OCT 4 1994 Sta. #3 58	Page 1 of <u>1</u> 1. EDT 606574
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2. To: (Receiving Organization) Retrieval Engineering	3. From: (Originating Organization) Retrieval Engineering	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: W320 / Org. 7F550	6. Cog. Engr.: J. R. Bellomy	7. Purchase Order No.: N/A
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11. Receiver Remarks:		10. System/Bldg./Facility: 241-AY-102, 241-C-106
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15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-W320-TC-002		0	PROJECT W320 HEEL JET SECONDARY CATCH MECHANISM LATERAL LOAD TEST	SQ	1		

16. KEY									
Impact Level (F)		Reason for Transmittal (G)				Disposition (H) & (I)			
1, 2, 3, or 4 (see MRP 5.43)		1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)				1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged			

17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)									
(G)	(H)	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN
		Cog. Eng.	<i>J. R. Bellomy</i>	9-29-94	S6-12				
		Cog. Mgr.	<i>J. J. Haynes</i>	10-3-94	S6-12				
		QA	<i>J. J. Huston</i>	7-27-94					
		Safety	<i>G. E. McPherson</i>		T4-10	10-3-94			
		Struct. Eng	<i>T. C. Mackey</i>		S2-03	10/3/94			

18. <i>J. R. Bellomy</i> Signature of EDT Originator	19. Authorized Representative Date	20. <i>J. P. Harns</i> Cognizant/Project Engineer's Manager Date	21. DOE APPROVAL (if required) Ltr. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
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RELEASE AUTHORIZATION

Document Number: WHC-SD-W320-TC-002, REV 0

Document Title: Project W-320 Heel Jet Secondary Catch Mechanism
Lateral Load Test

Release Date: October 4, 1994

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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)

October 4, 1994

(Date)

SUPPORTING DOCUMENT		1. Total Pages 8
2. Title Project W-320 Heel Jet Secondary Catch Mechanism Lateral Load Test	3. Number WHC-SD-W320-TC-002	4. Rev No. 0
5. Key Words Project W-320, Heel Jet, Secondary Catch Mechanism, Lateral Load Test	6. Author Name: J. R. Bellomy Signature <i>J. R. Bellomy</i> Organization/Charge Code 7F830/D2M49	
<p style="text-align: center;">APPROVED FOR PUBLIC RELEASE</p> <p><i>KMB 10/4/94</i></p>		
7. Abstract This test procedure applies a lateral load to the Heel Jet Secondary Catch Mechanism to very assumptions made in design analysis.		
<p>8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.</p> <p>PATENT STATUS - This document copy since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.</p> <p>DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>		<p>10. RELEASE STAMP</p> <div style="border: 1px solid black; padding: 5px; margin-top: 20px;"> <p>OFFICIAL RELEASE 58</p> <p>BY WHC</p> <p>DATE 021 4 1994</p> <p><i>Sta. #3</i></p> </div>
9. Impact Level SQ		

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REVISION 0

PROJECT W-320
HEEL JET SECONDARY CATCH MECHANISM
LATERAL LOAD TEST

J. R. Bellomy
September 1994

WHC-SD-W320-TC-002
REVISION 0

PROJECT W-320
HEEL JET SECONDARY CATCH MECHANISM
LATERAL LOAD TEST

1.0 TEST IDENTIFICATION

This test procedure establishes the requirements for performing a lateral load test of the Heel Jet Secondary Catch Mechanism (SCM). Successful performance of this test will demonstrate that the SCM is capable of performing as designed when subjected to a force applied normal to the longitudinal axis of the mechanism.

This test procedure is prepared following the recommended format and content guidelines for test procedures as prescribed in WHC-IP-1026, *Engineering Practice Guidelines*, Appendix K, *Test Plans, Specifications, Procedures and Reports*.

2.0 GENERAL TEST DESCRIPTION

2.1 Test Objectives

The objective of this test is to verify that the SCM's are capable of performing as designed and will not fail when subjected to angular or lateral loading. Successful performance of the 2-inch SCM test will validate assumptions made in design analysis for both the 2-inch and the 3-inch SCM's.

2.2 Test Method

The load test will be performed by connecting the 2-inch SCM to a fixed 2-inch horizontal nozzle and torquing it in position to 215 foot pounds. The 2-inch SCM will be oriented on a horizontal nozzle such that a minimum force of 325 pounds can be applied to the SCM while the lifting bail is in the approximate 90 degree position (normal to the longitudinal axis of the mechanism). Following application of the load, the 2-inch SCM will be removed. The 2-inch SCM and the fixed nozzle will then be visually inspected to ensure that structural integrity has been maintained.

3.0 TEST CONDITION LIMITS

3.1 Environmental Conditions

There are no environmental conditions (excepting unforeseen site emergencies) which have potential to impact the load test performance.

3.2 Operational Conditions and Pre-Test Requirements

The following operational conditions and pre-test requirements shall exist prior to test performance:

- All fabrication inspections and tests shall have been completed on the 2-inch SCM as required by the fabrication details.
- Load testing of the 2-inch SCM as required by the DOE-RL Hanford Site Hoisting and Rigging Manual shall have been successfully completed.

