AUG 25 1994 26

ENGINEERING DATA TRANSMITTAL

2. To: (Receiving Organization)		3. From: (Originating Organization)		4. Related EDT No. 603375							
Jim Fredrickson (SNF) R3-86		David Tedeschi (EAT) H5-70		N/A							
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8. Originator Remarks: THIS IS THE WORK PLAN FOR MOVING THE SEAL CONVEYOR IN THE KBASIN. THIS ACTIVITY WILL SUPPORT THE PILOT ENCAPSULATION OF THE FUEL.				9. Equip./Component No.: Seal Conveyor							
				10. System/Bldg./Facility: 105KE Basin							
				12. Major Assm. Dwg. No.: H-1-51844 rev0							
11. Receiver Remarks:				13. Permit/Permit Application No.: N/A							
				14. Required Response Date: 07/01/94							
15. DATA TRANSMITTED											
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition			
1	WHC-SD-SNF-WP-002 REV0	—	0	SEAL CONVEYOR RELOCATION	N/A	1	1				
16. KEY											
Approval Designator (F)		Reason for Transmittal (G)			Disposition (H) & (I)						
E, S, Q, D OR N/A (See WHC-CM-3-5, Sec. 12.7)		1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)			1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged						
(G)	(H)	17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)						(G)	(H)		
Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
1	1	Cog. Eng. DAVID TEDESCHI	<i>David Tedeschi</i>	6/22/94	H5-70	JEREMY CRYSTAL	<i>Jeremy Crystal</i>	6/22/94	R3-86	3	—
1	1	Cog. Mgr. JIM FREDRICKSON	<i>Jim Fredrickson</i>	6/22/94	R3-86	JOHN DEARING	<i>John Dearing</i>	6/22/94	N1-32	3	—
		QA				MARY BRAUARD	<i>Mary Brauard</i>	6/22/94	N1-32	3	—
		Safety				Central Files	<i>Central Files</i>	6/22/94	L8-04	3	—
		Env.				OSTI (2)	<i>OSTI (2)</i>	6/22/94	R1-05	3	—
1	1	FAC COG BOB LEWIS	<i>Bob Lewis</i>	6-30-94	X3-76						
1	1	JIM MATHEWS	<i>Jim Mathews</i>	6/22/94	X3-61						
18. Signature of EDT Originator		19. Authorized Representative for Receiving Organization		20. (See Blk. 17K, above.) JR Fredrickson		21. DOE APPROVAL (if required) Ctrl No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments					
<i>David Tedeschi</i> 6/22/94				Date 6/22/94							

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RELEASE AUTHORIZATION

Document Number: WHC-SD-SNF-WP-002, REV 0

Document Title: WORK PLAN FOR 105KE BASIN SEAL CONVEYOR RELOCATION

Release Date: 8/24/94

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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 Broz
(Signature)

8/24/94
(Date)

SUPPORTING DOCUMENT		1. Total Pages 8
2. Title Work Plan For 105KE Basin Seal Conveyor Relocation	3. Number WHC-SD-SNF-WP-002	4. Rev No. 0
5. Key Words SEAL CONVEYOR	6. Author Name: David J. Tedeschi <i>David J. Tedeschi</i> Signature Organization/Charge Code W8D320 EAT/E10119	
APPROVED FOR PUBLIC RELEASE <i>KMB 8/24/94</i>		
7. Abstract This documents the work to relocate the seal conveyor ar 105KE Basin.		
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9. Approval Designator N/A		

Work Plan For 105KE Basin

Seal Conveyor Relocation

By

David Tedeschi

Westinghouse Hanford Company
PO Box 1970
Richland, WA 99352

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1.0 Introduction

This engineering work plan will support the activities of a pilot encapsulation of the spent fuel rods at 105KE Basin for the Hanford Site. The plan is to move and reuse any existing encapsulation equipment in the Basin to another part of the Basin. This plan will discuss the activities involved in moving the seal conveyor system.

2.0 Scope**2.1 Objective**

Relocate the seal conveyor in the 105 K East Basin to the weasel pit area. Work will include fabrication and installation of new components or reconfiguration of the existing. Seal conveyor will also be functionally tested and calibrated for use in the pilot scale run.

2.2 Deliverables

The primary deliverable is a working conveyor system in the weasel pit. Redesigned and new equipment will include supports for winch mount and new poles/ base assembly. The following documents to be written includes: 1) drawing changes, 2) applicable calculations to support design changes, 3) installation instructions, 4) functional testing procedures.

