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## ENGINEERING DATA TRANSMITTAL

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Page 1 of 1

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Station 15

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1	HNF-3546		Rev.0	327 To 324 Pin Tube Shipment Quality Management Plan	Q	1,2		

16. KEY							
Approval Designator (F)		Reason for Transmittal (G)			Disposition (H) & (I)		
E, S, O, D or N/A (see WHC-CM-3-5, Sec.12.7)		1. Approval	4. Review	1. Approved	4. Reviewed no/comment		
		2. Release	5. Post-Review	2. Approved w/comment	5. Reviewed w/comment		
		3. Information	6. Dist. (Receipt Acknow. Required)	3. Disapproved w/comment	6. Receipt acknowledged		

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)											
(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
		Design Authority									
		Design Agent									
1	1	Cog. Eng.	JE Ham	10/27/98	L1-08						
1	1	Cog. Mgr.	DS Takasumi	10/28/98	L1-03						
1	1	QA	DH Sandoz	11/2/98	06						
		Safety									
		Env.									

18.		19.		20.		21. DOE APPROVAL (if required) Ctrl. No.	
JE Ham		JE Ham		DS Takasumi		N/A	
<i>JE Ham</i>		<i>JE Ham</i>		<i>DS Takasumi</i>		<input type="checkbox"/> Approved	
Signature of EDT		Authorized Representative		Design Authority/ Cognizant Manager		<input type="checkbox"/> Approved w/comments	
Date 11/3/98		Date 11/3/98		Date 11/3/98		<input type="checkbox"/> Disapproved w/comments	
Originator		for Receiving Organization					

## 327 TO 324 PIN TUBE SHIPMENT QUALITY MANAGEMENT PROCESS PLAN

J. E. Ham

Babcock and Wilcox Hanford Co., Richland, WA 99352  
U.S. Department of Energy Contract DE-AC06-96RL13200

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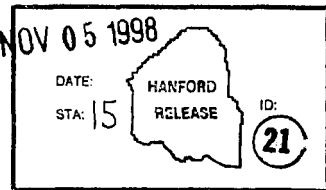
Key Words: 327 Facility, 324 Facility, Pin Tube, Shipment, Serf Cask,  
Legacy, Pins, Drillings

Abstract: The B&W Hanford Company's (BWHC) 327 Facility, in the 300 Area of the Hanford Site, is preparing to ship five Pin Tubes to the 324 Facility for storage and eventual disposition. The Pin Tubes consist of Legacy fuel pin pieces and drillings. They will be over-packed in new Pin Tubes and transported to 324 in three shipments. Once received at 324, two of the shipments will be combined for storage as a fissionable material batch, and the other shipment will be added to an existing batch.

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*Karen M. Noland* 11/5/98  
Release Approval Date



Release Stamp

Approved for Public Release

## **1.0 PURPOSE**

The purpose of this Quality Management Plan is to ensure appropriate and effective quality assuring activities have been built into the work controlling documents and procedures.

## **2.0 SCOPE**

The scope of this project involves the movement, over-packing, and shipment of five Pin Tubes from the 327 Building to the 324 Building. The Pin Tubes consist of legacy fuel sections or scrap including drillings, and will be transported using the SERF Cask in three shipments. The material will be received at the 324 Facility, where it will be transferred to D-Cell and stored in two fissionable material batches (one existing and one new). Babcock & Wilcox Hanford Company (BWHC) is responsible for both the 324 and 327 Facilities, and therefore, all activities under this project. DynCorp Tri-Cities will provide transportation of the casks between the facilities.

## **3.0 OVERVIEW**

Five Pin Tubes are located throughout 327 in two canyon cells and the storage basin. Three of the Pin Tubes are currently stored underwater in the 327 Storage Basin. One Pin Tube is located in A-Cell and another is in SERF Cell. The three Pin Tubes stored in overpack tubes in the basin will be moved to A-Cell one at a time for identification and verification to the set criteria (<50 ml liquid in overpack tube and Pin Tube damage free). The overpack tubes will be removed and discarded. A pre-marked Pin Tube Overpack will be matched with each Pin Tube, and then the Pin Tube placed into the Overpack for shipment. The shipments will be designated as Shipments A, B and C. The three basin Pin Tubes are to be loaded and shipped separately from each other due to the fissionable material limits in the SERF Cask.

