing the lines of authority and reporting relationships of the persons involved in QC for the ERC Program is provided in Figure 2-1. In the CQCP Supplement for TOs, specific project personnel will be identified; some duties may be combined, as appropriate.

The CQC System Manager and/or Alternate CQC System Manager (Alternate) will ensure that the Project CQCP and TO-specific supplements are effectively implemented through independent audits. Project-level CQC system personnel will report to the CQC System Manager or Alternate. To ensure consistency among all definable features of work, and among Task Orders, and in accordance with Section 9.4.1 of the Contract, the period of absence for the CQC System Manager will not exceed 2 weeks at any one time, and will not exceed 30 work days during a calendar year for the CQC System Manager or Alternate.



Contractor Quality Control Plan
GE/Housatonic River Project
Pittsfield, Massachusetts

FIGURE 2-1
WESTON TEAM OVERALL PROJECT ORGANIZATION CHART

01P-1670

The CQC personnel will implement the three-phase control system for all aspects of the construction/remediation work performed under the ERC Program (i.e., preparatory, initial, and follow-up phases). A fourth and final (completion) inspection will also be conducted. For design and investigative work performed under the ERC, QC will be performed in accordance with the QAPP, U.S. Army Corps of Engineers (USACE) specifications, and the WESTON Engineering Design Quality Assurance Management Plan (EDQAMP) (WESTON, 1993).

The name, qualifications, duties, responsibilities, and authorities for each person assigned a QC function are provided in Section 3 of this plan.

3. QUALIFICATIONS OF QC PERSONNEL

QC personnel are assigned on a project and TO basis. The requirements for on-site and off-site personnel will differ for each project and will be specifically identified by CENAE and WESTON in individual TOs. Personnel assigned to individual TOs will have the required qualifications pertaining to the specific categories anticipated to be encountered at the site (i.e., Hazardous, Toxic, and/or Radioactive Waste (HTRW); engineering; hydrogeological).

The title, responsibilities, authorities, and a brief synopsis of qualifications of each person assigned a QC function are provided in the following subsections. Figure 3-1 provides a summary of the anticipated WESTON QC positions for the ERC, as well as responsibilities and limits of authority. Resumes for Project CQC personnel as well as for TO-specific QC personnel already identified as of the production of this CQCP, are provided in Appendix B. Resumes and qualifications of other TO-specific personnel will be included in TO-specific CQCP Supplements.

Prior to replacing QC personnel, WESTON will obtain CENAE approval. Requests will include the names, qualifications, duties, and responsibilities of each proposed replacement.

3.1 CENAE QA PERSONNEL

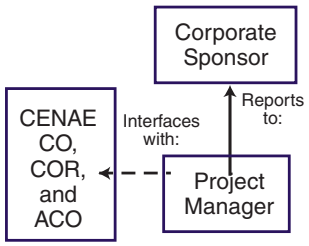
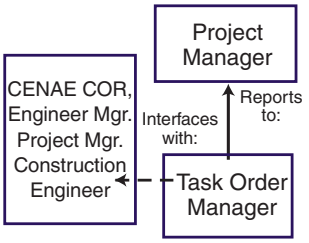
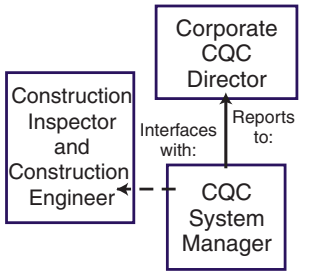
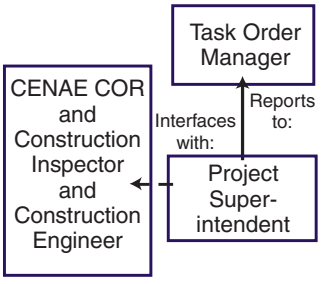
CENAE personnel responsible for QA in various aspects of the ERC are described in the paragraphs that follow.

3.1.1 Project Manager

Mr. K.C. Mitkevicius is the CENAE Project Manager (PM). Mr. Mitkevicius is responsible for overall coordination of the project and is the primary contact with EPA. He is responsible for ensuring that work is completed within the established schedule and budget.

3.1.2 Resident Engineer

Mr. Ray Goff is the CENAE Resident Engineer (RE). As such, he is responsible for providing supervision and administration of the ERC. Mr. Goff will provide QA support for field

Position	Responsibility	Authority
Project Manager 	• Single point of contact. • Ensures contract cost, schedule, and technical quality. • Ensures task order execution in accordance with SOW, approved plans, and regulations. • Coordinates and communicates with CENAE for project progress and cost/schedule reporting. • Oversees subcontractor performance. • Oversees safety and health, technical quality, and compliance with applicable regulations. • Ensures all schedules and budgets are met. • Ensures all contractual requirements are satisfied. • Monitors progress against SB/SDB/WOSB goals. • Develops and implements recordkeeping. system for administrative, QC, and project closeout. • Manages and directs team staff and team integration.	• Accepts and negotiates task orders. • Executes task orders and contract modifications. • Power of Attorney. • Signature authority up to the value of the contract. • Approves project plans, policies, and procedures. • Approves allocation and fund expenditures. • Commits resources, including team personnel, and evaluates performance. • Evaluates task orders for SB/SDB/WOSBs. • Selects task order managers. • Takes corrective action for unacceptable performance. • Approves subcontract agreements. • Approves all invoices. • Stops work for safety, health, or quality issues.
Task Order Managers 	• Primary point of contact for task orders. • Ensure task order quality and site safety. • Ensure task order execution within cost and schedule. • Monitor cost and schedule in accordance with approved budgets. • Manage and execute task order in compliance with the SOW, work plan, and other project documents. • Lead or assist subcontractor negotiation. • Recommend SB/SDB/WOSB opportunities. • Generate cost/schedule progress reports. • Direct task order team resources.	• Direct home office and field work for task orders. • Assist with negotiation of task orders, including cost proposals. • Negotiate subcontract agreements. • Approve work plans. • Issue daily, weekly, and monthly cost and schedule reports. • Interface with CENAE. • Select/assign project staff and reassign as needed. • Certify invoices. • Stop work for safety, health and quality issues.
CQC Systems Manager 	• Single point of contact for all site QC activities. • Ensures implementation of QC system. • Plans and executes administrative, field, construction, and chemical data acquisition QC. • Performs work inspections and QC audits. • Maintains current records in accordance with approved CQC plans for factual evidence that QC activities and/or tests have been performed. • Develops daily and weekly QC reports. • Maintains QC records management system. • Monitors Chem. QC Specialist performance.	• Approves and implements CQC plans. • Enforces compliance with CQC plans. • Conducts QC inspections during all phases of the work to ensure compliance with contract requirements. • Acts in all QC matters in coordination with superintendent. • Rejects noncomplaint work, equipment, and test results. • Stops work for quality and safety issues. • Certifies that all submittals are in compliance with contract. • Evaluates subcontractor performance, and issues and enforces QC corrective actions.
Project Superintendent 	• Management and execution of all task order on-site activities. • Oversees and monitors subcontractor field performance. • Assigns personnel to daily tasks. • Conducts daily, weekly meetings. • Monitors execution of WESTON's SSHP in conjunction with program CIH and SSHO.	• Issues and oversees implementation of corrective actions in the field. • Ensures regulatory and SSHP compliance. • Stops work for safety, health, and quality issues. • Directs all field personnel during task order implementation. • Manages all site resources including staff assignments.

00P-2014-3

Figure 3-1
Responsibilities and Authorities of the WESTON Management Team

investigation work as requested by CENAE Engineering. He will have authority to direct removal action work performed by WESTON under each Task Order. He is responsible for QA of ERC removal action work to assure a quality project is completed.

3.1.3 Technical Lead

Mr. Peter Hugh will be the CENAE Technical Lead (TL) for the ERC Project. Mr. Hugh is responsible for overseeing design activities including contract administration of the engineering and design task orders required to complete the work. He will assume the lead role in ensuring technical scopes of work are adequate to provide information/services necessary to complete the project to the standards developed by EPA.

3.1.4 Technical/QA Support

The following individuals will provide technical expertise and QA support to the individuals named above:

- Office of Counsel – Ms. Mary Byers will provide legal reviews as necessary to assure compliance with applicable laws, regulations, and policies.
- Contract Specialist – Ms. Sheila Winston-Vincuilla will ensure timely execution of TOs and modifications.
- Safety Officer – Mr. Bill Herland will provide Health and Safety expertise as needed, and will review and approve the WESTON Site (Project) Safety and Health Plan (SSHP) (WESTON, 2001c).
- Chemist – Ms. Marie Wojtas will be responsible for oversight of the ERC Chemical Quality Control requirements necessary to assure that the analytical data obtained is of sufficient quality to meet the intended uses. She will also assist in validation of WESTON subcontractor laboratories and review of data quality and management.
- Civil Engineer – Mr. Phil Muller will provide civil engineering expertise as needed.
- Cost Engineer – Mr. John Yen will provide expertise related to cost estimating as required by the PM or TL, including preparation of government cost estimates.
- Environmental Resources – Mr. Mike Penko will provide expertise as needed related to aquatic habitat evaluations, analyses, and restoration goals.

- Geotechnical – Mr. John Kulberg will provide expertise as needed related to geotechnical engineering activities.

- Hydrogeologist – Mr. Phil Durgin will provide expertise related to geology- and groundwater-related activities as requested by the PM or TL.

- Hydrology/Hydraulics – Mr. Don Wood will provide expertise related to sediment transport process modeling, river diversion evaluation and techniques, erosion/scour processes and stabilization techniques.

- Mechanical Engineer – Ms. Debbie Gabrielson will provide expertise related to mechanical engineering activities as requested by the PM or TL. She will also review design submittals and assist in development of scopes of work as needed.

- Process Engineer – Mr. Ian Osgerby will provide expertise related to process engineering, as requested by the PM or TL. He will also review design submittals and assist in development of scopes of work as needed.

- Structural Engineer – Ms. Jennifer Flanagan will provide expertise related to structural engineering activities as requested by the PM or TL. She will also review design submittals and assist in development of scopes of work as needed.

3.2 EPA PROJECT TEAM

EPA project team members for the ERC and their areas of responsibility are listed below. As for the CENAE project team members, phone numbers and addresses for the individuals listed may be found in Attachment A of the Project Orientation Manual (WESTON, 2000c) as well as in the CENAE Project Management Plan (CENAE, April 2000).

- Team Leader – Mr. Bryan Olson
- Rest of River – Ms. Susan Svirsky
- Removal Actions Outside River – Mr. Mike Nalipinski
- Completion of EE/CA and Action Memorandum – Mr. Chet Janowski
- ½ Mile, Source Control, EE/CA Removal Action – Mr. Dean Tagliaferro
- Project Lead Chemist – Mr. Andy Beliveau
- Community Relations – Ms. Angela Bonarrigo
- Funding – Mr. Mike McGagh

3.3 PROJECT MANAGER

The ERC contract minimum requirements for the Project Manager are as follows:

1. A college degree from an accredited school in engineering, construction management, or a related field.

2. A minimum of 8 years of Project Management experience, with a minimum of 5 years experience on HTRW investigation, study, design, and/or removal action projects.

3. A minimum of 5 years cost reimbursable contracting experience.

Mr. Lee dePersia, P.E., is the Project Manager and will provide the leadership and technical/management capabilities to successfully manage the ERC contracts. In addition to meeting the minimum requirements for the position, as of the date of this document, he has over 15 years of experience including more than 10 years of HTRW experience and program management experience working on TO contracts for USACE, the U.S. Air Force Center for Environmental Excellence (AFCEE), and EPA.

Mr. dePersia has the authority to negotiate and sign TOs up to $3.75M in value, and to commit WESTON resources to perform specific work assignments to execute TOs. Mr. dePersia is the primary contract-level point of contact for coordination with CENAE.

Mr. dePersia's responsibilities include establishing and/or executing project administrative matters, controls, policy matters, levels of authority, responsibility, and communication.

3.4 TASK ORDER MANAGERS

For each TO issued to WESTON, a TO Manager (TM) will be designated. TMs manage individual TOs under the contract and assist the Project Manager with management of the ERC contract. The TMs may direct WESTON personnel on TO-specific work. However, unlike the Project Manager, TMs do not have the authority to commit WESTON resources, nor are they able to sign TOs and TO modifications without written delegation of the signature authority from the PM.

The TMs will have appropriate experience in hazardous waste construction, remediation, or engineering/consulting. The qualifications of the TM will depend on the type of work being performed (i.e., consulting or construction). Each of the TMs chosen for the ERC to date has at a minimum, the following credentials (or equivalent credentials):

1. A college degree from an accredited school in engineering, construction management, or a related field.

2. A minimum of 5 years of Project Management experience, with a minimum of 3 (three) years experience on HTRW investigation, study, design, and/or removal action projects.

3. A minimum of 5 years cost reimbursable and/or time and materials (T&M) contracting experience.

The TM is the single point of contact for the TO. He or she is responsible for the management and execution of all activities in accordance with the approved statement of work (SOW), approved work plans, and federal, state, and local laws and regulations. This includes coordinating the activities of the groups, subcontractors, or teams working on the project.

The TM's specific responsibilities will include:

- Completing the TO activities in accordance with TO specifications and drawings and approved advance Contract- and TO-specific planning documents.
- Ensuring that the work is conducted in a safe and environmentally sound manner (this includes ensuring coordination between the Health and Safety Manager (Certified Industrial Hygienist [CIH]) and the Site Safety and Health Officer [SSHO]).
- Maintaining close communication and coordination with the WESTON PM, as well as with CENAE for the duration of the TO, including monthly progress reporting on TOs and detailed cost reporting on cost reimbursement-type TOs.
- Preparing the required reports and submitting them to CENAE in a timely manner.
- Immediately notifying CENAE of problems with construction or safety and health procedures.
- Ensuring that site personnel follow the approved procedures presented in this Project CQCP and Task Order-specific Supplements.

The TM or the CQC System Manager has the authority to stop work on any part of the job if it is found to be noncompliant with contract specifications or project plans. Further, the PM is authorized to institute corrective actions, as necessary, and to implement changes, with CENAE approval, if necessary, in accordance with the provisions of the contract. The groups, subcontractors, and teams working on the project report to the TM and act at his/her direction.

The following personnel are designated as TMs for the GE/Housatonic ERC. They meet the minimum qualifications described above, and bring the added advantage of previous experience at the GE/Housatonic River Site:

- Rest of River – Rick Beach
- GE Oversight – Joe Mastone
- EE/CA Reach – Joel Lindsay, P.E., LSP

3.5 CORPORATE CONTRACTOR QUALITY CONTROL MANAGER

Mr. John Thorsen, P.E., is the Corporate CQC Manager. As of the date of this document, Mr. Thorsen has more than 20 years of experience in the fields of environmental consulting, project construction, contract administration, and inspection. As Corporate CQC Manager, Mr. Thorsen has final authority on QC issues.

