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K.A. McGinnis	HO-57	X			
P.J. McKenna	R3-54	X			
C.E. Norton	E6-03	X			
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ENGINEERING DATA TRANSMITTAL

Page 1 of 1
1. EDT 608804

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17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)									
(G)	(H)	(J) Name	(K) Signature (M) MSIN	(L) Date	(J) Name	(K) Signature (M) MSIN	(L) Date	Reason	Disp.
1/2		Cog. Eng. M.E. Borgeson	<i>M.E. Borgeson</i>	11-1-94 HO-57					
1/2		Cog. Mgr. M.E. Borgeson	<i>M.E. Borgeson</i>	11-1-94 HO-57					
1/2		QA C.E. Norton	<i>C.E. Norton</i>	11-2-94 E6-03					
1/2		Safety B.G. Baker	<i>B.G. Baker</i>	11-6-94 G3-05					
		Env. N/A							
1/2		HAMMER Programs: K.A. McGinnis	<i>K.A. McGinnis</i>	11-7-94					

18. <i>M.E. Borgeson</i> 11-7-94 Signature of EDT Date Originator	19. _____ Authorized Representative Date for Receiving Organization	20. <i>M.E. Borgeson</i> 11-7-94 Cognizant Manager Date	21. DOE APPROVAL (if required) Ctrl. No. 9406750 <input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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Document Title: PROJECT T100 - HAZARDOUS MATERIALS MANAGEMENT AND EMERGENCY RESPONSE TRAINING CENTER (HAMMER)

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This document was reviewed following the procedures described in WHC-CM-3-4 and is:

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WHC Information Release Administration Specialist:



Kara M. Broz

November 9, 1994

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C.E. Norton
Signature

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7. Abstract

This document provides Quality Assurance Requirements for Project T100

8. RELEASE STAMP

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STA 4

PROJECT SPECIFIC QUALITY ASSURANCE PLAN

T100

HAZARDOUS MATERIALS MANAGEMENT AND EMERGENCY RESPONSE TRAINING CENTER

Issued By: Westinghouse Hanford Company

AUGUST 4, 1994

For

U.S. Department of Energy Richland Operations Office Richland, Washington

WHC Approvals:

C.E. NORTON *C.E. Norton*
Cognizant Quality Engineer

8-5-94
Date

L.D. SALSBERRY *for L.D.S.*
Level 4 - Quality Assurance Manager

8-8-94
Date

M.E. BORGESON *M.E. Borgeson*
Project Engineer

8-15-94
Date

M.E. BORGESON *M.E. Borgeson*
Hammer Project

8-15-94
Date

B.G. BAKER *B.G. Baker*
Safety Operations Support

9-7-94
Date

K.A. MCGINNIS *Karen McGinnis*
Economic Transition - HAMMER

8-16-94
Date

Department of Energy Approval:

J. M. Cella
Project Office
Richland Operations Office

10-24-94
Date

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1.0 SCOPE

The scope of this Quality Assurance Program Plan (QAPP) is to provide a system of Quality Assurance reviews and verifications on the design and construction of the Hazardous Materials Management and Emergency Response (HAMMER) Training Center, project 95L-EWT-100.

The reviews and verifications will be on activities associated with design, procurement, and construction of the HAMMER project which includes, but is not limited to earthwork, placement of concrete, laying of rail, drilling of wells, water and sewer line fabrication and installation, communications systems, fire protection/detection systems, line tie-ins, building and mock-up (prop) construction, electrical, instrumentation, pump and valves, and special coatings. The full project scope is defined in the project Functional Design Criteria (FDC), SD-T100-FDC-001, and all activities must be in compliance with this FDC.

2.0 RESPONSIBILITIES

The Department of Energy (DOE) has the responsibility for the project. DOE has assigned individual contractors the functional responsibility for installing and implementing Quality Assurance in accordance with their contractual requirements, as stated in DOE Order 4700.1, Section III, Part D, and compliant to DOE Order 5700.6c.

The Architect/Engineer (A/E), U.S. Army Corps of Engineers (USACE) is responsible for definitive design, construction and procurement, and preparation of specifications for all activities. The A/E is responsible to ensure that design and construction of the project is in accordance with the latest edition and amendment of the codes and standards noted in the FDC (WHC-SD-T100-FDC-001). If the A/E deems it necessary to expand or delete any of the quality requirements of this plan, all changes shall be approved by the Operating Contractor (OC), Westinghouse Hanford Company (WHC).

The OC, WHC, is responsible for the technical direction of the project as noted in RLIP 4700.1a, chapter III, para 4.a. The OC Quality Assurance Department will provide overall quality performance assessment of the project using document reviews, surveillances, and oversight of quality activities for the project within the guidelines defined in DOE Order 5700.6c. The OC may impose hold or witness points for the purpose of project quality assessment at any point during the project.

