COMPLETE

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 197736

Proj. ECN W320-63

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
Supplemental [ ] Direct Revision [X] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	J. J. Huston, TWRS CPQA, S6-12, 373-5967	11-29-94
	5. Project Title/No./Work Order No. 241-C-106 Waste Retrieval	6. Bldg./Sys./Fac. No. W-320
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-W320-QAPP-001 Rev. 0	9. Related ECN No(s). N\A
		7. Impact Level Q
		10. Related PO No. N\A

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[ ] Yes (fill out Blk. 11b) [ ] No (NA Blks. 11b, 11c, 11d)	N/A	N/A Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

Incorporate changes to system safety classifications.
Update the references on page 8.

13a. Justification (mark one)							
Criteria Change	[X]	Design Improvement	[ ]	Environmental	[ ]		
As-Found	[ ]	Facilitate Const.	[ ]	Const. Error/Omission	[ ]	Design Error/Omission	[ ]

13b. Justification Details

Updated safety classifications to ensure continued compatibility with project direction.

14. Distribution (include name, MSIN, and no. of copies)

Bellomy, J. R.	S6-12	1 Copy	Central Files		L8-04
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DATE NOV 29 1994

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5

A-7900-013-1 (06/92)

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): W320-63

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[X] No	Savings	[] $	Savings	[] $	Delay	[]

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision

20. Approvals

	Signature	Date		Signature	Date
OPERATIONS AND ENGINEERING			ARCHITECT-ENGINEER		
Cog. Eng. JP Harris	[signature]	11-29-94	PE		
Cog. Mgr. CA Augustine	[signature]	11-29-94	QA		
QA JJ Huston	[signature]	11-29-94	Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		
			DEPARTMENT OF ENERGY		
			Signature or a Control Number that tracks the Approval Signature		
			ADDITIONAL		

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RELEASE AUTHORIZATION

Document Number:	WHC-SD-W320-QAPP-001, REV.1
Document Title:	Project Specific Quality Assurance Plan (QAPP)
Release Date:	November 29, 1994

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

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz — November 29, 1994

SUPPORTING DOCUMENT

1. Total Pages 8 104

2. Title	3. Number	4. Rev No.
Project Specific Quality Assurance Plan (QAPP)	WHC-SD-W320-QAPP-001	1

5. Key Words	6. Author
Project Specific Quality Assurance Plan APPROVED FOR PUBLIC RELEASE KMB 11/28/94	Name: J J Huston 11/29/94 Signature Organization/Charge Code 38960/D2M57

7. Abstract

The Project QAPP's describe the program and the planned actions which WHC will implement to demonstrate and ensure that the project meets the requirements of DOE Order 5700.6C.

8. RELEASE STAMP

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DATE NOV 29 1994
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RECORD OF REVISION	(1) Document Number WHC-SD-W320-QAPP-001	Page 1

(2) Title
Project Specific Quality Assurance Plann (QAPP)

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
		(5) Cog. Engr.	(6) Cog. Mgr. Date
1 RS	(7) Update safety classifications changes made by the revised safety equipment list, also incorporated ECN 605993.	JJ Huston	CA Augustine 11/29/94
0	EDT-142005 10/20/93		

PROJECT SPECIFIC QUALITY ASSURANCE PLAN

W-320

TANK 241-C-106 SLUICING

Issued By:
Westinghouse Hanford Company

NOVEMBER, 1994

WHC Approvals:

J J HUSTON
Cognizant Quality Engineer — Date 11-29-94

J P HARRIS
Project Engineer Manager — Date 11-29-94

C A AUGUSTINE
Single-Shell Tank Retrieval Projects Manager — Date 11-29-94

DT

TABLE OF CONTENTS

1.0 SCOPE

This document and the **Tank Waste (TW) Projects Quality Assurance Program Plan (QAPP) WHC-SD-WM-QAPP-018** define the Quality Assurance (QA) Program for Project W-320. The purpose of this QA program is to control project activities in such a manner as to achieve the mission of the project in a safe and reliable manner. The QA program for the project is founded on DOE Order 5700.6C, *Quality Assurance*, and ASME NQA-1, *Quality Assurance Program Requirements for Nuclear Facilities.*

This document and the TW Projects QAPP describe the program and the planned actions which the Westinghouse Hanford Company (WHC) will implement to demonstrate and ensure that the project meets the requirements of ASME NQA-1, and DOE Order 5700.6C.

The Project Participants (participants) are responsible for implementation of a QA program covering the quality requirements applicable to their assigned tasks and for work performed by others in support of those tasks.

The Project organizational relationships are defined in Project Management Plan (PMP) WHC-SD-W320-PMP-001. Each of the participating organizational responsibilities as shown in PMP has an assigned individual responsible for the quality activities described by the Statement of Work (SOW), Contract, Letter of Instruction (LOI), or work order for that participant. The cognizant quality engineer(s) report to management within their respective organizations, ensuring independence from cost and schedule considerations, and providing direct communications channels with appropriate levels of management.

The safety class designation of system, components and structures affected by this project that are identified on the project critical characteristics sheets are based on the **Interim** Safety Equipment List WHC-SD-WM-SEL-033. THIS DOCUMENT REFLECTS THE SAFETY CLASS DESIGNATIONS AT PRINCIPALLY THE SYSTEM LEVEL.

2.0 OBJECTIVES

Tank 241-C-106 is a 530,000-gal-capacity SST located in the C-Tank Farm in the 200 East Area of the Hanford Site. The tank has been used for radioactive waste storage since 1947. In the 1960's, Tank 241-C-106 received high-heat waste, high-level waste, and strontium-bearing solids. In 1971, temperatures exceeding 99 °C (210 °F) were observed in the tank. To prevent the sludge from drying out and the tank from overheating, approximately 6,000 gal of cooling water are added to the tank each month. Tank 241-C-106 was withdrawn form active service in 1979 and is categorized as sound.