Mr. Thorsen, or his designee, is responsible for conducting systematic reviews of the project progress and reporting the results to the Project Manager and TMs. He is responsible to independently confirm the adequacy and improvement of program and project quality implementation at all levels. Confirmation includes approving plans and inspecting the work and work documentation to assess how effectively the Program CQCP and Supplements are being implemented.

Mr. Thorsen has the authority to stop work on any part of the job if it is found to be noncompliant with contract specifications or project plans. He also has the authority to recommend corrective actions to the TM and to require that a schedule for corrective action implementation be established.

3.6 CQC SYSTEM MANAGER

The minimum qualifications of the ERC CQC System Manager are as listed below. The CQC System Manager and Alternate will either satisfy the following target qualifications or satisfy CENAE that his/her education and experience are appropriate to conduct the duties of CQC System Manager:

1. A college degree from an accredited school in civil engineering or construction management, with a minimum of four years environmental engineering experience; or an experienced construction person with a minimum of 8 years experience in related work.

2. Nine semester hours, 12 continuing education units (or a combination thereof) education in an area relevant to HTRW removal, and two years experience in

specialized areas, e.g., Remedial Investigation (RI), Remedial Design (RD), and Removal Action (RA).

3. Working knowledge of applicable federal, state, and local laws, regulations, and guidance.

4. Completion of CENAE Construction Quality Management Course

5. Formal education and training in field sampling at HTRW sites.

The CQC System Manager has QC as a principal duty, but may be assigned other duties when the level of QC activity does not warrant full-time dedicated service, and the other assigned duties do not conflict with the QC duties. The CQC System Manager, or Designated Alternate, is responsible for reviewing and approving all site submittals. He/she is responsible for overall QC management related to the TO.

The CQC System Manager, with the assistance of the technical/analytical management personnel, has the authority for ensuring the implementation of this ERC CQCP and Supplements as they apply to all design, construction, sampling, testing, monitoring, and analysis performed for the duration of the project. He/she has the authority and responsibility to stop specific work activities related to, or affected by, noncompliant conditions until actions can be taken to correct the noncompliant condition or prevent it from affecting related or subsequent work. He/she has the authority to act for WESTON in all QC matters related to the ERC. The CQC System Manager, or Designated Alternate, will be physically present at the site as appropriate when field activities are in progress and will oversee QC functions.

Mr. Richard Zoppel has been designated CQC System Manager for the ERC. Mr. Zoppel meets the minimum requirements outlined above, is responsible for overall management of CQC, and has the authority to act in all CQC matters. He is the single point of contact responsible for ensuring compliance with the requirements of this ERC CQCP, and with QC requirements for individual TOs under the ERC (as presented in individual TO-specific CQCP Supplements).

Mr. Zoppel reports to the Corporate CQC Manager regarding QC issues related to the ERC. He may designate some of his QC responsibilities to another qualified person with prior approval from the Corporate CQC Manager and PM.

Mr. Richard McGrath and Mr. Tony Delano have been designated as CQC System Manager Alternates. Both gentlemen meet the requirements outlined above, and either can serve in Mr. Zoppel's absence from the site for a period of not longer than 2 weeks at any given time.

3.7 PROJECT SUPERINTENDENT

The minimum qualifications of the ERC Project Superintendent are as listed below. The Superintendent will either satisfy the following target qualifications or satisfy CENAE that his education and experience are appropriate to conduct the duties of Project Superintendent:

- A minimum of six years of Project Superintendent experience.
- Three years experience on HTRW projects.
- Two years experience in specialized areas, e.g., RI, RD, and RA.
- One year experience working with cost reimbursable subcontracts.
- Qualification as a competent person via training in accordance with 29 CFR 1926.32 and 29 CFR 1926.65.
- A minimum of two years on–the–job hazardous waste operations supervisory experience.

The Project Superintendent shall have the responsibility and authority to direct work performed under each TO. He/she shall be responsible for the management and execution of all site activities in exact accordance with the approved statement of work; approved work plans; and all federal, state, and local laws, and regulations.

Mr. Joseph Wasiuk, P.E., has been designated as the ERC Project Superintendent. He meets the minimum requirements outlined above and is experienced in the administration and supervision of hazardous projects, including work practices, investigative methods, protective measures for personnel, inspection of work areas, generated waste containment and disposal procedures, decontamination unit installation and maintenance requirements, regulatory requirements, and site safety and health requirements.

3.8 OTHER QC PERSONNEL

Other QC personnel may assist the CQC System Manager. The identification and qualifications of these QC personnel will be included in the CQCP Supplement for the specific TOs. Inspections and tests, both on-site and off-site, will be conducted by either the CQC System Manager, WESTON QC Inspectors, or third-party inspectors acting under his direction. In all cases, the person performing the inspection or test will be qualified to do so through training or experience. QC Inspectors will not inspect or test their own work or work performed under their supervision. QC Inspectors are responsible for generating applicable signed documentation for their work using standard forms/formats as specified in the Program CQCP and Supplements.

All project QC personnel report to the CQC System Manager and will be assigned based on background, experience, and availability. The QC personnel (including specialized personnel such as geologists) will be at the site of work during those times when work activities in their designated areas are occurring, with complete authority to stop work and resolve the actions necessary to ensure compliance with the contract.

3.9 CERTIFICATIONS/REGISTRATIONS

As applicable, personnel assigned to perform, review, approve, and/or certify the design of architectural, structural, mechanical, electrical, civil, or other engineering features of the work will be architects/engineers (A/Es) registered to practice in their particular professional field in the Commonwealth of Massachusetts.

4. DELEGATION OF QC AUTHORITY

A letter documenting the delegation of authority to the Project CQC System Manager has been prepared by the Corporate CQC Manager (Mr. John Thorsen, P.E.) and is provided in Appendix C. The letter describes the responsibilities of and delegates sufficient authority to adequately perform the functions of the Project CQC System Manager, including the authority to stop work that is not in compliance with the contract.

During the initial meeting to define the work scope elements for TOs, WESTON will inquire which delegation letters to the QC personnel are required, or whether the identification of these individuals in the CQCP supplement for the TO will be adequate. As necessary, the CQC System Manager will issue letters of direction to other various QC representatives outlining duties, authorities, and responsibilities, if required. These letters will be submitted with the CQCP Supplement to CENAE following the issuance of TOs and identification of project personnel. A sample letter from the CQC System Manager (Mr. Rich Zoppel) to QC personnel is also included in Appendix C.

5. PROCEDURES FOR CONTROLLING INVESTIGATION/STUDY ACTIVITIES

This section outlines the procedures for controlling investigation/study activities to ensure efficiency, cost effectiveness, coordination with design objectives, reliability of data collected, maintenance of worker safety, and proper recording and reporting formats. The procedures include identification of government and contractor staff, by name and discipline, who will be responsible for preparation, independent review, and QA review of technical reports produced in support of the ERC.

5.1 CORPORATE AND CONTRACT-SPECIFIC CONTROL PROCEDURES

In general, the data quality objectives, sample collection procedures, analytical procedures, and quality monitoring and corrective action procedures surrounding the collection of data for use in studies/investigations will be covered in the Project SAP (SAP and TO-specific addenda), which is composed of the FSP (field procedures) (WESTON, 2001a) and the QAPP (laboratory procedures) (WESTON, 2001b). The SAP is provided as two documents (FSP and QAPP) (WESTON, 2001a, 2001b) under separate cover, and is discussed in Section 14 of this CQCP. Hard copies of these documents are available in the Project and DCN files, housed in the Manchester, NH office, and in the Pittsfield field office. In addition, digital copies can be obtained on the site-specific virtual private network, known as ProjectNet. A password is required for access to ProjectNet. This can be obtained from Mike Yesconis in the West Chester, PA office.

TO-specific tests and quality monitoring procedures will be addressed in TO-specific CQCP supplements and TO-specific SAP supplements.

5.2 INVESTIGATION/STUDY QUALITY CONTROL PERSONNEL

WESTON's corporate and ERC Project-Specific QC organization are discussed in Section 2 of this CQCP. Qualifications and specific responsibilities of WESTON and CENAE QC personnel, with regards to investigations/studies to be conducted under the ERC, as well as their authorities with respect to directing and/or stopping work are presented in Section 3.

5.3 PROJECT SPECIFIC TRAINING

In addition to providing QC personnel with specific minimum training and qualifications to assume control functions over the ERC, WESTON will provide training as needed to other ERC personnel, to ensure efficiency, cost effectiveness, coordination with design objectives, reliability of data collected, maintenance of worker safety, and proper recording and reporting formats. This training would potentially include, but not be limited to:

- Project Orientation Training—Overview of Project purpose, objectives, policies, and procedures.
- International Air Transportation Association (IATA)/Department of Transportation (DOT) training on the shipment of hazardous materials—Biannually.
- Health and Safety Refresher Training—Annually.
- Training on RCRA as it pertains to land disposal, off-site transportation and disposal, and on-site storage of hazardous wastes and materials—As needed.
- Quality Control Training, including proper testing procedures, data collection, evaluation, storage, and reporting procedures—As needed.

6. PROCEDURES FOR CONTROLLING DESIGN ACTIVITIES

Quality management activities for engineering design tasks associated with the ERC will be performed under the guidance of WESTON's Engineering Design Quality Assurance Management Plan (WESTON, 1993), except where superseded by USACE requirements. These activities will assist WESTON in providing quality deliverables aligned with the client needs and project requirements which will, in turn, help ensure effective execution of the construction phases. Engineering design QC activities will focus on assignment of appropriately qualified and experienced personnel, adequate project planning and monitoring, review and checking of work, and use of appropriate design tools.

6.1 ASSIGNMENT OF PERSONNEL

WESTON requires that appropriately qualified and experienced personnel be utilized to perform both the engineering tasks and the associated QC activities. The primary positions responsible for quality are the CQC System Manager or Alternate, Site Superintendent/Project Engineer, and the Task Order Manager. The individuals assigned to these roles are listed in Section 3. These individuals will work in concert with the Design Department Managers to assign a Design QC Lead and to identify appropriate individuals for engineering and review tasks on a per-deliverable basis. In general, individuals and/or subcontractors will be assigned based on their technical competency in the relevant discipline(s), with the most experienced assigned as discipline leads responsible for the planning and review activities. In addition, individuals (including subcontractors) with appropriate Massachusetts professional licenses will be designated at the outset to personally supervise the design activities in order to sign/seal final deliverable documents.

6.2 PROJECT PLANNING AND MONITORING

For each deliverable, the Design QC Lead will develop an Engineering Design Quality Assurance Project Plan (EDQAPP). Essentially a checklist based on guidance in WESTON's EDQAMP, this EDQAPP will indicate the QC activities to be performed during preparation of the deliverable, the personnel assigned to each activity, and target dates. Development of the

EDQAPP helps ensure that each of the QC activities is performed and sufficient time is scheduled to allow the activity to take place. It also documents when each activity is completed and by whom. Planning and Monitoring Activities that may be included in the individual EDQAPPs include the following:

- Project Initiation Meeting—Project participants attend to establish an understanding of the project, the technical approach, budget and schedule, QC activities, individual assignments, and other project information.
- Design Direction Meeting—Project and discipline leads review the planned design direction and conduct a brief "Devil's Advocate Review" relative to other possible courses of action. This review will occur at the outset and may be repeated through the course of the project as determined by the Design QC Lead.
- Project Status Meetings—Project and discipline leads meet intermittently to review past progress, difficulties encountered, issues requiring coordination between disciplines, forthcoming work, and progress versus the schedule.

6.3 REVIEW AND CHECKING OF WORK

In addition to the Planning and Monitoring Activities, the EDQAPP may present the designation of a number of review activities that are to be performed at a particular stage of the design process or on an as-needed basis. Many of these activities can be combined; however, it is critical that personnel can not solely review their own work. Documentation of the activities will be made on the EDQAPP checklist with detailed comments or meeting minutes attached.

- Preliminary Design Review—Even if a formal preliminary design submittal is not required for a project, an internal review will be conducted at the completion of the preliminary design phase (approximately 35% completion). This review will be conducted by the Design QC Lead with the licensed professional(s) and discipline leads to ensure that the project is being conducted in a manner that will meet the required quality level.
- Documented Checking—Must be provided for all calculations, drawings, specifications, bid analyses, shop drawings, O & M manuals, and other documents. The checking will address both "method" and "calculations." This checking will be conducted by another engineer, or similarly qualified individual, in the same engineering discipline who was not involved in the preparation of the original documents. This "checker" will be assigned by and be under the direction of the discipline lead for that particular discipline.

- Design Technical Reviews—Will be conducted as scheduled in the EDQAPP and/or as needed throughout the design phase of the project. These reviews will be conducted by the project and discipline leads to ensure that the quality of the design project is being met in accordance with the scope of work and proposal and/or contract for this particular project. Corrective actions will be defined and documented. Appropriate follow-up actions will be scheduled by the Design QC Lead and documented by assigned personnel when complete.

- Value Engineering Review—May be included as part of the project as a formal Value Engineering study, a review of estimated construction costs to ensure compliance with a fixed capital budget, or a general review of the project to ensure that the client will receive a workable and cost-effective design product.

- Safety Review—May be conducted as appropriate for each design project. The review could address general safety and OSHA compliance, process safety or a formal HAZOPS review, or other specific safety activity. Site safety plans will be reviewed as appropriate and/or required for any project involving field activity. The safety reviews will be scheduled by the Design QC Lead as part of the development of the EDQAPP.

- Constructability Review—May be conducted to ensure that the project can be installed with minimum practical difficulty and with the potential for errors and omissions controlled to a reasonable level. This review must be performed by a experienced Construction Engineer if the review is determined to be necessary by the Design QC Lead.

- Operability Review—May be conducted to ensure that the project will operate properly and is controllable. This review must be performed by an experienced Operations Engineer if the review is determined to be necessary by the Design QC Lead.

- Coordination/Interference Review—Review of all documents conducted to ensure compliance with project requirements and the proper integration and lack of any interferences or conflicts between the various engineering disciplines. This review is normally performed by the Project Engineer after all documents for each submittal have been collected.

- Independent Review—An independent review of all documents will be conducted prior to each submittal to the client and throughout the development of the documents, if necessary. This review will include a constructability review, an operability review, and a coordination review as considered from an “independent” viewpoint. This review is to be performed by an experienced WESTON engineer who has not been closely involved in the design project activities.

- Strategic Review—Meetings may be held to review process data and/or the basis of design, review methodologies, review assumptions, identify any “fatal flaws” and other potential problems, discuss unusual liabilities, discuss the implementation of

this project relative to lessons learned from the implementation of other similar projects, discuss situations peculiar to this client/site, and/or analyze any other unusual situations or potential problems relative to the implementation of this project. The strategic review meetings would be scheduled at any point in the implementation of the project as appropriate for the intent of that particular meeting.