The Pin Tube currently located in A-Cell, and the Pin Tube located in SERF Cell will be loaded into the SERF Cask as a part of Shipment C. These two Pin Tubes will not be checked for liquid because they have not been stored underwater. However, each Pin Tube will undergo identification verification, and will be over-packed in new Pin Tube Overpacks.

Once transported to the 324 Facility, the Pin Tube Overpack IDs will be verified in the Radiochemical Engineering Complex (REC) Airlock, and will be transferred to one of two locations (batches) in D-Cell. Shipment A will be added to an existing fissionable material batch located in the Southwest corner of D-Cell, and Shipments B and C will be combined to form a new fissionable material batch in D-Cell.

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#### **4.0 PROCESS PLAN**

##### **327 Basin Pin Tube To SERF Cask (Shipment A, B, and C)**

The three Pin Tubes stored in the basin will be removed from the basin one at a time, and shipped separately as Shipments A, B, and C. Shipments A and B will each contain only one over-packed Pin Tube for transport. Shipment C will be joined by two other over-packed Pin Tubes, one from A-Cell and one from SERF Cell. Each Pin Tube will be transferred, and prepared for transport in the following manner.

The over-packed Pin Tube is transferred to A-Cell. The Pin Tube overpack identification is reviewed and recorded. The swagelok\*cap will be removed from the overpack, and any liquid will be drained into an empty container and transferred into a graduated cylinder for measurement. The amount of liquid and the Pin Tube will be examined against set criteria (<50-ml liquid and damage free). A verification will be made that the criteria have been met. A new Pin Tube Overpack, which has been pre-marked with an identification number will be matched with the Pin Tube and verified. Quality Control will verify the Pin Tube and Overpack IDs. Then, the Pin Tube will be placed into the Overpack. A Swagelok fitting will be installed and the Overpack loaded into the SERF Cask.

##### **327 A-Cell & SERF Cell Pin Tubes To SERF Cask (Shipment C)**

Once the basin Pin Tube for Shipment C has been loaded into the SERF Cask, the A-Cell Pin Tube will be prepared and loaded. The SERF Cask will then be transferred to SERF Cell where another Pin Tube will be prepared and loaded. Shipment C will then be ready for transport to the 324 Facility. Both Pin Tubes will be prepared and transferred to the SERF Cask in the following manner.

The Pin Tube identification will be verified. A new Pin Tube Overpack, which has been pre-marked with an identification number will be matched with the Pin Tube and verified. Quality Control will verify the Pin Tube and Overpack IDs. Then, the Pin Tube will be placed into the Overpack. A Swagelok fitting will be installed, and the Overpack loaded into the SERF Cask.

##### **Ship Pin Tubes From 327 To 324 D-Cell**

Documentation and shipping papers will be reviewed by the 327 Facility Material Balance Area (MBA) Custodian, and then verified by Quality Control prior to transport from 327 to 324. Once received, the 324 Facility MBA Custodian will review the shipping papers and approve the unloading of the shipment in the Radiochemical Engineering Complex (REC) Airlock.

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\*Swagelok is a trademark of Crawford Fitting Company, Solon, OH.

The Pin Tube Overpack identifications will be verified in the REC Airlock. Shipment A will have a lifting cradle (collar) pre-installed at 327, and will be added to an existing fissionable material batch in D-Cell. Shipments B and C will be placed in another lifting cradle (metal box) and will become a new fissionable material batch in D-Cell. Once the storage location is reviewed and verified, the cradle will be transported to its designated location in D-Cell via an overhead crane. The criticality postings will be updated and verified.

Table 1.