4.0 TEST INSTRUMENTS AND CALIBRATION

A calibrated torque wrench and a dynamometer are required to support test performance. The torque wrench and dynamometer identification number, range, and calibration due date shall be recorded in the space provided below.

Torque Wrench

Identification Number _____

Range _____

Calibration Due Date _____

Dynamometer

Identification Number _____

Range _____

Calibration Due Date _____

Verified by:

Quality Assurance _____ Date _____

5.0 FACILITIES, EQUIPMENT, AND MATERIALS

5.1 Test Facility

Testing is planned to be performed at the Cold Test Facility. If the Cold Test Facility is not available, testing may be performed at any location determined suitable by the Test Director.

5.2 Equipment and Materials

The following equipment and materials shall be available to support testing:

- 2-inch Secondary Catch Mechanism (H-2-83746)
- Fixed horizontal 2-inch nozzle
- Calibrated torque wrench
- Digital or analog dynamometer (0 to 5,000 pound range maximum)
- Cable or chain come-a-long (2-ton minimum rating)
- 8 1/2 ton shackle
- Rigging hardware

6.0 SAFETY

The following represents mandatory safety requirements to be followed at all times during testing:

- 6.1 WHC and/or KEH safety practices and standards of conduct shall be adhered to at all times.
- 6.2 Hard hats and safety glasses shall be worn by all personnel during equipment assembly operations and during test performance.
- 6.3 Equipment which is damaged or excessively worn shall not be used.

7.0 MAINTENANCE AND FAILURES

7.1 Maintenance

In the event any test equipment is not functioning or performing properly, the test shall be suspended. Testing may be resumed only after the defective component is replaced or required adjustments/maintenance has been performed.

7.2 Failures

Any observable evidence of failure of any component within the load path shall immediately be brought to the attention of the Test Director. The Test Director shall evaluate the condition and determine necessary corrective actions. If an unsafe condition is determined to exist, testing shall be discontinued and the load released in a safe manner as soon as possible. Testing may be resumed only after any required corrective actions have been performed.

8.0 TEST DATA

Test data shall be recorded in the space provided in Section 11, Test Procedure. Copies of all supplemental inspection sheets generated as a result of testing shall be attached to the test procedure.

9.0 PERSONAL REQUIREMENTS

Special training requirements for test personnel shall be as noted in the following. There are no special training requirements for other test support personnel.

- 9.1 Test Director - The Westinghouse Hanford (WHC) W-320 Project Cognizant Engineer or his designee shall act as the Test Director. The Test Director shall have overall authority for test performance and shall be responsible for ensuring that testing is performed in accordance with the requirements of this procedure.
- 9.2 Quality Assurance Representative - The WHC W-320 Project Quality Assurance Engineer or his designee shall be responsible for performing all quality assurance verifications required by this test procedure.

10.0 TEST WITNESSES

The WHC Quality Assurance Representative shall witness the test performance. The designated Quality Assurance representative shall be notified 24 hours prior to test performance.

11.0 TEST PERFORMANCE

Load test prerequisites and the procedure for testing the 2-inch SCM are included in this section. Testing shall be performed specifically as sequenced in this section.

11.1 Test Prerequisites

- 11.1.1 Position the SCM on the fixed 2-inch horizontal nozzle. Orient the SCM such that when lifting bail is in the approximate 90 degree position it is in line with the load path and two of the three SCM connector fingers.
- 11.1.2 Torque the SCM to the fixed 2-inch horizontal nozzle to 215 foot pounds.
- 11.1.3 Install the 8 1/2 ton shackle on the SCM lifting bail.
- 11.1.4 Connect the dynamometer and the come-a-long to the 8 1/2 ton shackle on the SCM lifting bail and to a weight exceeding 350 pounds or a point on a fixed structure using the rigging hardware.

11.2 Load Test Performance

- 11.2.1 Verify that all prerequisites have been completed and rigging is properly assembled.
Test Director _____ Date _____
- 11.2.2 Using the come-a-long increase tension on the SCM until the dynamometer measures a minimum of 325 pounds.
- 11.2.3 Record and verify the lateral load applied to the SCM as measured on the dynamometer.
Force Applied: _____
Test Director _____ Date _____
Quality Assurance _____ Date _____
- 11.2.4 Using the come-a-long, release the tension applied to the SCM.
- 11.2.5 Break down the rigging and remove the SCM from the horizontal nozzle.

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- 11.2.6 Inspect the SCM and the horizontal nozzle and verify by signing below that structural integrity has been maintained and no visual signs of damage on either component is apparent.

Test Director _____ Date _____

Quality Assurance _____ Date _____

12.0 DISPOSITION OF TEST ITEMS

At the conclusion of testing, all test items shall be relocated and/or stored as specified by the Test Director or the KEH Construction Manager.

13.0 DATA SHEETS

The Test Director shall review the test procedure (Section 11.0) and ensure all verifications have been obtained where required. Copies of Surveillance Reports generated as part of test performance shall be obtained and attached to the test procedure.