- Licensed Professional Review—Review and approval of all drawings, specifications, and other documents by a licensed professional properly licensed in the state or other jurisdiction involved prior to release of documents.

- Lessons Learned Review—May be conducted at deliverable or project completion by the engineering design team. The intent of the meeting would be to review circumstances that developed during a particular project in order to improve performance and reduce the Cost of Quality on future projects of a similar nature.

6.4 APPROPRIATE DESIGN TOOLS

In addition to relying on the technical competence of the engineering staff and reviewers, use of appropriate design tools helps ensure quality in the final deliverable. Design tools of potential use on the ERC include:

- Computer Aided Design and Drafting (CADD) Systems—The application of CADD and related technology can affect every phase of the design process positively. Use of this technology allows improved productivity, clearer drawings, integration of automated design features, and reduced cost and schedules. CADD also allows various design teams and subcontractors to integrate their drawings seamlessly.

- Standard Specifications—Use of standard guide specifications, in particular the USACE Guide Specifications, will provide design staff with a current and accepted basis that may be tailored into a complete and thorough set of project specifications, rather than trying to develop project-specific requirements "from scratch." Standard specifications help to ensure full and open competition in procurement, maximize construction economy, provide uniformity and consistency of specifications to ease use by engineers and contractors alike, and improve overall project quality while maintaining a reasonable project cost. Use of automated specifications processing software such as SPECSINTACT helps speed the compilation of specifications while ensuring consistency between individual specification sections.

- Design Software—Use of automated design software helps speed certain calculation-rich design tasks such as hydraulic and structural analyses, while reducing the chance of calculation errors. By reducing the effort of calculation, multiple scenarios can be analyzed to help optimize the final design. Care must be exercised, however, to ensure that the methods and assumptions used by the software are appropriate for the specific project and that data input and output are entered and used properly.

- Design Standards—As a normal course of practice, WESTON design staff utilize established Engineering Design Standards. The objectives of these are to provide a mechanism that permits the engineer, designer, and draftsperson to produce engineering drawings in the most productive manner, enhance the quality and clarity of engineering design drawings, provide for uniformity of design drawings produced at various locations throughout the WESTON organization, permit interoffice coordination and rapid transfer of documents, and facilitate quality control and QA reviews. It is expected that the standards will be used by experienced designers and draftspersons to incorporate their experience in generating engineering drawings in the most productive manner, but not to substitute for either the skill and experience of the designer/draftsperson or the technical judgment of the design engineer.

7. PROCEDURES FOR SUBMITTALS

WESTON is responsible for total management of construction, remediation, and engineering consulting work identified in TOs. This responsibility includes scheduling, reviewing, certifying, and managing submittals. WESTON is also responsible for ensuring that certifications provided by others (e.g., vendors and subcontractors) are accurate and in compliance with the contract requirements. Submittals may also be tracked using the contractor module of the Corps of Engineers Resident Management System (see Subsection 9.6 for details). The procedures for submittals are discussed in the following subsections.

7.1 SCHEDULE OF SUBMITTALS

For applicable TOs (i.e., where design drawings and/or construction specifications are required, or as specified in the RFP [Request for Proposal]), a Submittal Register (ENG Form 4288, provided in Appendix D) will be completed to provide a list of submittals required for the project. Items on the Submittal Register will be classified as follows (or as specified in the RFP):

- Category I—Subject to "Government Approval" (noted as GA1 in technical Submittal Register).
- Category II—May be required for "Government Approval" (GA2) or "For Information Only" (FIO).

The Submittal Register will be used to log and monitor required submittal activities. No construction or installation activities will be performed prior to required approvals of applicable submittals. The approved Submittal Register will be used to control submittals throughout the life of the TO.

7.2 SUBMITTAL REVIEW

WESTON will review each submittal for contract compliance. Submittals will be reviewed internally by the TO Manager and/or the CQC System Manager or Alternate or his designated alternate. Submittals that are deemed to comply with the contract will be forwarded to CENAE. The CENAE Technical Lead (Mr. Peter Hugh) will ensure that the submittal is reviewed by the proper CENAE personnel, and will approve it, or, if appropriate, will provide technical

comments on the submittal for incorporation by WESTON. Submittals that do not comply with the contract will be returned to WESTON to be corrected. Unless other arrangements are made, the number (i.e., preliminary draft, draft, final, etc.) and length (in days) of submittal review periods will be specified in each TO-specific Scope of Work.

7.3 TRANSMITTAL FORM/CERTIFICATION

For applicable TOs, a Transmittal Form (ENG Form 4025 or equivalent, provided in Appendix E) will be used to accompany submittals of WESTON and vendors/subcontractors. The Transmittal Form will be checked and approved by the CQC System Manager or Alternate, TM and/or PM, or their authorized designees. The form will be signed and dated, certifying that the accompanying submittal complies with contract requirements. For all submittals, the Transmittal Form will include the following certification:

> I certify that this _____ (document name) has been reviewed and coordinated by WESTON to ensure: 1) completeness for each discipline commensurate with the scope for this document; and 2) the overall professional and technical accuracy of the submission.
>
> by _____
> CQC System Manager or Alternate

Proposed deviations from the contract requirements will be identified.

7.4 SUBMITTAL PROCEDURES

The appropriate number of copies of Category I and II submittals will be mailed directly to CENAE, and, if appropriate, to other parties at the addresses identified in the TO scope of work. The CQCP Supplement for each TO will provide the number of required copies and the mailing addresses for each type of submittal.

7.5 SUBMITTALS OF VENDORS AND SUBCONTRACTORS

Procedures for review, certification, and management of submittals from vendors and subcontractors, are outlined below.

Pre-award vendor/subcontractor submittals (proposals, price quotations) will be reviewed in accordance with the WESTON Procurement Procedures Manual. This manual contains the procurement procedures of WESTON and constitutes the WESTON procurement system as it applies to Government contract procurements. It defines the authority, responsibility, and basic requirements to be followed when procuring supplies and services, and ensures that sound business practices are adopted and implemented, fair and reasonable costs are sought and obtained, delivery requirements are met, and that user satisfaction is achieved.

A checklist based on the procedures for scheduling, reviewing, certifying, and managing pre-award submittals from vendors and subcontractors is included in Appendix F. The procedures on the checklist will be followed for all TOs.

For post-award subcontractor submittals (work specifications, shop drawings, as-builts), the TO Manager and/or the CQC System Manager or Alternate, or their designees, are responsible for identifying technical and schedule requirements for subcontractors and overseeing subcontractor performance. As such, these individuals are responsible for reviewing subcontractor or vendor work plans, drawings, and specifications. In cases where transportation and disposal or regulatory issues are discussed in submittals, the Regulatory Specialist may also review the pertinent submittals. If, at any point during this internal review cycle, discrepancies, inconsistencies, or incorrect entries are noted, the submittal will be returned to the subcontractor/vendor for correction, and then resubmitted for review.

Upon approval of subcontractor/vendor submittals, they will be submitted to CENAE for review, as discussed in Subsection 7.2.

7.6 DOCUMENT CONTROL SYSTEM

Documents concerning the ERC Contract will be tracked using a Document Control Number (DCN) system. The Project Administrator will be responsible for ensuring that a DCN system is established, and that a DCN log is maintained for the duration of the project.

The DCN system uses three parts: 1) an acronym (job name abbreviated) followed by a dash (-); 2) a six-digit date (month, day, and year) followed by a dash; and 3) an alpha code that is obtained from a consecutively numbered electronic form. A sample DCN for the ERC is :

GE-081400-AAAA

Where:

GE= GE/Housatonic River ERC

081400 = 08th month, 14th day, 2000.

AAAA = The next entry in the preformatted electronic file.

8. TESTING PROCEDURES

8.1 SUMMARY OF TESTS

A summary of the tests required for each definable feature of work will be compiled for each TO. The test summary will be compiled based on requirements outlined in the scope of work for the TO. An example summary is provided in Table G-1 in Appendix G. This table was prepared for a construction/excavation/disposal/treatment project; therefore, some of the features of work will not be applicable to all TOs.

The following information is provided:

- Activity.
- Test method/standard.
- Reference to applicable specification section or project plan (this provides a check to verify that testing procedures comply with contract requirements).
- Frequency of testing (testing includes inspection for nontest activities).
- Estimated total number of tests.
- Responsible laboratory.
- Responsible personnel.

The summary table completed for each applicable TO will be updated throughout the project as documents are completed (e.g., CQCP Supplement, SAP Supplement).

8.2 TESTING FACILITIES

A list of testing laboratories to be used for chemical and nonchemical tests will be included in the TO SAP Supplement. Laboratory facilities will be approved by the CENAE Contracting Officer prior to use by WESTON. As necessary, facilities could include an approved testing laboratory at the project site.

Laboratories used for testing soils, concrete, asphalt, and steel will meet the criteria detailed in American Society for Testing and Materials (ASTM) D3740 and ASTM E329.

As appropriate, laboratories for environmental and chemical quality testing will be approved (validated) by USACE. Laboratories are validated for each environmental matrix and for each specific analytical method to be employed for which USACE validation procedures exist and are required. Validation may also be required by other local and/or state agencies, as required by the TO. Sample analysis will not be subcontracted to a laboratory without the prior approval of CENAE.

8.3 TESTING PROCEDURES

Tests will be completed as outlined in the summary table prepared for each TO. The summary table may be included in the SAP Supplement or the CQCP Supplement, depending on whether the testing is chemical testing, or materials testing related to construction. The following procedures will be followed for all tests, as warranted:

- Verify that test facilities are available and comply with testing standards and certifications, as required (e.g., USACE Northwest Division [NWD] certified):
  - Confirm with the test facility that they are available to conduct subject tests; document the test facility's availability. Determine the testing standards from the plan or contract, and confirm that the laboratory can comply with the standards; document the laboratory's ability to comply.
- Verify that test equipment is available and complies with testing standards, if required:
  - If on-site or off-site testing is conducted, determine the testing equipment required from the test plan or contract; document that it is available. Determine that the test equipment can comply with test standards; document that the test equipment can comply.
- Check test instrument calibration data against certified standards:
  - Conduct and document an equipment calibration.
- Verify that appropriate recording forms are available:
  - Determine those parameters that must be recorded from the test plan or contract; ensure that recording forms contain this information.
- Verify that a test identification control number system is prepared (e.g., test number assigned, sample numbers assigned, etc.):

– Prepare a checklist based on the test plan or contract for required parameters such as test number and sample numbers (along with acronyms).

The checklist contained in Appendix H will be used to verify appropriate testing procedures. For some tests, such as those that are repeated regularly throughout the duration of the project (i.e., sampling soil), the checklist may be filled out only at the beginning of the project. Once a system for testing procedures is established, the checklist will no longer be used.

8.4 TEST RESULTS

A summary of tests completed each day will be documented on the Daily Contractor QC Report. Pertinent information will be provided for test results (e.g., location where tests were taken, sequential control number identifying the test, etc.).

WESTON will submit test results to CENAE. The contractor module of the Corps of Engineers Resident Management System (see Subsection 9.6 for details) may be used for submitting test results. Due to the volume of results that may be generated, CENAE may exercise the option of requesting duplicate copies of only specific tests. During an initial meeting, WESTON and the Contracting Officer's Representative will agree on which tests will require duplicate copies, if any. Test results may also be posted on ProjectNet, as appropriate.

9. CONTROL PHASES AND INSPECTION PROCEDURES

The QC procedures for the HTRW Program are based on a four-phased protocol consisting of the following control phases:

- Preparatory.
- Initial.
- Follow-up.
- Final.

Each QC phase is discussed separately in Subsections 9.1 through 9.4. Subsection 9.5 outlines inspection documentation for the various control phases and Subsection 9.6 describes the RMS. Inspections will be conducted for each phase and for each definable feature of work. The CQC System Manager or Alternate will have ultimate responsibility for the performance of the inspections. The CQC System Manager or Alternate may assign inspection duties for individual definable features of work to the work leader responsible for the definable feature of work, or to appropriate QC personnel, depending upon their area(s) of technical expertise. All inspection results ultimately will be reviewed by the CQC System Manager or Alternate, and he/she will report findings to CENAE.

9.1 PREPARATORY PHASE

A preparatory inspection will be performed prior to beginning any work on a definable feature of work. The preparatory inspection will include:

- A review of each paragraph of applicable specifications or variances identified by WESTON to CENAE.
- A review of the contract/TO plans and scope of work, if applicable.
- A check to ensure that all materials and/or equipment have been submitted and approved, and if required, have been tested.
- A check to ensure that provisions have been made to provide required QC inspection and testing.
- Examination of the work area to ensure that all required preliminary work has been completed and is in compliance with the contract.

- A physical examination of required materials, equipment, and sample work to ensure that they are on-hand, conform to approved shop drawings or submitted data, and are properly stored.
- A review of the appropriate activity hazard analysis to ensure that safety requirements are met.
- Discussion of procedures for constructing the work, including elimination of repetitive deficiencies.
- Documentation of the tolerances and workmanship standards for the phase of work being inspected.
- A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

The CENAE Contracting Officer or his Representative will be notified at least 48 hours in advance of beginning the required actions of the preparatory phase. (Note: Notification may be in the form of a written schedule provided to CENAE; the schedule may be updated on a weekly basis because it may serve as notification.)

A meeting will be conducted by the CQC System Manager or Alternate and attended by appropriate QC personnel and the work leader responsible for the definable feature of work. The results of the preparatory-phase inspection (e.g., discussion of acceptable workmanship, actions required, etc.) will be documented by separate minutes prepared by the CQC System Manager or Alternate and attached to the Daily Contractor QC Report.

Additional preparatory phases may be conducted on the same definable features of work as determined by CENAE if the quality of ongoing work is unacceptable; or if there are changes in the applicable QC personnel or in the on-site production supervision or work crew; or if work on a definable feature is resumed after a substantial period of inactivity; or if other concerns develop.

9.2 INITIAL PHASE

An initial inspection will be performed at the beginning of a definable feature of work. This inspection will include:

- A check of preliminary work to ensure that it is in compliance with contract/TO requirements.
- Verification of required control inspection and testing and compliance with the contract/TO.
- Verification of acceptable workmanship levels that meet standards.
- Resolution of differences or conflicts in work scope or with contract specifications.
- A check of safety to include compliance with the SSHP (WESTON, 2001c) and activity hazard analysis.

The CENAE Contracting Officer or his Representative will be notified at least 24 hours in advance of beginning the initial phase. (Note: Notification may be in the form of a written schedule provided to CENAE; the schedule may be updated on a weekly basis because it may serve as notification.)

A meeting will be conducted by the CQC System Manager or Alternate and attended by the appropriate QC personnel and the work leader responsible for the definable feature of work. The results of the initial-phase inspection (e.g., discussion of acceptable workmanship, actions required, etc.) will be documented by separate minutes prepared by the CQC System Manager or Alternate and attached to the Daily Contractor QC Report.