The USACE as Construction Manager (CM), is responsible for performing quality activities as required in specifications and in drawings and inspection plans, and conducting the acceptance tests to demonstrate acceptability.

The Fixed Price Contractor (FPC) who is awarded contract portions by the CM is responsible for performing first line inspections of work under his contract, and ensuring quality performance of his portion of the work. The FPC is responsible to provide visible evidence of required inspections and tests such that the results of said inspections and tests are documented and readily apparent.

The USACE shall provide Acceptance Inspection (AI) for overview and acceptance for the government. The USACE is responsible for the performance of AI on all construction activities. The AI organization shall assure all verification/acceptance documentation is accurate and submitted to the OC in a timely manner at project completion, or for review as requested.

Project Organization Chart (Attachment 3) pictorially depicts the project hierarchy.

3.0 QUALITY ASSURANCE PROGRAM REQUIREMENTS

The Project Critical Characteristics (Attachment 1) denotes the Safety Class of systems, components and/or structures relevant to the project scope. Quality Assurance programs shall, as a minimum, be commensurate with the defined safety class of the project.

The contractor(s) verifying, inspecting and/or accepting specification and drawing requirements on Safety Class 3 systems components or structures (including occupational safety items) shall maintain a quality program or set of conventional industrial standards which address the following activities as a minimum:

- a) A method for control of design from definitive design, change control, configuration control, interface control, through and including as-built controls.
- b) A method for control of documentation changes commensurate with the impact of such changes.
- c) A method for control of nonconforming condition evaluations and dispositions, including the corrective actions necessary to assure implementation.
- d) A method of identifying, defining, controlling and retaining quality related project records.

- e) A method of identification and control of inspection activities (e.g. Inspection Planning and Hold point identification) from the definitive design phase through final project completion.
- f) A method of identification and control of testing procedure(s) and/or specification(s). Special test equipment requirements shall be identified in the design documents where appropriate.
- g) As specified in the applicable codes/standards;
 - 1) Qualified personnel performing engineering, welding, inspections, and/or testing (e.g. Registered Professional Engineers performing design verifications, if required).
 - 2) Organizational structure assuring independence of personnel performing the work and those performing the acceptance activities.
- h) Approved methods for design verifications of applicable safety classification - Class 3 items shall be established and performed where specified by the OC.
- i) Where the use of computer codes is required in the design process; the methods for verification, validation, and control of the codes shall be established and maintained.

Contractor(s) performing safety classification - Class 3 verifications, inspections, or acceptance to Project drawings and specifications shall be controlled by conventional industrial codes and standards, as specified in the approved definitive design documents.

Construction Contractor(s) shall be responsible for recommending disposition of all nonconformances, including those detected by the OC, A/E or his designee, identified against contractor materials or workmanship.

Nonconforming items identified onsite are to be documented by the construction contractor or his designee. Nonconforming items identified by the contractor offsite requiring a "use as is" or "repair" disposition shall be documented by the contractor on a nonconformance report and submitted to the construction contractor and OC for approval.

Nonconforming materials, equipment or workmanship shall be immediately segregated from acceptable items if possible and clearly marked by tagging, or equivalent method, to preclude further processing until the nonconformance has been reviewed, dispositioned as directed by the construction manager, and resolved. Nonconforming materials, equipment or workmanship shall be corrected, repaired or replaced in accordance with the approved corrective action procedure. Proposed methods for corrections or repairs shall be submitted to the CM and OC for review and approval before use.

For nonconformances that, if allowed to continue or exist without correction or repair, would affect the quality of impending work, the Construction Contractor will issue a Stop Work Order. The contractor shall stop all work identified in the stop work order to prevent the performance of work before correction or repair of the nonconformance. Work (as covered in the stop work order) performed by the contractor after issue of a stop work order, but before receipt of a release order, shall be replaced. Upon satisfactory correction or repair of the nonconformance, the Construction Contractor will issue a release order to allow construction to continue.

'Design change' documentation shall not be used to correct a nonconforming condition by change of design unless as a disposition to a nonconformance document (deficiency or nonconformance report with "repair" or "use as is" disposition) issued to address the nonconforming condition. Design change documents issued in response to nonconformance documentation shall bear the number of the nonconformance documentation directing the issuance of the design change document.

4.0 QUALITY INDEX OF IMPLEMENTING PROCEDURES

The Architect-Engineer shall identify, in the definitive design documents, those procedures or work standards required to be prepared, followed, and/or submitted by Construction Contractor and Acceptance Inspection group. As a minimum, procedures and work standards shall address QA requirements as identified on Attachment 2 of this QA Plan.