Activity	Product	Work Control Method JCS No.	Procedure and Instruction	Lead Individual (Title & Co.)	Quality Assuring Actions
<b>327 Basin Pin Tube To SERF Cask (Shipment A, B, and C)</b>					
Transfer Pin Tube from Basin to A-Cell	Material movement	N/A	3M-SOP-PTL-084, -118	HCT Supervisor, BWHC	HCT signs CFMI
Review Pin Tube overpack ID and record	Proper selection	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	Work plan step PIC Initial/date
Open Pin Tube overpack and drain liquid	Ready for examination	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	Work plan steps
Examine Pin Tube & Verify criteria met	Pin Tube dry and undamaged	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	PIC Initial/date
Verify Pin Tube & new overpack identifications	Proper identification	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	HCT Initial/date QC Initial/date
Place Pin Tube in Overpack	Ready for transport in SERF Cask	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	Work plan steps
Transfer the Pin Tube Overpack from A-Cell to SERF Cask	Pin Tube Overpack ready for shipment	N/A	3M-SOP-PTL-167, -118	HCT Supervisor, BWHC	Procedure steps, HCT signs CFMI
<b>327 A-Cell Pin Tube To SERF Cask (Shipment C)</b>					
Verify A-Cell Pin Tube & new overpack identifications	Proper identification	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	HCT Initial/date QC Initial/date
Place Pin Tube in Overpack	Ready for transport in SERF Cask	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	Work plan steps
Transfer the Pin Tube Overpack from A-Cell to SERF Cask	Pin Tube Overpack ready for shipment	N/A	3M-SOP-PTL-167, -118	HCT Supervisor, BWHC	Procedure steps, HCT signs CFMI

**327 TO 324 PIN TUBE SHIPMENT  
QUALITY MANAGEMENT PLAN**

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<b>327 SERF Cell Pin Tube To SERF Cask (Shipment C)</b>					
Verify SERF Cell Pin Tube & new overpack identifications	Proper identification	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	HCT Initial /date QC Initial/date
Place Pin Tube in Overpack	Ready for transport in SERF Cask	N/A	3M-TWP-98-017	HCT Supervisor, BWHC	Work plan steps
Transfer the Pin Tube Overpack from SERF Cell to SERF Cask	Pin Tube Overpack ready for shipment	N/A	3M-SOP-PTL-167, -118	HCT Supervisor, BWHC	Procedure steps, HCT signs CFMI
<b>Ship Pin Tubes From 327 To 324 D-Cell</b>					
Ship from 327 to 324	Transfer complete	N/A	3M-SOP-PTL-167	HCT Supervisor, BWHC	MBA Custodian & QC signature
324 Facility receive SERF Cask from 327	Ready to unload	N/A	3I-SOP-SMF-27	HCT Supervisor, BWHC	QC verify shipping data and CFMI
Unload SERF Cask in REC Airlock	Ready for loading into cradle	N/A	3I-TWP-98-020, 3I-SOP-SMF-27	HCT Supervisor, BWHC	MBA Custodian Initial/date, HCT signs CFMI
Verify Pin Tube Overpacks	Proper identification	N/A	3I-TWP-98-020	HCT Supervisor, BWHC	HCT Initial /date QC Initial/date
Load Pin Tube Overpacks into lifting cradle	Ready for transfer to D-Cell	N/A	3I-TWP-98-020	HCT Supervisor, BWHC	HCT Initial /date
Verify D-cell storage location & Transfer material	Shipment A to 30 gallon drum, Shipments B&C to designated D-Cell location	N/A	3I-TWP-98-020, 3I-SOP-REC-G-21	HCT Supervisor, BWHC	MBA Custodian Initial/date, HCT signs CFMI
Update and verify criticality postings	Accurate information	N/A	3I-TWP-98-020	HCT Supervisor, BWHC	HCT Initial/date, MBA Custodian Initial/date

**DISTRIBUTION SHEET**

To	From	Page 1 of 1
Distribution	327 Projects	Date 10-27-98
Project Title/Work Order		EDT No. 616491
327 To 324 Pin Tube Shipment Quality Management Plan		ECN No. N/A

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
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RP Bodeau	L1-03	X			
EJ Bitten	L1-02	X			
TL Erickson	L1-03	X			
JE Ham	L1-08	X			
KA Hedquist	L1-03	X			
DO Jenkins	L1-01	X			
SH Norton	L1-02	X			
DH Sandoz	L1-06	X			
RW Stevens	L1-03	X			
DS Takasumi	L1-03	X			
Central Files	B1-07	X			
DOE/RL Reading Room	H2-53	X			