The initial phase will be repeated for each new crew to work on-site or any time acceptable specified quality standards are not being met.

9.3 FOLLOW-UP PHASE

Daily checks will be performed to ensure continuing compliance with contract requirements, including cost-effectiveness, efficiency of operations, safety, control testing, and corrective actions until completion of the particular feature of work. Checks will be made a matter of record in the CQC documentation.

9.4 FINAL (COMPLETION) PHASE

At the completion of all work or any increment thereof, the CQC System Manager or Alternate will conduct an inspection of the work. The work will be inspected for conformance to plans,

specifications, quality, workmanship, and completeness. If necessary an itemized "punch list" will be compiled that includes a summary of work not properly completed, inferior workmanship, and work not conforming to plans and specifications.

This "punch list" will be included with the CQC documentation and submitted to the Contracting Officer with an estimated date for correction of each deficiency.

Following correction of work, a second inspection will be conducted by the CQC System Manager or Alternate to ensure that all deficiencies have been corrected. When deficiencies have been corrected and verified by the CQC System Manager or Alternate, CENAE will be given at least 14 days notice and a final acceptance inspection of the work will be conducted, documented in a logbook or other appropriate form, and the documentation retained in the project file.

The inspections and corrective actions will be completed within the schedule stated for completion of the entire project, or any particular increment thereof if the project is divided into increments by separate completion dates.

9.5 INSPECTION DOCUMENTATION

The CQC System Manager or Alternate will be responsible for ensuring completion of all inspection paperwork, including inspection forms, checklists for tests, Deficiency Report Forms, Deficiency and Corrective Action Logs, Daily Contractor QC Report Forms, and QA Audit Checklists. The forms and checklists listed previously are presented in Appendices G through M.

Preparatory, Initial, and Follow Up Inspections will be recorded on the standard forms included in Appendix I. The completed forms generated by inspections will be used to document and track specification compliance, deficiencies, and corrective actions, where necessary. Regardless of which person conducts the inspections, the completed forms will be reviewed by the CQC System Manager or Alternate. Complete forms will be maintained on-site by the CQC System Manager or Alternate, and will be available for inspection. Inspection forms for each definable feature of work will be tracked using the log found in Table G-2 in Appendix G (a log will be completed for each TO using the appropriate features of work). Deficiencies in work will be noted on the Deficiency Report Form, located in Appendix K, and the deficiencies and their

respective corrective actions will be tracked by the CQC System Manager or Alternate using the log found in Appendix J.

9.6 RESIDENT MANAGEMENT SYSTEM

Much of the QC inspection and testing documentation can be maintained and tracked using the Corps of Engineers' standardized software package, known as the Resident Management System (RMS). The anticipated approach for this project is that the contractor module of the "QC-RMS" software package will be provided to WESTON by CENAE. Once the package and accompanying video has been received, the appropriate WESTON QC personnel, including but not limited to the CQC System Manager and Alternates, will be trained on the appropriate and project-specific use of the RMS software. Some possible outputs of the RMS software include:

- Preconstruction conference and Coordination Meeting minutes and agenda.
- QA and QC Plans.
- Submittal Registers, submittal tracking, and completed (filled in) Transmittal Forms.
- Three-phase control checklists, agenda, and meeting minutes.
- A deficiency tracking system.
- Daily QA and QC Reports.
- Various project or TO closeout documents.

At present, it is not known exactly how the RMS will be used and what outputs will be required. Therefore, until the software has been provided and details of its use defined by CENAE/WESTON, it is assumed that the various tracking, inspection reports, audit checklists, and other reporting formats presented in the appendices will be used.

10. TRACKING DEFICIENCIES AND CORRECTIVE ACTIONS

There are several mechanisms to identify services or activities that do not comply with the contract requirements. These mechanisms include:

- Inspections.
- Tests.
- QA audits.
- Notification from the Contracting Officer or CENAE Authorized Representative.

In each case, noncompliance issues will be specifically identified in documents generated as a result of implementing the CQCP. It will be the responsibility of the CQC System Manager or Alternate to notify the relevant parties of the noncompliance and to ensure that corrective action is taken as soon as possible.

The CQC System Manager or Alternate has the authority and responsibility to stop work, if necessary, related to or affected by the noncompliance condition until action can be taken to correct the noncompliance condition or prevent it from affecting related or subsequent work. The CQC System Manager or Alternate may, at his discretion, require that the work be retested and/or reinspected, if necessary, to confirm or disprove the noncompliance condition.

The CQC System Manager or Alternate may not permit any subsequent work to continue if that work is, or may be, affected by the noncompliance condition until:

- The work is retested and/or reinspected and found to be in compliance.
- The work is redone and subsequently retested and/or reinspected and found to be in compliance.
- A change order is accepted by the Contracting Officer or CENAE Authorized Representative indicating that the work or condition is acceptable under the terms of the change order.

10.1 DOCUMENTING DEFICIENCIES AND CORRECTIVE ACTIONS

As deficiencies are noted, they will be documented on the QC Inspection Forms found in Appendix I. In addition, the following documentation will be maintained by the CQC System Manager or Alternate to track deficiencies and corrective actions:

- A Deficiency and Corrective Action Log will be maintained to ensure that deficiencies have been corrected. A Deficiency and Corrective Action Log form is provided in Appendix J.

- Deficiencies will be noted on the Daily Contractor QC Report.

- A Deficiency Report Form, provided in Appendix K, will be completed. In preparing this report, the CQC System Manager or Alternate will review the CQCP procedures and other relevant documents and procedures to determine if the systems being used need to be amended. This report will also include corrective action, including specific changes in procedures, work practices, or other actions taken to prevent reoccurrence of the noncompliance condition.

11. REPORTING PROCEDURES

Current records of QC operations, activities, and tests performed, including the work of subcontractors and suppliers, will be maintained. All documents generated as a result of the implementation of this CQCP will undergo review and signoff. Table G-3 in Appendix G summarizes the review and distribution requirements for CQCP documents.

For applicable TOs, a master file of CQCP documents will be maintained at the project site. The master file may include the following documents, as applicable:

- CQCP and all amendments.
- Daily Contractor QC reports.
- Inspection reports (by definable feature of work).
- Test reports.
- Shop drawings.
- Vendor certificates/statements/data.
- Redlined plans (i.e., as-built plans).
- QA audit reports.
- Chemical quality reports.
- Reports of noncompliance.
- Change order correspondence.
- Inspection logs.
- Deficiency tracking logs.
- Plans and specifications.
- Submittals.
- Chains-of-Custody.

11.1 DAILY CONTRACTOR QC REPORT

The CQC System Manager will issue a daily report using the standard form provided in Appendix L. The following information is included:

- Weather conditions encountered and any delays.

- Test and/or control activities performed with results.. The control phase will be identified (preparatory, initial, or follow-up). Deficiencies will be noted along with corrective action.

- Material, supplies, and equipment received with a statement as to its acceptability and storage.

- Submittals reviewed, with contract reference, by whom, and action taken.
- Sampling Information, including description of samples being taken, calibration procedures performed on field monitoring equipment, problems identified for sampling and/or analysis, and corrective actions taken.

The original and one copy of the Daily Contractor QC Report will be furnished to the Contracting Officer's Representative on the first workday following the date covered by the report. Reports will not be submitted for days on which no work is performed. At a minimum, one report will be prepared and submitted for every 7 calendar days of no work and on the last day of a no work period that is less than 7 calendar days.

Daily Contractor QC Reports will be signed and dated by the CQC System Manager and will include copies of test reports and reports prepared by subordinate QC personnel.

12. DEFINABLE FEATURES OF WORK

For each applicable TO, a list of the definable features of work will be prepared and included in the CQCP Supplement. The list could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. The list will be agreed upon between WESTON and CENAE during the pre-scoping coordination meeting. This list will also serve as the basis for establishing the Work Breakdown Structure (WBS) for the TO.

13. NOTIFICATION OF CHANGES TO PROCEDURES IN CQCP

Where possible, after acceptance of the Program CQCP or a TO Supplement, the Contracting Officer will be notified in writing a minimum of 7 calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

There may be occasions when a 7-day notification is not possible (e.g., unexpected absence of personnel due to injury or illness). On these occasions, the Contracting Officer's Representative will be notified within 72 hours of the change.

14. FIELD SAMPLING PLAN/QUALITY ASSURANCE PROJECT PLAN

Chemical QC is required for all remedial, investigative, and engineering activities to ensure that the analytical data obtained are of sufficient quality to meet the intended usages. Chemical QC refers to the analytical activities performed by WESTON or its subcontractors to verify and ensure compliance to the contract and the quality of work performed. QA generally refers to activities conducted by CENAE to ensure WESTON's quality performance. Quality management refers to the combined QA/QC effort.

This section of the Project CQCP presents an overview of the Project FSP (WESTON, 2001a) and QAPP (WESTON, 2001b), which outline the general procedures for sampling and analytical activities conducted for the ERC. The FSP and QAPP, which were written in response to the ERC RFP, Section C.10, have both been extensively reviewed by CENAE and EPA and are considered acceptable to address chemical quality control issues for both agencies as well as for MA DEP.

14.1 FIELD SAMPLING PLAN

The FSP (WESTON, 2001a) has been written in accordance with the following documents:

- USACE, EM-200-1-3, *Requirements for the Preparation of Sampling and Analysis Plans*, September 1994.
- U.S. EPA, *Guidance for the Preparation of Standard Operating Procedures for Quality-Related Documents*, EPA QA/G-6, November 1995.
- U.S. EPA Region 1, *New England Data Validation Functional Guidelines for Evaluating Environmental Analyses*, July 1, 1996, revised December 1996.
- U.S. EPA Region 1, *Tiered Organic and Inorganic Data Validation Guidelines*, July 1, 1993.

An outline of the Project FSP is provided below for convenience.

Section	Title
1	Introduction
2	Project Organization and Responsibilities
3	Field Activities
Appendix A	References
Appendix B	Standard Forms
Appendix C	Standard Operating Procedures

To address TO-specific requirements, an FSP Supplement will be prepared for each TO, as appropriate. The FSP Supplements will follow the format for the Project FSP, as described above.

14.2 QUALITY ASSURANCE PROJECT PLAN

The Project QAPP (WESTON, 2001b) has been written in accordance with the following documents:

- USACE, ER 1110-1-263, *Chemical Data Quality Management for Hazardous Waste Remedial Activities*, April 30, 1998.
- U.S. EPA, *Requirements for Quality Assurance Project Plans for Environmental Data Operations*, EPA QA/R-5, October 1998a.
- U.S. EPA Region 1, *Compendium of Quality Assurance Plan Guidance*, Finalized October 1999.
- U.S. EPA Region 1, *New England Quality Assurance Project Plan Manual*, September 1998.
- U.S. EPA, *Guidance for Data Quality Objectives Process*, EPA QA/G-4, September 1994.
- U.S. EPA, *Requirements for Quality Management Plans*, QA/R-2, October 1998b.
- U.S. EPA, *Guidance for the Preparation of Standard Operating Procedures for Quality Related Documents*, EPA QA/G-6, November 1995.
- U.S. EPA Region 1, *New England Data Validation Functional Guidelines for Evaluating Environmental Analyses*, July 1, 1996, revised December 1996.
- U.S. EPA Region 1, *Tiered Organic and Inorganic Data Validation Guidelines*, July 1, 1993.

An outline of the Project QAPP is provided below for convenience.

Section	Title
1	Project Organization
2	Problem Definition/Background
3	Project Description
4	Data Quality Objectives
5	Documentation and Records
6	Sampling Process Design
7	Analytical Method Requirements
8	Quality Control Requirements
9	Instrument Calibration and Frequency
10	Data Acquisition Requirements (Non-Direct Measurements)
11	Data Management
12	Assessment and Response Actions
13	Reports to Management
14	Data Verification, Evaluation, and Validation Requirements
15	Reconciliation With Data Quality Objectives
16	Bibliography
Appendix A	Laboratory Standard Operating Procedures
Appendix B	Data Evaluation Deliverables
Appendix C	QAPP Addendum for Tissue Analysis
Appendix D	Standard Operating Procedures—Tissue Analysis
Appendix E	Standard Operating Procedures—Investigators
Appendix F	Protocol for Evaluating Data Usability for Historical Data Sets

To address TO-specific requirements, a QAPP Supplement will be prepared for each TO, as appropriate. The QAPP Supplements will follow the format for the Project QAPP, as described above.

14.3 ERC PROJECT LABORATORIES

The laboratories to be used for each project may vary by TO. Each laboratory to be used will be approved (validated) by USACE. Laboratories will be validated for each environmental matrix and for each specific analytical method to be employed. Validation may also be required by other local and/or state agencies, as required by the TO. Samples will not be subcontracted to another laboratory without the approval of USACE and unless the second laboratory is validated for the parameters of concern. A list of testing laboratories to be used for chemical analysis will be included in the TO SAP Supplement. Laboratory facilities will be approved by the CENAE

Contracting Officer prior to use by WESTON. As necessary, facilities may include an approved testing laboratory at the project site.

The QAPP Supplement for WESTON and its subcontractor laboratories will be completed as follows:

- WESTON will ensure that subcontractor laboratories, if used, satisfy project quality requirements.
- The SAP Supplement will provide specific information regarding subcontractor laboratories and their capabilities to comply with the TO requirements.
- Information may be provided in the form of a subcontractor laboratory QAPP.

15. AUDITS

Audits will be conducted on a routine basis to ensure compliance with the TO and contract. At a minimum, at least one internal audit per TO, and at least one audit every 6 months will be conducted. Audits will verify that the procedures outlined in the Project and TO documents are being conducted as stated. Site safety and health audits will follow the procedures outlined in WESTON's SSHP (WESTON, 2001c).

The following personnel, or their designated alternates, will be responsible to conduct audits in the area stated (if additional plans are required by a TO, the personnel responsible to audit the plans will be identified in the CQCP Supplement):

Personnel Responsible to Conduct Audit	**Project Plan Outlining Requirements**
Project CQC System Manager	CQCP, FSP, QAPP, Specifications, and Work Plan
Project Safety and Health Manager	SSHP

In some cases, the auditor may designate an alternate to conduct the audit. For example, the Project Chemist may be identified to conduct an audit to ensure compliance with the FSP (WESTON, 2001a) and QAPP (WESTON, 2001b) because this person is more familiar with chemical quality requirements.

The frequency of audits will be established during the scoping meeting conducted prior to release of an RFP. The frequency will be provided in the CQCP Supplement.

Audit findings will be summarized using the QA audit checklist provided in Appendix M. Note that the following items are not included in this checklist because these items will be addressed during safety audits:

- Safety rules being adhered to.
- PPE used.
- Other safety issues.

The following information will be included with the Audit Summary Report:

- Area of concern.
- Corrective action.
- Responsible person.
- TO Manager approval of corrective action (i.e., within scope of work, etc.).
- Documentation.
- Schedule for corrective action.

Ongoing audits will target problem areas identified in previous audits to ensure continued compliance.