The Construction Contractor shall supply the required procedures or work standards or index to be utilized during the project based upon the definitive design document requirements. Submitted procedures and/or work standards shall comply with the requirements specified in the definitive design documents.

The Construction Contractor's submittal of procedures or work standards required by the definitive design documents will provide the basis for selecting subject material for review,

surveillance, and/or audits of the project activities by the OC, A/E, and/or AI to assure compliance to project requirements.

The Operating Contractor shall use appropriate procedures, manuals, and standards during the course of the project from the attached index of implementing procedures, "Quality Assurance Program Index", Attachment 2. The information supplied in the index will be revised only upon a complete major revision of the Manuals and/or standards. The index is intended to show the implementation of the quality assurance program by the Operating Contractor.

The Fixed Price Contractor shall use appropriate procedures, manuals and standards during performance of his portion of the work so as to ensure adequate quality performance in accordance with the contract documents. He shall prepare a matrix of procedures similar to attachment 2 to provide a "Quality Assurance Program Index".

ATTACHMENT 1

PROJECT CRITICAL CHARACTERISTICS						
Item	Description of Systems, Components, and Structures	Safety	Type of Inspection			Comments F= Functional G= General D= Detailed
			F	G	D	
	SITWORK					
1.	Fencing	4		X		
	CONCRETE					
1.	Cast-in-Place Concrete	4		X		
2.	Foundations	4		X		
	METALS					
1.	Misc Metals	4		X		
2.	Metal Fabrications	4		X		
	THERMAL AND MOISTURE PROT					
1.	Insulation	4		X		
2.	Vapor membrane	4		X		
	INSTRUMENTATION					
1.	Annunciation and indication.	4	X	X		
2.	Prop burn and control circuitry, annunciation and indication	3	X	X		
	FINISHES					
1.	Special Protective Coating	4		X		
	PIPING					
1.	Fire Protection Piping	3		X	X	
2.	Piping Services	4		X		
3.	LPG/Natural gas Piping	3		X	X	
	ELECTRICAL					
1.	Service and Distribution	3		X		
2.	Emer Lighting	3	X	X		