3.0 Description of Equipment

The seal conveyor is a tool used for lowering spent fuel canister lids down to the level at which another tool can pick the lids up and place them on a canister. The conveyor was designed and fabricated in 1992 (see drawing H-1-51844 and associated ECNs). It currently is installed in the Basin. The components consist of a winch that lowers/raises a tray that holds the canister lids. The tray is directed by two poles that it rolls up and down on. A limiter shut-off switch has also been placed on the conveyor to aide the Operator in knowing when to stop the conveyor. So, the overall conveyor equipment consist of the 3 parts; 1) tray/conveyor, 2) winch and distance monitor, 3) electrical power and instrument panel box.

3.1 Safety Class

The safety class of this equipment will be designed to a Safety Class of 3 per WHC SD-NR-SEL-001 Rev 0.

3.2 Requirements

All new designs and installations will meet Westinghouse procedures. New designs will meet applicable ANSI and ASTM standards. Installations will be accordance to the rules of the Job Control System and the K Basin Safety Analysis Report. The utilities required will be a 110/120 V-AC power using a standard outlet with a minimum of a 20 amp breaker or fuse for the circuit. The following are additional requirements that apply specifically to the conveyor: 1) relocation of conveyor is in the weasel pit, 2) relocate the power panel off of the conveyor (its currently connected to the conveyor).

4.0 Tasks**4.1 Equipment Designs**

The following equipment designs will need to be preformed after a walk down the

system: 1) supports for the hoist assembly and electrical panel box. 2) new poles and base for poles, 3) grating and protective equipment, (grating maybe performed by others).

4.2 Calculations

The following calculations may need to be generated: 1) stress analysis for supports 2) shear stress analysis of poles.

4.3 Installation

NO	Description of Work	Engineer Hrs
1	Tour Facility/gather ECNs, drawings...	16
2	Develop ECNs.	120
3	Develop procurement documents.	16
4	Support fabrication.	8
5	Develop installation documents and support installation.	100
6	Develop testing documents and support testing.	100
7	Misc. meetings,...	40
	Total Hours**	400.00
	Estimated Material Cost	\$500.00
	Note this is only an estimate	
	Total Cost (at \$61.00/hr charge out rate)	24,900.00
	THE FOLLOWING STEPS ARE POTENTIAL WORK ELEMENTS THAT WILL BE DONE BY THE KBASIN CRAFT FOR THE RELOCATION.	Craft Hrs
1	Have portion of basin cleaned out where conveyor is to be relocated.	16
2	Cut basin grating and place both guard rails and toe guards around hole.	160
3	Fabricate/Install 2 new 25 ± 3 foot long 2" sch 80 seamless stainless steel pipes anchored in concrete in the new relocation area. Ensure that cable is through the pulley at concrete before installing.	72
4	Fabricate/install new supports for conveyor winch motor assembly and one for the power panel to nearby I beam.	16

5	Remove winch motor assembly, power panel, lid conveyor, and limitor cable from off the poles by loosening the unistrut nuts and the set screws on the pole.	8
6	Relocate and reassemble winch motor assembly, lid conveyor, and limitor cable and attach to new support.	4
7	Relocate and attach power panel to new support.	16
8	Recalibrate limitor on cable.	8
	Total Hours:	300
	Estimated charge out Rate of craft excluding support personnel is \$35.00 hr.	
	Total:	\$10,500.00
	Total estimated cost:	\$35,400.00

4.4 Testing

Testing will be performed as a functional test along with the installation. Since the design of the equipment will not change the conveying operation and the equipment was originally tested to be operational, a full operational test procedure (OTP) will not be needed. Functional tests will include operating the conveyor and ensuring that the conveyor will transverse up and down and stop at the preset levels. Calibration will also be included as a part of this.

5.0 Proposed Schedule

See Appendix A. Note that Schedule is a being updated weekly to reflect where work actually is.

6.0 Cost Estimate

See the above table.

APPENDIX A
PROPOSED SCHEDULE

ACTIVITY		RESP	EARLY START	EARLY FINISH	REM DUR	1994												1995			
ACTIVITY ID	DESCRIPTION					APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR			
						 SEAL CONVEYOR															
BBB0504	SEAL CONVEYOR	TEDESCHI D	31MAY94A	28OCT94	95																
BBB050400	Evaluate for Re-Design Reqments, Comp) Work Plan	TEDESCHI D	31MAY94A	22JUN94	3																
BBB050402	Complete EDT	TEDESCHI D	23JUN94	24JUN94	2																
BBB050405	Re-Design Sea) Conveyor	TEDESCHI D	27JUN94	29JUL94	25																
BBB050410	Contract/Procure Sea) Conveyor Components	TEDESCHI D	18AUG94	21SEP94	25																
BBB050415	Modify Sea) Conveyor	TEDESCHI D	22SEP94	7OCT94	12																
BBB050420	Install Seal Conveyor	TEDESCHI D	10OCT94	21OCT94	10																
BBB050425	Test Sea) Conveyor	TEDESCHI D	24OCT94	28OCT94	5																

SEAL CONVEYOR