16. SAFETY AND HEALTH

A Site-Specific Health and Safety Plan (SSHASP) will be completed for each TO for which work will be performed in a contaminated or potentially contaminated area. Minimal requirements for the SSHASP include compliance with EM 384\5-1-1, ER 385-1-92, 29 CFR 1910/1926, WESTON Safety and Health Program, and applicable state or local requirements. The SSHASP will address the following elements:

- Site description and contaminant characterization.
- Safety and health hazard(s) assessment and risk analysis for each site task and operation.
- Site-specific training.
- Site-specific medical surveillance parameters (i.e., any special tests for site contaminants not included in the ongoing medical surveillance program covered in the Safety and Health Program).
- PPE to be used and establishment of action levels for upgrades/downgrades of PPE.
- Monitoring/sampling (including, as necessary, on-site and perimeter real-time and time-integrated air sampling, heat stress/cold stress, noise, and radiation monitoring).
- Safety and health work precautions and procedures.
- Site control measures.
- Personal and equipment decontamination facilities and procedures.
- On-site first aid and emergency equipment.

Upon TO authorization, the following activities will occur on the schedule outlined below, unless modified by the TO:

- Immediately—1) The Project Safety and Health Manager, if necessary, based upon complexity or specific site issues, will contact CENAE and discuss the safety and health requirements for the project; and 2) the Project Safety and Health Manager will meet with WESTON's TO Manager to discuss safety and health issues for the TO.
- Within 21 Days of Authorization—An SSHASP will be prepared and submitted to CENAE. The draft SSHASP will be based on the Statement of Work for the TO.

- CENAE review and comment.
- Within 14 Days of Receipt of CENAE Comments or Contracting Officer's Representative approval to proceed (or as specified in the TO)—A final SSHASP will be issued.

Field activities will not start until CENAE has accepted the SSHASP. No change in the approved Project SSHP/ERCP or TO-specific SSHASP will be implemented without written concurrence from the Contracting Officer's Representative.

The Project Safety and Health Manager (Mr. Ted Blackburn, CSP, CET), in association with the Project CIH (Mr. George Crawford, CIH), will oversee the safety and health program for the ERC Project. Oversight will include the development, implementation, and approval (written signature) of SSHASPs.

An SSHO will be assigned for each TO, as appropriate. The SSHO will assist and represent the Safety and Health Manager in the continued implementation and enforcement of the approved SSHASP (WESTON, 2001c). The SSHO will be assigned to the site on a full-time basis and will be the main contact for any on-site emergency situation.

17. ENVIRONMENTAL REQUIREMENTS

Activities conducted under the ERC Project by WESTON and its subcontractors will be completed in compliance with appropriate federal, state, and local laws, codes, regulations, and guidance. As applicable, the requirements outlined in the following subsections will be satisfied for each TO.

17.1 PERMITS

An environmental compliance review will be conducted under the supervision of the Project Regulatory Specialist (RS) to determine if environmental permits, licenses, and/or certificates are necessary to accomplish work specified in individual TOs. Necessary permits or approvals will be obtained prior to commencing work. For the majority of the work conducted under the ERC, permits are not anticipated to be needed, since the work is proceeding under a Consent Decree drafted in accordance with CERCLA. In most cases, however, the substantive requirements of local and state permits still will need to be considered.

In the TO proposals, CENAE will be provided with a summary of required permits, licenses, certificates, clearances, or substantive permit requirements anticipated for each TO.

17.2 TRANSPORTATION AND DISPOSAL

The necessary deliverables that contain the transportation and disposal criteria, procedures, and practices sufficient to protect personnel, the environment, and potential off-site receptors from chemical, physical, and/or biological hazards will be prepared for each TO. The Regulatory Specialist will assist in the preparation process, as necessary. If information provided by CENAE is not sufficient to develop the deliverables, CENAE will be provided with a description of additional information required.

Transportation, storage, treatment, and/or disposal of hazardous materials conducted for the ERC Project will comply with federal, state, and local laws and regulations. The wastestreams will be characterized to determine the most cost-effective treatment, storage, and disposal facility (TSDF) that is in compliance with federal, state, and local laws and regulations. Any additional

analyses necessary to ensure compliance with treatment, storage, transportation, and disposal requirements will be identified, and the analyses will be conducted.

Selection of a TSDF will be based on cost-effectiveness, compliance status, regulatory agency input (as appropriate), and Contracting Officer approval. Details of protocols to be followed for transportation and disposal of remediation wastes generated for the Housatonic River ERC can be found in the Project Contract Management Procedure for Transportation and Disposal (CMP 15) (WESTON 2000d) and in the Environmental Compliance and Waste Management plans for the ERC project. The CMP addresses the following:

- Complete Manifest Package.
- Transportation and Disposal Reporting Requirements.
- On-Site Personnel.
- Notices of Noncompliance.
- Subcontractors.

If a Notice of Noncompliance related to transportation and disposal activities for the ERC project is received by WESTON, all responses to the notice will be in accordance with pertinent sections of CMP 15. In addition, the Notice of Noncompliance will be noted in the Daily CQC Report.

18. REFERENCES

CENAE (U.S. Army Corps of Engineers, North Atlantic Division, New England District). April 4, 2000. *Project Management Plan General Electric/Houstonic River Environmental Remediation Contract*.

EPA (U.S. Environmental Protection Agency), Region 1. July 1, 1993. *Tiered Organic and Inorganic Data Validation Guidelines*.

EPA (U.S. Environmental Protection Agency). 1994. *Guidance for Data Quality Objectives Process*, EPA QA/G-4. September 1994.

EPA (U.S. Environmental Protection Agency). November 1995. *Guidance for the Preparation of Standard Operating Procedures for Quality Related Documents*, EPA QA/G-6.

EPA (U.S. Environmental Protection Agency), Region 1. July 1, 1996, revised December 1996. *New England Data Validation Functional Guidelines for Evaluating Environmental Analyses*.

EPA (U.S. Environmental Protection Agency), Region 1. September 1998. *New England Quality Assurance Project Plan Manual*.

EPA (U.S. Environmental Protection Agency). October 1998. *Requirements for Quality Management Plans*, QA/R-2.

EPA (U.S. Environmental Protection Agency). October 1998. *Requirements for Quality Assurance Project Plans for Environmental Data Operations*, EPA QA/R-5.

EPA (U.S. Environmental Protection Agency), Region 1. October 1999. *Compendium of Quality Assurance Plan Guidance*, Finalized.

OSHA (Occupational Safety and Health Administration). *Occupational Safety and Health Standards*, 29 CFR 1910.

OSHA (Occupational Safety and Health Administration). *Safety and Health Regulations for Construction*, 29 CFR 1926.

USACE (U.S. Army Corps of Engineers). April 1981. *Value Engineering Benefits and the Construction Contractor*, EP 11-1-4.

USACE (U.S. Army Corps of Engineers). February 1990. *A Guide to Effective Contractor Quality Control*, EP-715-1-2.

USACE (U.S. Army Corps of Engineers). March 1994. *Safety and Occupational Health Document Requirements for Hazardous, Toxic, and Radioactive (HTRW) Activities*, EM-385-1-92.

USACE (U.S. Army Corps of Engineers). April 1994. *Technical Guidelines for Hazardous and Toxic Waste Treatment and Cleanup Activities*, EM-1110-1-502.

USACE (U.S. Army Corps of Engineers). September 1994. *Requirements for the Preparation of Sampling and Analysis Plans*, EM-200-1-3.

USACE (U.S. Army Corps of Engineers). September 1995. *Construction Quality Management*, ER-1180-1-6.

USACE (U.S. Army Corps of Engineers). 1996. *Safety and Health Requirements Manual*, 1996. EM-385-1-1.

USACE (U.S. Army Corps of Engineers). March 1998. *Chemical Data Quality Control*. Corps of Engineers Guide Specifications (CEGS) 01450.

USACE (U.S. Army Corps of Engineers). April 1998. *Chemical Data Quality Management for Hazardous Waste Remedial Activities,* ER 1110-1-263.

USACE (U.S. Army Corps of Engineers). May 2000a. *Contractor Quality Control,* CEGS 01451.

USACE (U.S. Army Corps of Engineers). May 2000b. *Submittal Procedures*, CEGS 01330.

WESTON (Roy F. Weston, Inc.) 1993. *Engineering Design Quality Assurance Management Plan.*

WESTON (Roy F. Weston, Inc.). 2000a. *Final Draft Engineering Evaluation/Cost Analysis for the Upper Reach of the Housatonic River*. Five Volumes, Text plus Appendices A-Q. February 2000. DCN GEP4-012400-AACJ.

WESTON (Roy F. Weston, Inc.). 2000b. *Final Engineering Evaluation/Cost Analysis for the Upper Reach of the Housatonic River, Section 6 and Appendix B.* July 2000. DCN GEP4-071400-AACY.

WESTON (Roy F. Weston, Inc.). 2000c. *Project Orientation Manual*. Environmental Remediation Contract, GE Housatonic River Project, Pittsfield, MA. August 2000. DCN GE-081400-AACI.

WESTON (Roy F. Weston, Inc.). 2000d. *Contract Management Procedures for GE/Housatonic River Site SSERC, Pittsfield, Massachusetts.* March 2000. DCN GE-031500-AABE.

WESTON (Roy F. Weston, Inc.). 2001a. *Field Sampling Plan.* Environmental Remediation Contract, GE Housatonic River Project, Pittsfield, MA. July 2001. DCN GE-053001-AAMA.

WESTON (Roy F. Weston, Inc.). 2001b. *Quality Assurance Project Plan*. Environmental Remediation Contract, GE/Housatonic River Project. Volumes I, II, IIA, and IV. March 2001. DCN GE-021601-AAHM.

WESTON (Roy F. Weston, Inc.). 2001c. *Final Site Health and Safety Plans: Site Health and Safety Plan and Site-Specific Health and Safety Plans for Task Order 1 (EE/CA Reach) and Task Order 4 (Oversight).* Environmental Remediation Contract, GE/Housatonic River Project. May 2001. DCN GE-052901-AALT.

APPENDIX A

SAMPLE CQCP SUPPLEMENT
TABLE OF CONTENTS

SAMPLE

CONTRACTOR QUALITY CONTROL PLAN SUPPLEMENT
REMOVAL ACTION
GE/HOUSATONIC RIVER ERC
PITTSFIELD, MASSACHUSETTS

Contract No. DACW33-00-D-0006
Task Order No. _____

Date

Prepared for:

U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 Virginia Road
Concord, MA 01742

Prepared by:

ROY F. WESTON, INC
One Wall Street
Manchester, New Hampshire 03101-1501

RFW W.O. No. 20122.001.001

SAMPLE
TABLE OF CONTENTS

Note to CQCP Supplement Authors: Take the following forms as needed from Appendices H to M of the ERC Contractor Quality Control Plan (CQCP). Include them or incorporate them by reference into the supplement:

- Checklist for Tests (see Appendix H)
- Quality Control Inspection Forms (Preparatory, Initial/Follow-up) (see Appendix I)
- Deficiency and Corrective Action Log (see Appendix J)
- Deficiency Report Form (see Appendix K)
- Daily Contractor Quality Control Report Form (see Appendix L)
- Quality Assurance Audit Checklist and Audit Notes (see Appendix M)

SAMPLE
LIST OF TABLES

Note to CQCP Supplement Authors: See Sample Field Activity Table

SAMPLE
Table 4-1

Removal Activities at the GE/Housatonic River Site, Pittsfield, Massachusetts

Objective	Activity	Activity Quality Requirement	Quality Control Verification
Sitework	Mobilization	Mobilize equipment and personnel according to the technical approach in an efficient manner according to the schedule.	Daily Contractor Quality Control Report Daily Safety Report
	Site Preparation	Tree cutting, cleaning and grubbing, construction of access roads, construction of soil sediment/staging and equipment laydown areas.	Daily Contractor Quality Control Report Daily Safety Report
	Sediment excavation	Install sheetpiling or by-pass pumps, remove PCB-contaminated sediment and bank soils according to the Work Plan.	Daily Contractor Quality Control Report
	Analytical testing of stockpiled soils	Implement sampling procedures according to the Work Plan and the SAP.	Daily Contractor Quality Control Report QA/QC samples Chain-of-custody Audit
	Confirmatory sampling of excavation	Implement sampling procedures according to the Work Plan and the SAP.	Daily Contractor Quality Control Report QA/QC samples Chain-of-custody Audit

SAMPLE
Table 4-1
(Concluded)

Outdoor Remediation Activities at GE/Housatonic River Site, Pittsfield, Massachusetts

Objective	Activity	Activity Quality Requirement	Quality Control Verification
	Backfilling, compaction and restoration of site	Backfill and compact excavation with clean fill material, pave and reseed site to its original condition as specified in the Work Plan	Daily Contractor Quality Control
	Transportation/ disposal of contaminated soil	Dispose of contaminated soils according to the Work Plan.	Daily Contractor Quality Control Report Waste profiles, disposal manifests
	Demobilization	Demobilize equipment and personnel according to the Work Plan	Daily Contractor Quality Report Final Closeout Report Submittals

SAMPLE

APPENDIX A

FORMS

(Use forms provided in this ERC Project Contractor Quality Control Plan, as needed.)

APPENDIX C

DELEGATION OF AUTHORITY LETTERS

- **Delegation to Act as CQC System Manager**
- **Delegation to Act as Alternate CQC System Manager**

DELEGATION TO ACT AS CQC SYSTEM MANAGER

Inter-Office Memorandum

TO: Richard M. Zoppel

FROM: Jack Thorsen DATE: October 25, 2000

PROJECT: GE/Housatonic River ERC

SUBJECT: Delegation of Authority to Act as Contractor Quality Control (CQC) System Manager for the GE/Housatonic River ERC Project

ACTION:

The purpose of this memorandum is to document that I, as Corporate QC Manager for Roy F. Weston, Inc. (WESTON), am delegating to you the authority to act as the Contractor Quality Control (CQC) System Manager for the GE/Housatonic River ERC Project.

CQC System Manager is an important role. As CQC System Manager, you have the authority to act in all CQC matters for WESTON on the GE/Housatonic ERC Project. You may designate some of your responsibilities to another qualified person, but that delegation must be approved by me and the Project Manager. You, or your designated alternate, must be accessible at the site at all times that field activities are in progress. All submittals generated as a result of this project will be reviewed by you or your authorized assistants. This delegation of authority allows you to stop work that does not comply with contract specifications and to require corrective actions be completed before work resumes.

Quality control is an essential component of the WESTON plan to successfully implement the GE/Housatonic River ERC Project. I am confident that you will ably carry out these duties on my behalf.

Jack Thorsen, P.E.
Corporate QC Manager
Roy. F. Weston, Inc.

