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1,2		Cog. Eng. P. V. Meeuwsen		4/24/96	16-13	E. E. Ulbricht				3	
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1,2		QA B. J. Hug		04/22/96	16-35						
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3		L. H. Goldmann			R3-86						

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Multiple Canister Overpack Fuel Basket Loading Test Plan

P. V. Meeuwsen

WHC, Richland, WA 99352

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Abstract: This test plan, documents the procedure required to test the Multiple Canister Overpack design in regards to the loading of the fuel baskets.

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WHC-SD-SNF-TP-026
Rev. 0

MULTIPLE CANISTER OVERPACK FUEL BASKET LOADING TEST PLAN

WHC-SD-SNF-TP-026 REV 0

APRIL 15, 1996

**Paul Meeuwsen
Engineering Testing**

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MULTIPLE CANISTER OVERPACK FUEL BASKET LOADING TEST PLAN
WHC-SD-SNF-TP-026 REV 0

1.0 INTRODUCTION

This Test Plan will document the procedure required to develop the parameters under which a prototype fuel basket may be loaded into a Multiple Canister Overpack (MCO) without damaging the MCO or the basket.

For detailed description of the MCO refer to document WHC-S-0426, "Performance Specification for the Spent Nuclear Fuel Multi-Canister Overpack", prepared by Westinghouse Hanford Company, Richland, WA 99352

The tests found in this plan will be performed in the K Basin Mockup (KBMU) located in the 305 Building.

2.0 OBJECTIVE

The objective of this testing is to verify the design of the MCO and fuel baskets in regards to loading of the fuel baskets into the MCO.

3.0 SCOPE

The scope of this Test Plan is only a limited portion of the overall test activities associated with the MCO. Other test plans will follow.

The ability for the fuel basket grapple to remotely grasp, hoist, lower, and release a basket will not be tested at this time.

Tests will be performed using MK-IV, MK-1A and SPR fuel baskets. MK-IV and MK-1A baskets will be tested using dummy MK-IV fuel elements (SK-1-0027-1). SPR baskets will be tested with lead bricks or other weights.

A 2/3 length mockup MCO has been fabricated using 24 inch A53 carbon steel pipe with a nominal wall thickness of 1/2 inch. The pipe is ten feet long and supported by a six legged framework with adjustable feet.

Tests 1-IV, 1-1A, and 1-SPR will be performed in the 305 highbay, all other tests will take place in the KBMU.

The following tests will be conducted:

125% LOAD TESTS

- 1-IV. MK-IV BASKET LOAD TEST: Load test of MK-IV basket, grapple adapter and pole hook to 125% of expected weight of a fully loaded basket.

- 1-1A. MK-1A BASKET LOAD TEST: Load test of MK-IV basket, grapple adapter and pole hook to 125% of expected weight of a fully loaded basket.
- 1-SPR. SPR BASKET LOAD TEST: Load test of SPR basket, grapple adapter and pole hook to 125% of expected weight of a fully loaded basket.

LOADING BALANCED BASKET INTO MCO

- 2-IV. LOADING BALANCED MK-IV BASKET INTO MCO: Loading of a fully loaded (54 elements) MK-IV basket into a MCO.
- 2-1A. LOADING BALANCED MK-1A BASKET INTO MCO: Loading of a fully loaded (48 elements) MK-1A basket into a MCO.
- 2-SPR. LOADING BALANCED SPR BASKET INTO MCO: Loading a SPR basket with equivalent weight of 114 elements basket into a MCO.

LOADING BALANCED BASKET INTO MCO WITH LOAD GUIDE FUNNEL

- 2a-IV. LOADING BALANCED MK-IV BASKET INTO MCO WITH LOAD GUIDE FUNNEL: Loading of a fully loaded (54 elements) MK-IV basket into a MCO with the aid of a load guide funnel (SK-2-300388).
- 2a-1A. LOADING BALANCED MK-1A BASKET INTO MCO WITH LOAD GUIDE FUNNEL: Loading of a fully loaded (48 elements) MK-1A basket into a MCO with the aid of a load guide funnel.
- 2a-SPR. LOADING BALANCED SPR BASKET INTO MCO WITH LOAD GUIDE FUNNEL: Loading a SPR basket with equivalent weight of 114 elements into a MCO with the aid of a load guide funnel.

OFF BALANCE LOADING OF BASKET INTO MCO

- 3-IV. OFF BALANCE LOADING OF MK-IV FUEL BASKET: Develop a maximum MK-IV fuel basket off balance envelope that may be loaded into a MCO.
- 3-1A. OFF BALANCE LOADING OF MK-1A FUEL BASKET: Develop a maximum MK-1A fuel basket off balance envelope that may be loaded into a MCO.
- 3-SPR. OFF BALANCE LOADING OF SPR FUEL BASKET: Develop a maximum SPR fuel basket off balance envelope that may be loaded into a MCO.