ATTACHMENT 1

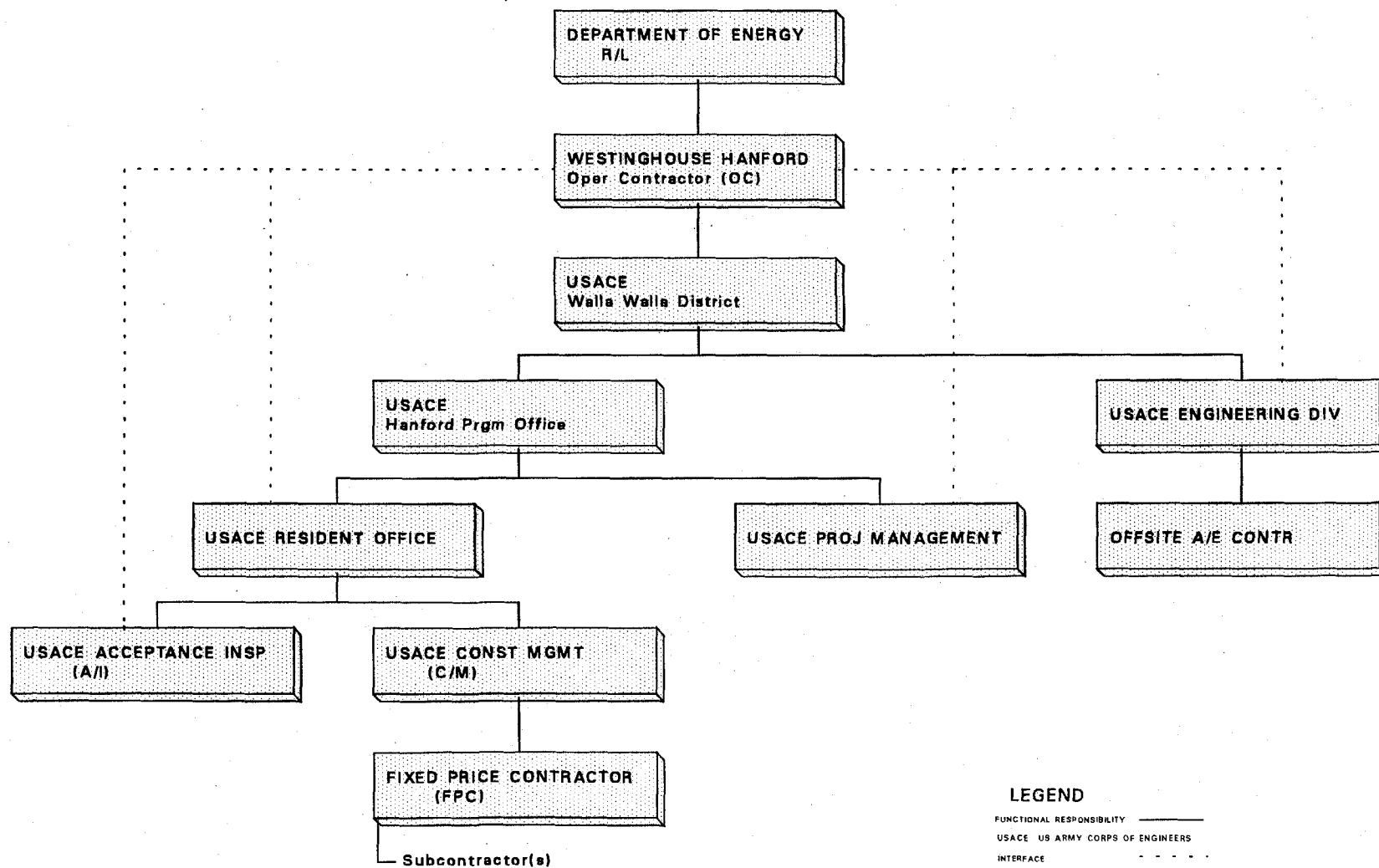
PROJECT CRITICAL CHARACTERISTICS						
Item	Description of Systems, Components, and Structures	Safety	Type of Inspection			Comments F= Functional G= General D= Detailed
			F	G	D	
3.	Heat Tracing Systems	3		X		
4.	Vault Wiring	3		X		
5.	Pump and Valve Control	3	X	X		
6.	Firefighting control computer	3	X	X		
7.	Safety/Shutdown systems for burn props	3	X		X	
6.	Cathodic Protection	4		X		
7.	In-Building distribution for Training Tower and Burn Building	3		X		
8.	Other In-Building Dist	4		X		
	MECHANICAL					
1.	Valves	4		X		
2.	Pumps	4		X		
3.	Fire System valves	3		X		
	VENTILATION					
1.	Prop Smoke Exhaust Fans	3	X	X		
	TELECOMMUNICATIONS					
1.	Telephone	4		X		
2.	HLAN	4		X		
3.	Video	4		X		
	OTHER					
1.	Well drilling and encasement	4		X		
2.	Paving	4		X		
3.	Confined Space Fall Protection Apparatus	3		X		
4.	Gas Bottle fill equipment	3		X		

**ATTACHMENT 2
QUALITY ASSURANCE PROGRAM INDEX**

BASIC REQUIREMENTS	QA REQUIREMENT TITLE	IMPLEMENTING PROCEDURES					OTHER CODES AND STANDARDS
		WHC		CM		MANUALS	
		QA	Admin	Eng	Proj		
1.0	Program	CM 4-2 QR 2.0 QI 2.1	CM-1-1,2 CM 1-3 MRP 5.2	CM 6.1 EP 1.12	CM-6-2		
2.0	Personnel Training and Qualification	CM 4.2 QI 2.3 CM 4-8 QAI 2.1	CM 1-3				
3.0	Quality Improvement	CM-4-2 QR 15	CM-1-1 CM-1-3	CM-6-1	CM-6-2		
4.0	Documents and Records	CM-4-2 QR 5 QR 6 QR 17	CM-1-3 CM-3-5	CM-6-1 EP 1.7 EP 1.12 EP 1.14 EP 2.2	CM-6-2		
5.0	Work Processes	CM 4-2 QR 3,5 QR 8 QR 12 QR 13	CM-1-3	CM-6-1 EP 1.0	CM-6-2		
6.0	Design	CM-4-2 QR 3 QR 5	CM-1-3 MRP 5.37 MRP 5.46 MRP 6.1	CM-6-1 EP 1.7 EP 2.0 EP 2.2 EP 4.1	CM-6-2		
7.0	Procurement	CM-4-2 QR 4 QI 4.2	CM-1-3 CM-2-1	CM-6-1	CM-6-2		
8.0	Inspection and Acceptance	CM-4-2 QI 10.4 QR 12 QI 12.2 QR 14	CM-1-3	CM-6-1	CM-6-2		
9.0	Management Assessment	CM-4-2 QI 2.7 QR 16	CM-1-1 CM-1-3				
10.0	Independent Assessment	CM-4-2 QR 16 QR 18	CM-1-3 CM-7-5 Part U		CM-6-2		

HAMMER PROJECT

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ATTACHMENT 3

WHC-SD-T100-QAPP-001 Rev. 0