DELEGATION TO ACT AS ALTERNATE CQC SYSTEM MANAGER

Inter-Office Memorandum

TO: Mr. Richard Mcgrath, Alternate CQC System Manager

FROM: Richard M. Zoppel DATE: 9/3/01

PROJECT: GE/Housatonic River ERC

SUBJECT: Delegation of Authority to Act as Alternate Contractor Quality Control (CQC) System Manager for the GE/Housatonic River ERC Project

ACTION:

The purpose of this memorandum is to document that I, as CQC System Manager for the GE/Housatonic River ERC Project, am delegating to you the authority to act as the Alternate Contractor Quality Control (CQC) System Manager for the GE/Housatonic River ERC Project.

CQC System Manager is an important role. As CQC System Manager, you have the authority to act in all CQC matters for WESTON on the GE/Housatonic River ERC Project. You may designate some of your responsibilities to another qualified person, but that delegation must be approved by me and the Project Manager. You, or your designated alternate, must be accessible at the site at all times that field activities are in progress. All submittals generated as a result of this project will be reviewed by you or your authorized assistants. This delegation of authority allows you to stop work that does not comply with contract specifications and to require corrective actions be completed before work resumes.

Quality control is an essential component of the WESTON plan to successfully implement the GE/Housatonic River ERC Project. I am confident that you will ably carry out these duties on my behalf.

Richard M. Zoppel
CQC System Manager, GE/Housatonic River Project

Roy F. Weston, Inc.

Inter-Office Memorandum

TO: Mr. Tony Delano, Alternate CQC System Manager

FROM: Richard M. Zoppel DATE: 9/3/01

PROJECT: GE/Housatonic River ERC

SUBJECT: Delegation of Authority to Act as Alternate Contractor Quality Control (CQC) System Manager for the GE/Housatonic River ERC Project

ACTION:

The purpose of this memorandum is to document that I, as CQC System Manager for the GE/Housatonic River ERC Project, am delegating to you the authority to act as the Alternate Contractor Quality Control (CQC) System Manager for the GE/Housatonic River ERC Project.

CQC System Manager is an important role. As CQC System Manager, you have the authority to act in all CQC matters for WESTON on the GE/Housatonic River ERC Project. You may designate some of your responsibilities to another qualified person, but that delegation must be approved by me and the Project Manager. You, or your designated alternate, must be accessible at the site at all times that field activities are in progress. All submittals generated as a result of this project will be reviewed by you or your authorized assistants. This delegation of authority allows you to stop work that does not comply with contract specifications and to require corrective actions be completed before work resumes.

Quality control is an essential component of the WESTON plan to successfully implement the GE/Housatonic River ERC Project. I am confident that you will ably carry out these duties on my behalf.

Richard M. Zoppel
CQC System Manager, GE/Housatonic River Project

Roy F. Weston, Inc.

APPENDIX D

SUBMITTAL REGISTER FORM (ENG FORM 4288)

SUBMITTAL REGISTER

(ER 415-1-10)

CONTRACT NO.		
TITLE AND LOCATION	CONTRACTOR	SPECIFICATION SECTION

					TYPE OF SUBMITTAL									CLASSIFICATION			CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION			GOVERNMENT ACTION		
ACTIVITY NO	TRANSMITTAL NO.	ITEM NO	SPECIFICATION PARAGRAPH NUMBER	DESCRIPTION OF ITEM SUBMITTED	DATA	DRAWINGS	INSTRUCTIONS	SCHEDULES	STATEMENTS	REPORTS	CERTIFICATES	SAMPLES	RECORDS	INFORMATION ONLY	GOVERNMENT APPROVED	REVIEWER	SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	CODE	DATE	SUBMIT TO GOVERNMENT	CODE	DATE	REMARKS
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.	r.	s.	t.	u.	v.	w.	x.	y.	z.

APPENDIX E

TRANSMITTAL FORM (ENG FORM 4025)

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE

(Read instructions on the reverse side prior to initiating this form)

DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. *(Cover only one section with each transmittal)*	PROJECT TITLE AND LOCATION		CHECK ONE: THIS TRANSMITTAL IS FOR ☐ FIO ☐ GOV'T. APPROVAL

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)* *b.*	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE *g.*	VARIATION *(See Instruction No. 6)* *h.*	FOR CE USE CODE *i.*
				SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*			

REMARKS

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated.

_____

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED *(List by Item No.)*	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A -- Approved as submitted.

B -- Approved, except as noted on drawings.

C -- Approved, except as noted on drawings. Refer to attached sheet resubmission required.

D -- Will be returned by separate correspondence.

E -- Disapproved (See attached).

F -- Receipt acknowledged.

FX -- Receipt acknowledged, does not comply as noted with contract requirements.

G -- Other (*Specify*)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contact plans and specifications.

(Reverse of ENG Form 4025-R)

APPENDIX F

PURCHASE ORDER/SUBCONTRACT CHECKLIST

Title: Purchase Order/Subcontract Checklist

1.0 PURPOSE

1.1 To assure that each Purchase Order or Subcontract file in excess of $2500 contains necessary and adequate documentation required by company procurement procedures and government regulations, as applicable.

2.0 GENERAL

2.1 The use of checklists is a proven, practical means for identifying factors that must be considered and documented for a particular award.

2.2 Exhibit 1, "Purchase Order/Subcontract Checklist" has been developed to address the principal factors applicable to WESTON's overall procurement documentation requirements. It applies to all awards that exceed $2500 regardless of contract type. This Checklist is not meant to address every conceivable documentation issue, but covers typical documentation requirements.

2.3 The Checklist contains seven sections. Section I applies to awards in excess of $2500. Sections II through VII are applicable based on award value.

NOTE: Sections/items marked with an " * " apply to both commercial and federal awards. All other Sections/items apply only to federal awards.

2.4 All checkpoints in each applicable Section must reflect either a "✓" or "yes" to indicate compliance with the checkpoint requirement or "N/A" to indicate non-applicability.

2.5 Checklists will be completed, signed and retained in the applicable purchase order/subcontract file.

3.0 RESPONSIBILITIES

3.1 The Procurement Representative, for all awards in excess of $2500, will:

3.1.1 Complete the applicable portions of the Checklist (Exhibit 1) commensurate with award value.

3.1.2 Sign and date each Checklist.

3.1.3 File the Checklist as the first document in the purchase order or subcontract file.

4.0 EXHIBITS

4.1 Exhibit 1, "Purchase Order/Subcontract Checklist"

Purchase Order/Subcontract Checklist

P.O./Subcontract No.:_____ Value:_____ Supplier:_____ Bus. Size:_____

INSTRUCTION: Sections/items marked with an "*" apply to both federal and commercial awards. All other Sections/items apply only to federal awards. Complete Checklist based on award value. All Checklist items that fall within the applicable award value must be completed with either "✓"/ "yes" or "N/A".

I. Applicable to all awards over $2,500

*A. Requisition Document Complete (PP 3.8)

_____ 1. Creation date noted
_____ 2. Rec'd Procurement stamp affixed
_____ 3. Need date specified
_____ 4. Statement of Work req'ts adequate/ all referenced attachments included
_____ 5. Approval signature noted

*B. P.O. Justification Worksheet (POJW) Complete (PP 3.8)

_____ 1. Requisition No. noted
_____ 2. Names of all vendor contacts noted
_____ 3. Payment terms noted
_____ 4. Promised delivery dates noted
_____ 5. Pricing for all bidders noted
_____ 6. Source Justification noted
_____ 7. Price Justification/Evaluation noted
_____ 8. Basis of award noted
_____ 9. Worksheet signed and dated

C. Source Selection

_____ 1. Source(s) not contained in List of Parties Excluded from Procurement Programs (PP 2.3)
*_____ 2. Required Source Justification Memorandum for single/sole sources >$2,500 (PP 3.3)

* D. Written Quotations (To the extent obtained/required)

_____ 1. Date stamped upon receipt (PP 3.6)

* E. Price Analysis Performed for award >$2,500 (PP 4.5)

_____ 1. Documented on POJW or custom bid tabulation sheet
_____ 2. POJW supported w/documentation for all awards not based on adequate competition
_____ 3. Quotes within competitive range (competitive transactions only)
_____ 4. Negotiations conducted/documented when price reasonableness not concluded

F. Representations and Certifications(Complete if dollar thresholds defined in Sections III, IV, V or VI are met)

_____ 1. Received prior to award
_____ 2. Reviewed for completeness, supplier signature and date of execution

G. Advance Notification & Prior Consent (PP 4.0) (Based on prime clause/value & type of award)

_____ 1. Submitted/received prior to award
_____ 2. Verbal consent documented in writing to or by the C.O. prior to award

* H. Management Preaward and Approval (PP 1.7)

_____ 1. Value of award within delegated authority
_____ 2. Award exceeds authority & approval obtained (Management PreAward Approval Form Req'd)

I. Flowdown Provisions (PP's 2.1, 2.2, 3.5, 3.5A, 3.5B, 3.5C)

_____ 1. Incorporated into award (mandatory)

* J. Business Size Classification (PP 2.0)

_____ 1. Noted on award (mandatory)
_____ 2. Entered into Oracle (Yes or N/A)

In addition to items on the previous page, the following apply based on award value.

II. Applicable to awards over > $5,000

_____ 1. DPAS requirements addressed (PP 4.6)
Rating noted in award
Required statement on rated award

III. Applicable to awards over >$10,000

_____ 1. Nonsegregated Facilities Cert (PP 2.2)
_____ 2. Affirmative Action Compliance Rep. (PP 2.2)
_____ 3. Previous Contracts & Compliance Reports Rep (PP 2.2)
_____ 4. FAR 52.222-26 "Equal Opportunity" flowdown (PP 2.2)

IV. Applicable to awards over >$25,000

_____ 1. Cert. Regarding Debarment, Suspension & Other Resp. Matters (PP 2.3)
*_____ 2. Vendor Rating System checked (PP 3.27)

V. Applicable to awards over $100,000 (See Note 1 below)

_____ 1. Cert Regarding Payment to Influence Certain Fed. Trans. (PP 4.1)
_____ 2. Clean Air & Water Cert (PP 4.9)
*_____ 3. SB/SDB Solicitation Rationale (PP 2.0)
_____ 4. Cost or Pricing Data (PP 4.4)
_____ Competition or other exemption
_____ Obtained
_____ Certified

VI. Applicable to awards over > $500,000 See Note 2 below.)

_____ 1. Small Business Plan (Large Bus only, PP 2.1)
_____ 2. Cost Accounting Standards (PP 4.1)
_____ 3. Cost or Pricing Data (PP 4.4)
_____ Competition or other exemption
_____ Obtained
_____ Certified
_____ 4. LSA notification provided to C.O. (PP 2.4)

VII. Applicable to awards over > $1,000,000

_____ 1. EEO Preaward Clearance (PP 2.2/4.0)

(Note 1) Item V 4 applies to awards supporting contracts awarded by Govt agencies except DOD, the Coast Guard & NASA.

(Note 2) Item VI 3 applies only to awards supporting contracts awarded by DOD, the Coast Guard and NASA.

Buyer Signature:_____

Date:_____

APPENDIX G

TABLES AND FORMS

TABLE G-1: EXAMPLE TABLE
SUMMARY OF TESTING PROCEDURES
TABLE G-2: LOG FOR TRACKING INSPECTION FORMS
TABLE G-3: DOCUMENT REVIEW AND DISTRIBUTION REQUIREMENTS FOR CQC DOCUMENTS

Note:

See Appendix J for the Deficiency and Corrective Action Log and Appendix K for the Deficiency Report Form

Table G-2

Log for Tracking Inspection Forms

Contract Number/Task Order _____

Site _____

Work Order Number_____

Feature of Work	Inspection Type	Date of Inspection	Comments

Table G-3

Document Review and Distribution Requirements for CQC Documents

Document	Prepared By	Reviewed By and Copied on Distribution	Original Held By[1]
CQCP and Supplements	CQC System Manager	1. Corporate CQC Manager 2. Task Order Manager 3. Project Superintendent 4. Project Manager 5. Supplemental QC Personnel 6. Contracting Officer Representative	CQC System Manager
Sampling and Analysis Plan (SAP)	Project Manager or Designee	1. Corporate CQC Manager 2. CQC System Manager 3. Task Order Manager 4. Project Superintendent 5. Project Manager 6. Laboratory QC Manager (includes subcontractor laboratories) 7. Contracting Officer Representative	Task Order Manager or Designee
Daily Contractor QC Report	CQC System Manager or Alternate	1. Corporate CQC Manager 2. CQC System Manager 3. Task Order Manager 4. Project Superintendent 5. Contracting Officer Representative	Contracting Officer Representative
Inspection Reports	CQC System Manager or Designee (Inspector)	1. Corporate CQC Manager 2. CQC System Manager 3. Task Order Manager 4. Project Superintendent 5. Contracting Officer Representative	CQC System Manager

Table G-3

Document Review and Distribution Requirements for CQC Documents (Continued)

Document	Prepared By	Reviewed By and Copied on Distribution	Original Held By[1]
Test Reports	Test Technician	1. Corporate CQC Manager 2. CQC System Manager 3. Task Order Manager 4. Project Superintendent 5. Contracting Officer Representative	CQC System Manager
Shop Drawings	Vendor	1. CQC System Manager 2. Design Engineer (if needed) 3. Contracting Officer Representative	CQC System Manager
As-Built Plans	CQC System Manager	1. Task Order Manager 2. Contracting Officer Representative	CQC System Manager
Quality Assurance (QA) Audit Reports	Corporate CQC Manager	1. Corporate CQC Manager 2. CQC System Manager 3. Task Order Manager 4. Project Superintendent 5. Project Manager 6. Supplemental QC Personnel 7. Contracting Officer Representative	Contracting Officer Representative
Reports of Noncompliance	Various	1. Corporate CQC Manager 2. CQC System Manager 3. Task Order Manager 4. Project Superintendent 5. Project Manager 6. Contracting Officer Representative	Contracting Officer Representative

Table G-3

Document Review and Distribution Requirements for CQC Documents (Continued)

Document	Prepared By	Reviewed By and Copied on Distribution	Original Held By[1]
Change Order Form	Task Order Manager	1. Task Order Manager 2. Project Manager 3. Contracting Officer Representative	Task Order Manager

[1]Copies also included in DCN/project files.