The goals of Project W-320, "Tank 241-C-106 Sluicing" are to retrieve the high-heat waste from Tank 241-C-106 to close the safety issue associated with the tank, demonstrate initial waste retrieval technology for a Single Shell Tank, and provide feed for the Hanford Waste Vitrification Plant.

Project W-320 will prepare Tank 241-C-106 for waste retrieval, and prepare Tank 241-AY-102 as the Double Shell Tank to receive the waste. The specific technical objectives are as follows.

- Provide retrieval equipment, ventilation systems, electrical distribution upgrades, waste transfer lines, and other equipment required to retrieve the waste from Tank 241-C-106.
- Upgrade and modify tank farm utilities as required to facilitate retrieval operations.
- Protect the environment from the spread of contaminants during tank upgrades and retrieval operations, in accordance with the requirements of applicable regulations, and agreements and commitments with regulatory agencies.

The scope of the project includes hardware specific to retrieval of waste tank contents; all supporting structures, facilities (including control room, lunchroom, and sanitary facilities); waste tank modifications; receiver tank system modification necessary to receive Tank 241-C-106 waste; the new, temporary, shielded, encased transfer line to and from the DST system, and all associated support equipment.

3.0 PROJECT CRITICAL CHARACTERISTICS

Safety classifications of systems, components, and structures shall be used as the basis for Quality Assurance Program Requirements (Reference MRP 5.46). The project critical characteristics denotes the safety class of systems, components, and/or structures relevant to this project scope.

PROJECT CRITICAL CHARACTERISTICS

Item	Description of Systems, Components, and Structures	Safety	Type of Inspection*			Comments
			F	G	D	
1.	Primary dome and tank AY-102/C-106	1			X	
2.	Equipment Removal System	3	X			
	a. Water washing, CO2 Decontamination Equipment	3	X			
	b. Equipment storage container	3	X			
	c. Strongback system	3	X			
	d. Container transport trailer	3	X			
	e. Flexible receiver system	3	X			
3.	AC Power	3	X			
4.	Instrumentation control system	3	X			
5.	In-Tank imaging system	3	X			
6.	Ventilation exhaust radiation monitoring system (continous air monitors and record samplers)	3	X			
7.	Sluicing waste transfer system	1			X	
	a. Primary Transfer Pipes from and to tanks	2			X	
	b. Secondary Transfer Pipes from and to tanks	3		X		Secondary transfer pipe (encasement or outer pipe) will meet applicable Safety Class 2 QA and structural/seismic requirements.
	c. Syphon protection	3	X			
	d. Waste transfer pits.	1			X	
	e. Waste transfer equipment (pumps, valves, pipes, flanges, etc.) in pits	3	X			
	f. Slurry distributor	3	X			
	g. Compressed air system	3	X			

PROJECT CRITICAL CHARACTERISTICS

Item	Description of Systems, Components, and Structures		Type of Inspection*			Comments
			F	G	D	
	h. Raw water supply and transfer line flushing system	3	X			
	i. Seismic switch	1			X	
8.	Ventilation System	1			X	
	a. Seal Loop	1			X	
	b. Carbon dioxide injection system	3	X			
	c. Recirculation and prefiltration system	3	X			
	d. Chiller skid	3	X			
	e. Exhaust Skid	3	X			

* See Table 10-2 for Inspection and Safety Class definitions.
** Safety classifications will be identified and be consistent with the requirements of MRP 5.46, as analyses are completed to establish safety classifications.

Table 10-2

4.0 INSPECTION DEFINITIONS

Types of Inspection. Due to the variety of types of contracts and subcontracts and the degree of responsibility assigned to the operating contractors, the architect-engineer, the construction contractors, and individual vendors; specific rules covering all phases of inspection cannot be prescribed. In general, inspection activities are divided into three types: functional, general, and detailed.

1. Functional Inspection (F). Performed to determine overall compliance with contract drawings and specifications. Functional Inspection may vary from inspection of minor items to extensive testing of operating equipment (which must be provided for in contract). It may also serve in making initial determination of the adequacy of the design effort. The field element and the operating contractor participate in functional inspections from the viewpoints of owner and user.

2. General Inspection (G). The fundamental and comprehensive inspection to ascertain that workmanship and the kind and quality of materials conform to the contract specifications.

3. Detailed Inspection (D). Includes, but is not limited to, verification of details, such as checking location and size of reinforcing bars, maintaining records of concrete batch plant operations, verifying the use of proper welding rods, checking riveting and welding, and performing other inspection for quality assurance purposes.

Safety Class. Safety Class is defined in the WHC, "Management Requirements & Procedure Manual; (MRP), WHC-CM-1-3, MRP 5.46, "Safety Classification of Systems, Components or Structures."

5.0 REFERENCES

WHC "Functional Design Criteria" (FDC) WHC-SD-W320-FDC-001, Tank 241-C-106 Sluicing, Revision 2

WHC "Facility Hazard Classification" (HC) WHC-SD-WM-HC-007, for Tank 241-C-106 Waste Retrieval, Revision 0

WHC "Project Management Plan" (PMP) WHC-SD-W320-PMP-001, Revision 2

WHC "Interim Safety Equipment List" (SEL) for Tank 241-C-106 Waste Retrieval, WHC-SD-WM-SEL-033, Revision 1

WHC "Tank Waste Projects Quality Assurance Program Plan (QAPP) WHC-SD-WM-QAPP-018, Revision 1