APPENDIX H

CHECKLIST FOR TESTS

CHECKLIST FOR TESTS

Contract Number/Task Order: _____

Site: _____ Work Order Number: _____

Name: _____ Date: _____

Definable Feature of Work: _____

Test Name: _____

1. Are test facilities available? _____ Yes☐ No☐*

2. Do test facilities comply with testing standards? _____ Yes☐ No☐*

3. Is test equipment available? _____ Yes☐ No☐*

4. List applicable test standards. _____

5. Does test equipment comply with testing standards? _____ Yes☐ No☐*

6. Has test instrument calibration data been checked against certified standards? _____ Yes☐ No☐*

7. Are appropriate recording forms available? _____ Yes☐ No☐*

8. Is test identification control number system prepared (e.g., test number assigned, sample numbers assigned, etc.)? _____ Yes☐ No☐*

*** Explain No responses below**

APPENDIX I

QUALITY CONTROL INSPECTIONS FORMS

- **Preparatory Inspection**
- **Initial/Follow-Up Inspection**

QUALITY CONTROL INSPECTION FORM
PREPARATORY INSPECTION

Project:_____ Project No:_____
Date:___ Time:_____ Work Element:___

Inspector's Name:_____ Signature:_____

1. Review of Contract Requirements Made (Applicable Specifications, Contract/TO Plans, and Scope of Work); Identified Variances Noted: Yes☐ No☐*

   Note: Reference section of contract/plan; explain No * :_____

2. Verify that all materials and/or equipment have been submitted and approved, and if required, have been tested. Yes☐ No☐*

3. Verify that provisions have been made to provide required control inspection and testing. Yes☐ No☐*

4. Examination of the work area to ensure that all required preliminary work has been completed and is in compliance with the contract. Yes☐ No☐*

5. Physical examination of required materials, equipment, and sample work to ensure that they are on-hand, conform to approved shop drawings or submitted data, and are properly stored. Yes☐ No☐*

6. Review of the appropriate activity hazard analysis to ensure that safety requirements are met. Yes☐ No☐*

7. Discussion of procedures for constructing the work, including elimination of repetitive deficiencies. Yes☐ No☐*

8. Construction tolerances and workmanship standards for the phase of work being inspected. Yes☐ No☐*

9. Verify that the portion of the plan for the work to be performed has been accepted by the Contracting Officer. Yes☐ No☐*

10. USACE Contracting Officer notified at least 48 hours in advance of beginning any of the required action of the preparatory phase. Yes☐ No☐*

11. The results of the preparatory-phase inspection (e.g., acceptable workmanship, actions required, etc.) documented by separate minutes prepared by the CQC System Manager and attached to the Daily Contractory QC Report. Yes☐ No☐*

***Explain any No responses below (Attach additional sheets if necessary)**

QUALITY CONTROL INSPECTION FORM
INITIAL/FOLLOW-UP INSPECTION

Project:_____ Project No:_____
Date:_____ Time:_____ Work Element:___

Inspector's Name:_____ Signature:_____

1. Verify preliminary work to ensure that it is in compliance with contract/TO requirements. Yes☐ No☐*

2. Verification of required control inspection and testing and compliance with contract. Yes☐ No☐*

3. Acceptable levels of workmanship. Yes☐ No☐*

4. Workmanship standards acceptable. Yes☐ No☐*

5. Resolution of differences or conflicts in work scope or with contract specifications._____

6. Compliance with SSHP and activity hazard analysis. Yes☐ No☐*

7. USACE Contracting Officer notified at least 48 hours in advance of beginning the initial phase.[1] Yes☐ No☐*

8. Meeting conducted by the CQC System Manager and attended by the appropriate CQC personnel and the work leader responsible for the definable feature of work. Yes☐ No☐*

9. The results of the initial-phase inspection (e.g., acceptable workmanship, actions required, etc.) documented by separate minutes prepared by the CQC System Manager and attached to the Daily Contractor QC Report. Yes☐ No☐*

10. Initial phase repeated for each new crew to work on-site or any time specified quality standards are not being met. Yes☐ No☐*

***Explain any No responses below (Attach additional sheets if necessary)**

[1] Notification may be in the form of a written schedule provided to USACE.

APPENDIX J

DEFICIENCY AND CORRECTIVE ACTION LOG

Contract No.: _____

Project Title and Location: _____

CQC SYSTEM MANAGER
DEFICIENCY AND CORRECTIVE ACTION LOG

DEFICIENCY	DEFICIENCY REPORT NO.	DATE DEFICIENCY NOTED	CORRECTIVE ACTION	DATE CORRECTIVE ACTION TAKEN	COMMENTS

APPENDIX K

DEFICIENCY REPORT FORM

DEFICIENCY REPORT FORM

Contractor: _____

Date: _____ Contract No.: _____

Location: _____

Reference Specifications Paragraph: _____

Reference Contract Drawing Sheet No.: _____

Deficiency: _____

_____

_____

Responsible Personnel to Identify Corrective Action: _____

_____

Corrective Action: _____

_____

_____

Responsible Personnel to Implement Corrective Action: _____

Approval of Corrective Action by Task Order Manager: _____

Schedule for Corrective Action: _____

Acknowledged: _____

Area Representative and Date _____

USACE Field Representative _____

APPENDIX L

DAILY CONTRACTOR QC REPORT FORM (DCQR)

DAILY CONSTRUCTION QUALITY CONTROL REPORT
DATE:_____

MANAGERS DESIGNERS/CONSULTANTS

WEEK NO.:	HOURS ON SITE:	WRITTEN BY:	REVIEWED BY:	WORK ORDER AND TASK:

WEATHER/TEMPERATURE:

LOCATION OF WORK:

WESTON PERSONNEL:	EQUIPMENT:	VISITORS/AFFILIATION:
SITE MGR:		
CQC SYSTEM MGR.:		
SHSC:		
OTHERS:		

SUBCONTRACTOR:	MATERIALS DELIVERED (indicate size, type, and condition):
(1) _____	
(2) _____	
(3) _____	
(4)	

WORK PERFORMED BY WESTON

WORK COMPLETED BY WESTON SUBCONTRACTORS

AGREEMENTS MADE/CONVERSATIONS (Refer to telecons, speed memos, phone records, and/or logbooks for details)

White Copy: Site File Yellow Copy: Project Manager Pink Copy: Quality Control

DAILY CONSTRUCTION QUALITY CONTROL REPORT
DATE:_____

WESTON® MANAGERS DESIGNERS/CONSULTANTS

CQC SYSTEM MGR. (Print Name): _____ CQC SYSTEM MGR. SIGNATURE: _____

TYPE OF INSPECTION (Preparatory, Initial, Follow Up):

CQC FINDINGS (Satisfactory Work Completed and Deficiencies; Attach Phase Inspection Forms):

RECOMMENDED CORRECTIVE ACTIONS

SAFETY OBSERVATIONS/VIOLATIONS/COMMENTS

CALIBRATION OF FIELD EQUIPMENT (See Calibration Logs in File)

TEST DATA (List items here and attach appropriate data sheet)

White Copy: Site File Yellow Copy: Project Manager Pink Copy: Quality Control

APPENDIX M

QUALITY ASSURANCE AUDIT CHECKLIST AND AUDIT NOTES

QUALITY ASSURANCE AUDIT CHECKLIST AND AUDIT NOTES

1. Audit Number: _____
(Contract No. and Audit No.)

Note: Several different forms covering several dates or locations may be required for a single auditing event.

2. Auditor: _____

3. Date: _____ 4. Time: _____

5. Location: _____

6. Persons Contacted: _____

7. Consistency with Schedule: _____

8. CQCP Staffing Changes (have they been approved by Contracting Officer, have qualifications been appended to the plan?): _____

9. Documents Available (yes/no observations): _____
CQC Plan _____
CENAE specifications _____
Site Safety and Health Plan _____
Drawings, as built (maintained?) _____
Daily Contractor QC reports (on file, up-to-date, complete?) _____
Inspection records (type of inspection, up-to-date, filed properly, completed properly, signed, follow-up on noncompliance?) _____
Test records (type of test, up-to-date, filed properly, completed properly, signed, follow-up on noncompliance?) _____

10. Chemical Quality Management:
Sample log _____
Chain-of-custody forms on file _____
Laboratory reports (on schedule, in accordance to format, include QC data?)
_____
_____
Equipment calibration records (up-to-date, complete?)
_____

11. Health and Safety:
Site Safety and Health Officer or alternate on-site (name?) _____
Personnel on-site (current with field certification requirements?) _____
_____

QUALITY ASSURANCE AUDIT CHECKLIST AND AUDIT NOTES (Continued)

Safety log (up-to-date, complete?) _____
Daily inspection records (up-to-date, complete, follow-up?) _____
Required monitoring instruments on-site _____
Monitoring instrument calibration records (on file and up-to-date?) _____

_____

12. Field Inspection:
Type or nature of work observed _____
Persons and/or subcontractor doing work _____
Applicable specifications _____
Work being done in accordance with specifications? _____
Work completed consistent with schedule? _____
Safety rules being adhered to? _____
Work zones delineated and honored? _____
Personal protective equipment used? _____
Other safety issues? _____

APPENDIX N

NOTIFICATION AND CERTIFICATION REQUIREMENTS FOR DEACTIVATION OF CHARACTERISTIC WASTES

_____ 40 CFR 268.9
_____ 40 CFR 268.7 (b)(5)

40 CFR 268.9

§ 260.11 of this chapter), to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in subpart D of this part. Such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by § 264.13 or § 265.13 of this chapter.

(d) Generators or treaters who first claim that hazardous debris is excluded from the definition of hazardous waste under § 261.3(e) of this chapter (i.e., debris treated by an extraction or destruction technology provided by Table 1, § 268.45, and debris that the EPA Regional Administrator (or his designated representative) or State authorized to implement part 268 requirements has determined does not contain hazardous waste) are subject to the following notification and certification requirements:

(1) A one-time notification, including the following information, must be submitted to the EPA Regional hazardous waste management division director (or his designated representative) or State authorized to implement part 268 requirements, or State authorized to implement part 268 requirements:

(2) The notification must be updated if the debris is shipped to a different facility, and, for debris excluded under § 261.2(e)(1) of this chapter, if a different type of debris is treated or if a different technology is used to treat the debris.

(3) For debris excluded under § 261.3(e)(1) of this chapter, the owner or operator of the treatment facility must document and certify compliance with the treatment standards of Table 1, § 268.45, as follows:

(i) Records must be kept of all inspections, evaluations, and analyses of treated debris that are made to determine compliance with the treatment standards;

(ii) Records must be kept of any data or information the treater obtains during treatment of the debris that identifies key operating parameters of the treatment unit; and

(iii) For each shipment of treated debris, a certification of compliance with the treatment standards must be signed by an authorized representative and placed in the facility's files. The certification must state the following: "I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment."

(e) Generators and treaters who first receive from EPA or an authorized state a determination that a given contaminated soil subject to LDRs as provided in § 268.49(a) no longer contains a listed hazardous waste and generators and treaters who first determine that a contaminated soil subject to LDRs as provided in § 268.49(a) no longer exhibits a characteristic of hazardous waste must:

(1) Prepare a one-time only documentation of these determinations including all supporting information; and,

(2) Maintain that information in the facility files and other records for a minimum of three years.

[51 FR 40638, Nov. 7, 1986; 52 FR 21016, June 4, 1987, as amended at 52 FR 25789, July 8, 1987; 53 FR 31213, Aug. 17, 1988; 54 FR 26648, June 23, 1989; 54 FR 36971, Sept. 6, 1989; 55 FR 22687, June 1, 1990; 55 FR 23935, June 13, 1990; 56 FR 3877, Jan. 31, 1991; 57 FR 37270, Aug. 18, 1992; 58 FR 29884, May 24, 1993; 58 FR 46050, Aug. 31, 1993; 59 FR 47980, Sept. 19, 1994; 59 FR 48043, Sept. 19, 1994; 60 FR 244, Jan. 3, 1995; 61 FR 15598, Apr. 8, 1996; 62 FR 26019, May 12, 1997; 63 FR 28639, May 26, 1998; 64 FR 25414, May 11, 1999]

§ 268.8 [Reserved]

§ 268.9 Special rules regarding wastes that exhibit a characteristic.

(a) The initial generator of a solid waste must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under subpart D of this part. For purposes of part 268, the waste will carry the waste code for any applicable listed waste (Part 261, Subpart D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (Part 261, Subpart C), except when the treatment standard for the listed waste operates in lieu of the

treatment standard for the characteristic waste, as specified in paragraph (b) of this section. If the generator determines that their waste displays a hazardous characteristic (and is not D001 nonwastewaters treated by CMBST, RORGS, OR POLYM of § 268.42, Table 1), the generator must determine the underlying hazardous constituents (as defined at § 268.2(i)) in the characteristic waste.

(b) Where a prohibited waste is both listed under 40 CFR part 261, subpart D and exhibits a characteristic under 40 CFR part 261, subpart C, the treatment standard for the waste code listed in 40 CFR part 261, subpart D will operate in lieu of the standard for the waste code under 40 CFR part 261, subpart C, provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

(c) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under 40 CFR part 261, subpart C may be land disposed unless the waste complies with the treatment standards under subpart D of this part.

(d) Wastes that exhibit a characteristic are also subject to § 268.7 requirements, except that once the waste is no longer hazardous, a one-time notification and certification must be placed in the generators or treaters files and sent to the EPA region or authorized state. The notification and certification that is placed in the generators or treaters files must be updated if the process or operation generating the waste changes and/or if the subtitle D facility receiving the waste changes. However, the generator or treater need only notify the EPA region or an authorized state on an annual basis if such changes occur. Such notification and certification should be sent to the EPA region or authorized state by the end of the calendar year, but no later that December 31.

(1) The notification must include the following information:

(i) Name and address of the RCRA Subtitle D facility receiving the waste shipment; and

(ii) A description of the waste as initially generated, including the applicable EPA hazardous waste code(s), treatability group(s), and underlying hazardous constituents (as defined in § 268.2(i)), unless the waste will be treated and monitored for all underlying hazardous constituents. If all underlying hazardous constituents will be treated and monitored, there is no requirement to list any of the underlying hazardous constituents on the notice.

(2) The certification must be signed by an authorized representative and must state the language found in § 268.7(b)(4).

(i) If treatment removes the characteristic but does not meet standards applicable to underlying hazardous constituents, then the certification found in § 268.7(b)(4)(iv) applies.

(ii) [Reserved]

[55 FR 22688, June 1, 1990, as amended at 56 FR 3878, Jan. 31, 1991; 57 FR 37271, Aug. 18, 1992; 58 FR 29885, May 24, 1993; 59 FR 48045, Sept. 19, 1994; 60 FR 245, Jan. 3, 1995; 61 FR 15599, 15662, Apr. 8, 1996; 62 FR 26022, May 12, 1997; 64 FR 25415, May 11, 1999]

Subpart B—Schedule for Land Disposal Prohibition and Establishment of Treatment Standards

SOURCE: 51 FR 19305, May 28, 1986, unless otherwise noted.

§§ 268.10—268.12 [Reserved]

§ 268.13 Schedule for wastes identified or listed after November 8, 1984.

In the case of any hazardous waste identified or listed under section 3001 after November 8, 1984, the Administrator shall make a land disposal prohibition determination within 6 months after the date of identification or listing.

§ 268.14 Surface impoundment exemptions.

(a) This section defines additional circumstances under which an otherwise prohibited waste may continue to be placed in a surface impoundment.

40 CFR 268.7 (b)(5)

§ 268.7 Testing, tracking, and recordkeeping requirements for generators, treaters, and disposal facilities.

(a) *Requirements for generators:* (1) A generator of hazardous waste must determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards in § 268.40, § 268.45, or § 268.49. This determination can be made in either of two ways: testing the waste or using knowledge of the waste. If the generator tests the waste, testing would normally determine the total concentration of hazardous constituents, or the concentration of hazardous constituents in an extract of the waste obtained using test method 1311 in "Test Methods of Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as referenced in § 260.11 of this chapter, depending on whether the treatment standard for the waste is expressed as a total concentration or concentration of hazardous constituent in the waste's extract. In addition, some hazardous wastes must be treated by particular treatment methods before they can be land disposed and some soils are contaminated by such hazardous wastes. These treatment standards are also found in § 268.40, and are described in detail in § 268.42, Table 1. These wastes, and solids contaminated with such wastes, do not need to be tested (however, if they are in a waste mixture, other wastes with concentration level treatment standards would have to be tested). If a generator determines they are managing a waste or soil contamination with a waste, that displays a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity, they must comply with the special requirements of § 268.9 of this part in addition to any applicable requirements in this section.

(2) If the waste or contaminated soil does not meet the treatment standard: With the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The notice must include the information in column "268.7(a)(2)" of the Generator Paperwork Requirements Table in § 268.7(a)(4). No further notification is necessary until such time that the waste or facility change, in which case a new notification must be sent and a copy placed in the generator's file.

(i) For contaminated soil, the following certification statement should be included, signed by an authorized representative:

I certify under penalty of law that I personally have examined this contaminated soil and it [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and requires treatment to meet the soil treatment standards as provided by 268.49(c).

(ii) [Reserved]

(3) If the waste or contaminated soil meets the treatment standard at the original point of generation:

(i) With the initial shipment of waste to each treatment, storage, or disposal facility, the generator must send a one-time written notice to each treatment, storage, or disposal facility receiving the waste, and place a copy in the file. The notice must include the information indicated in column "268.7(a)(3)" of the Generator Paperwork Requirements Table in § 268.7(a)(4) and the following certification statement, signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR part 268 subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

(ii) For contaminated soil, with the initial shipment of wastes to each treatment, storage, or disposal facility, the generator must send a one-time written notice to each facility receiving the waste and place a copy in the file. The notice must include the information in "268.7(a)(3) of the Generator Paperwork Requirements Table in § 268.7(a)(4).

(4) For reporting, tracking, and recordkeeping when exceptions allow certain wastes or contaminated soil that do not meet the treatment standards

to be land disposed: There are certain exemptions from the requirement that hazardous wastes or contaminated soil meet treatment standards before they can be land disposed. These include, but are not limited to case-by-case extensions under § 268.5, disposal in a no-migration unit under § 268.6, or a national capacity variance or case-by-case capacity variance under subpart C of this part. If a generator's waste is so exempt, then with the initial shipment of waste, the generator must send a one-time written notice to each land disposal facility receiving the waste. The notice must include the information indicated in column "268.7(a)(4)" of the Generator Paperwork Requirements Table below. If the waste changes, the generator must send a new notice to the receiving facility, and place a copy in their files.

GENERATOR PAPERWORK REQUIREMENTS TABLE

Required information	§268.7 (a)(2)	§268.7 (a)(3)	§268.7 (a)(4)	§268.7 (a)(9)
1. EPA Hazardous Waste Numbers and Manifest Number of first shipment	✔	✔	✔	✔
2. Statement: this waste is not prohibited from land disposal			✔	
3. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice	✔	✔		
4. The notice must include the applicable wastewater/ nonwastewater category (see §§268.2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide)	✔	✔		
5. Waste analysis data (when available)	✔	✔	✔	
6. Date the waste is subject to the prohibition			✔	
7. For hazardous debris, when treating with the alternative treatment technologies provided by §268.45: the contaminants subject to treatment, as described in §268.45(b); and an indication that these contaminants are being treated to comply with §68.45	✔		✔	
8. For contaminated soil subject to LDRs as provided in §68.49(a), the constituents subject to treatment as described in §68.49(d), and the following statement: This contaminated soil [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with the soil treatment standards as provided by §68.49(c) or the universal treatment standards	✔	✔		
9. A certification is needed (see applicable section for exact wording)		✔		✔

(5) If a generator is managing and treating prohibited waste or contaminated soil in tanks, containers, or containment buildings regulated under 40 CFR 262.34 to meet applicable LDR treatment standards found at § 268.40, the generator must develop and follow a written waste analysis plan which describes the procedures they will carry out to comply with the treatment standards. (Generators treating hazardous debris under the alternative treatment standards of Table 1, § 268.45, however, are not subject to these waste analysis requirements.) The plan must be kept on site in the generator's records, and the following requirements must be met:

(i) The waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste(s) being treated, and contain all information necessary to treat the waste(s) in accordance with the requirements of this part, including the selected testing frequency.

(ii) Such plan must be kept in the facility's on-site files and made available to inspectors.

(iii) Wastes shipped off-site pursuant to this paragraph must comply with the notification requirements of § 268.7(a)(3).

(6) If a generator determines that the waste or contaminated soil is restricted based solely on his knowledge of the waste, all supporting data used to make this determination must be retained on-site in the generator's files. If a generator determines that the waste is restricted based on testing

this waste or an extract developed using the test method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as referenced in § 260.11 of this chapter, and all waste analysis data must be retained on-site in the generator's files.

(7) If a generator determines that he is managing a prohibited waste that is excluded from the definition of hazardous or solid waste or is exempted from Subtitle C regulation under 40 CFR 261.2 through 261.6 subsequent to the point of generation (including deactivated characteristic hazardous wastes managed in wastewater treatment systems subject to the Clean Water Act (CWA) as specified at 40 CFR 261.4(a)(2) or that are CWA-equivalent, or are managed in an underground injection well regulated by the SDWA), he must place a one-time notice describing such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from RCRA Subtitle C regulation, and the disposition of the waste, in the facility's on-site files.

(8) Generators must retain on-site a copy of all notices, certifications, waste analysis data, and other documentation produced pursuant to this section for at least three years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal. The three year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator. The requirements of this paragraph apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under 40 CFR 261.2 through 261.6, or exempted from Subtitle C regulation, subsequent to the point of generation.

(9) If a generator is managing a lab pack containing hazardous wastes and wishes to use the alternative treatment standard for lab packs found at § 268.42(c):

(i) With the initial shipment of waste to a treatment facility, the generator must submit a notice that provides the information in column "§ 268.7(a)(9)" in the Generator Paperwork Requirements Table of paragraph (a)(4) of this section, and the following certification. The certification, which must be signed by an authorized representative and must be placed in the generator's files, must say the following:

> I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under appendix IV to 40 CFR part 268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR 268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.

(ii) No further notification is necessary until such time that the wastes in the lab pack change, or the receiving facility changes, in which case a new notice and certification must be sent and a copy placed in the generator's file.

(iii) If the lab pack contains characteristic hazardous wastes (D001-D043), underlying hazardous constituents (as defined in § 268.2(i)) need not be determined.

(iv) The generator must also comply with the requirements in paragraphs (a)(6) and (a)(7) of this section.

(10) Small quantity generators with tolling agreements pursuant to 40 CFR 262.20(e) must comply with the applicable notification and certification requirements of paragraph (a) of this section for the initial shipment of the waste subject to the agreement. Such generators must retain on-site a copy of the notification and certification, together with the tolling agreement, for at least three years after termination or expiration of the agreement. The three-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

(b) Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by 40 CFR 264.13 (for permitted TSDs) or 40 CFR 265.13 (for interim status facilities). Such testing

must be performed as provided in paragraphs (b)(1), (b)(2) and (b)(3) of this section.

(1) For wastes or contaminated soil with treatment standards expressed in the waste extract (TCLP), the owner or operator of the treatment facility must test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW–846 as incorporated by reference in § 260.11 of this chapter) to assure that the treatment residues extract meet the applicable treatment standards.

(2) For wastes or contaminated soil with treatment standards expressed as concentrations in the waste, the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that they meet the applicable treatment standards.

(3) A one-time notice must be sent with the initial shipment of waste or contaminated soil to the land disposal facility. A copy of the notice must be placed in the treatment facility's file.

(i) No further notification is necessary until such time that the waste or receiving facility change, in which case a new notice must be sent and a copy placed in the treatment facility's file.

(ii) The one-time notice must include these requirements:

TREATMENT FACILITY PAPERWORK REQUIREMENTS TABLE

Required information	§ 268.7(b)
1. EPA Hazardous Waste Numbers and Manifest Number of first shipment	✔
2. The waste is subject to the LDRs. The constituents of concern for F001–F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice	✔
3. The notice must include the applicable wastewater/ nonwastewater category (see §§ 268.2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide)	✔
4. Waste analysis data (when available)	✔
5. For contaminated soil subject to LDRs as provided in 268.49(a), the constituents subject to treatment as described in 268.49(d) and the following statement, "this contaminated soil [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by 268.49(c)."	✔
6. A certification is needed (see applicable section for exact wording)	✔

(4) The treatment facility must submit a one-time certification signed by an authorized representative with the initial shipment of waste or treatment residue of a restricted waste to the land disposal facility. The certification must state:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

A certification is also necessary for contaminated soil and it must state:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268.49 without impermissible dilution of the prohibited wastes. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(i) A copy of the certification must be placed in the treatment facility's on-site files. If the waste or treatment residue changes, or the receiving facility changes, a new certification must be sent to the receiving facility, and a copy placed in the file.

(ii) Debris excluded from the definition of hazardous waste under § 261.3(e) of this chapter (i.e., debris treated by an extraction or destruction technology provided by Table 1, § 268.45, and debris that the Director has determined does not contain hazardous

waste), however, is subject to the notification and certification requirements of paragraph (d) of this section rather than the certification requirements of this paragraph.

(iii) For wastes with organic constituents having treatment standards expressed as concentration levels, if compliance with the treatment standards is based in whole or in part on the analytical detection limit alternative specified in § 268.40(d), the certification, signed by an authorized representative, must state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good-faith efforts to analyze for such constituents. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(iv) For characteristic wastes that are subject to the treatment standards in § 268.40 (other than those expressed as a method of treatment), or § 268.49, and that contain underlying hazardous constituents as defined in § 268.2(i); if these wastes are treated on-site to remove the hazardous characteristic; and are then sent off-site for treatment of underlying hazardous constituents, the certification must state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(v) For characteristic wastes that contain underlying hazardous constituents as defined § 268.2(i) that are treated on-site to remove the hazardous characteristic to treat underlying hazardous constituents to levels in § 268.48 Universal Treatment Standards, the certification must state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268.2(i) have been treated on-site to meet the § 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(5) If the waste or treatment residue will be further managed at a different treatment, storage, or disposal facility, the treatment, storage, or disposal facility sending the waste or treatment residue off-site must comply with the notice and certification requirements applicable to generators under this section.

(6) Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of § 268.20(b) regarding treatment standards and prohibition levels, the owner or operator of a treatment facility (i.e., the recycler) is not required to notify the receiving facility, pursuant to paragraph (b)(3) of this section. With each shipment of such wastes the owner or operator of the recycling facility must submit a certification described in paragraph (b)(4) of this section, and a notice which includes the information listed in paragraph (b)(3) of this section (except the manifest number) to the Regional Administrator, or his delegated representative. The recycling facility also must keep records of the name and location of each entity receiving the hazardous waste-derived product.

(c) Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal pursuant to 40 CFR 266.20(b), the owner or operator of any land disposal facility disposing any waste subject to restrictions under this part must:

(1) Have copies of the notice and certifications specified in paragraph (a) or (b) of this section.

(2) Test the waste, or an extract of the waste or treatment residue developed using test method 1311 (the Toxicity Characteristic Leaching Procedure), described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference in

§ 260.11 of this chapter), to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in subpart D of this part. Such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by § 264.13 or § 265.13 of this chapter.

(d) Generators or treaters who first claim that hazardous debris is excluded from the definition of hazardous waste under § 261.3(e) of this chapter (i.e., debris treated by an extraction or destruction technology provided by Table 1, § 268.45, and debris that the EPA Regional Administrator (or his designated representative) or State authorized to implement part 268 requirements has determined does not contain hazardous waste) are subject to the following notification and certification requirements:

(1) A one-time notification, including the following information, must be submitted to the EPA Regional hazardous waste management division director (or his designated representative) or State authorized to implement part 268 requirements, or State authorized to implement part 268 requirements:

(2) The notification must be updated if the debris is shipped to a different facility, and, for debris excluded under § 261.2(e)(1) of this chapter, if a different type of debris is treated or if a different technology is used to treat the debris.

(3) For debris excluded under § 261.3(e)(1) of this chapter, the owner or operator of the treatment facility must document and certify compliance with the treatment standards of Table 1, § 268.45, as follows:

(i) Records must be kept of all inspections, evaluations, and analyses of treated debris that are made to determine compliance with the treatment standards;

(ii) Records must be kept of any data or information the treater obtains during treatment of the debris that identifies key operating parameters of the treatment unit; and

(iii) For each shipment of treated debris, a certification of compliance with the treatment standards must be signed by an authorized representative and placed in the facility's files. The certification must state the following: "I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment."

(e) Generators and treaters who first receive from EPA or an authorized state a determination that a given contaminated soil subject to LDRs as provided in § 268.49(a) no longer contains a listed hazardous waste and generators and treaters who first determine that a contaminated soil subject to LDRs as provided in § 268.49(a) no longer exhibits a characteristic of hazardous waste must:

(1) Prepare a one-time only documentation of these determinations including all supporting information; and,

(2) Maintain that information in the facility files and other records for a minimum of three years.

[51 FR 40638, Nov. 7, 1986; 52 FR 21016, June 4, 1987, as amended at 52 FR 25789, July 8, 1987; 53 FR 31213, Aug. 17, 1988; 54 FR 26648, June 23, 1989; 54 FR 36971, Sept. 6, 1989; 55 FR 22687, June 1, 1990; 55 FR 23935, June 13, 1990; 56 FR 3877, Jan. 31, 1991; 57 FR 37270, Aug. 18, 1992; 58 FR 29884, May 24, 1993; 58 FR 46050, Aug. 31, 1993; 59 FR 47980, Sept. 19, 1994; 59 FR 48043, Sept. 19, 1994; 60 FR 244, Jan. 3, 1995; 61 FR 15598, Apr. 8, 1996; 62 FR 26019, May 12, 1997; 63 FR 28639, May 26, 1998; 64 FR 25414, May 11, 1999]

§ 268.8 [Reserved]

§ 268.9 Special rules regarding wastes that exhibit a characteristic.

(a) The initial generator of a solid waste must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under subpart D of this part. For purposes of part 268, the waste will carry the waste code for any applicable listed waste (Part 261, Subpart D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (Part 261, Subpart C), except when the treatment standard for the listed waste operates in lieu of the