OFF BALANCE LOADING OF FUEL BASKET WITH USE OF MCO LOAD GUIDE FUNNEL

- 3a-IV. OFF BALANCE LOADING OF MK-IV FUEL BASKET WITH USE OF A LOAD GUIDE FUNNEL: Develop a maximum MK-IV fuel basket off balance

envelope that may be loaded into a MCO with the aid of a load guide funnel.

3a-1A. OFF BALANCE LOADING OF MK-1A FUEL BASKET WITH USE OF A LOAD GUIDE FUNNEL: Develop a maximum MK-1A fuel basket off balance envelope that may be loaded into a MCO with the aid of a load guide funnel.

3a-SPR. OFF BALANCE LOADING OF SPR FUEL BASKET WITH THE USE OF A LOAD GUIDE FUNNEL: Develop a maximum SPR fuel basket off balance envelope that may be loaded into a MCO with the aid of load guide funnel.

MULTIPLE OFF CENTER BASKET LOADING

4-IV. MULTIPLE OFF CENTER MK-IV FUEL BASKETS LOADING: Tests the ability of the MCO prototype to accept off center loaded MK-IV fuel baskets without damage to the MCO or basket. Also tests the nesting features of the MK-IV basket.

4-1A. MULTIPLE OFF CENTER MK-1A FUEL BASKETS LOADING: Tests the ability of the MCO prototype to accept off center loaded MK-1A fuel baskets without damage to the MCO or basket. Also tests the nesting features of the MK-1A basket.

4a-SPR. MULTIPLE OFF CENTER SPR FUEL BASKET LOADING: Tests the ability of the MCO prototype to accept off center loaded SPR fuel baskets without damage to the MCO or basket. Also tests the nesting features of the SPR basket.

4.0 TEST DESCRIPTION

4.1 TEST FACILITIES, PERSONNEL

Testing will be conducted in the 305 building by Engineering Testing Laboratory personnel. Tests that are required to be conducted underwater will be carried out in the KBMU (SK-3-300632). Other tests will be performed in the 305 building highbay. A two ton monorail or a five ton bridge crane will be used for the tests outlined in this test plan.

4.2 TEST EQUIPMENT, TOOLS

The following equipment/tools are required to conduct the tests:

2/3 length prototype MCO

- (2) Mark IV prototype fuel baskets (SK-2-300375)
- (2) Mark 1A prototype fuel baskets (SK-1-80208)
- (2) SPR prototype fuel baskets (SK-2-300376)

(54) dummy fuel elements (SK-1-80027-1)
(2) 1/4 turn grapple adapters (SK-2-30077)
Modified pole hook (SK-2-30038)
Load guide funnel (SK-2-300388)
Digital level (accuracy: +/- .1 degree)
Dynamometer (accuracy: +/- 12 pounds)
General shop hoisting and rigging equipment
Underwater camera/video recorder
Lead or other weight

Equipment calibration data will be collected on the calibration data sheet found as appendix C of this test plan.

4.3 TEST DATA, DOCUMENTATION

Test data shall be gathered on the data sheet found as appendix B of this test plan.

Still photos and/or a video will be taken to document the significant portions the tests. The photos and/or video tape will be maintained on file in the 305 building. Copies will be made available upon request by contacting WHC Engineering Testing Laboratory.

After testing, components and test articles will be packaged, labeled and shipped to a Hanford Site convenience storage location per the direction of the MCO Testing Coordinator.

WHC Engineering Testing will issue a final report within two weeks after the conclusion of all tests described in this plan. The Test Report will be released as a supporting document.

5.0 TEST PROCEDURE

Test 1-IV, 1-1A, and 1-SPR must be performed first. All other test may be performed in any order that is convenient.

125% LOAD TEST

1-IV. MK-IV BASKET LOAD TEST

1. Load MK-IV fuel basket (SK-2-300375) with 54 dummy fuel elements.
2. Using pole hook and grapple adapter, raise basket one foot or less. Record dynamometer reading on Appendix B data sheets. Record dynamometer calibration data on sheets in Appendix C.

3. Using lead bricks or other weights, load basket to 125% of weight of loaded basket found above. Record weight on Data Sheet.

4. Using pole hook and grapple adapter, raise basket loaded to 125% one foot or less. Hold for five minutes. Visually inspect for damage. Record damage (if any) on data sheets.

1-1A. MK-1A BASKET LOAD TEST

Repeat test 1-IV using MK-1A fuel baskets (SK-1-80208) and 48 dummy fuel elements.

1-SPR. SPR BASKET LOAD TEST

Repeat test 1-IV using SPR fuel baskets (SK-300376) and lead bricks or other weight.

LOADING BALANCED BASKETS INTO MCO

2-IV. LOADING BALANCED MK-IV BASKET INTO MCO

1. Load MK-IV fuel basket with 54 dummy fuel elements.
2. Place 2/3 MCO prototype in KBMU. Plumb MCO using adjustable feet on MCO spider.
3. Without using loading guide, load Fuel Basket in to MCO. Start recording time when Fuel Basket is approximately one foot above MCO. End time when fuel basket bottoms in MCO. If time is greater than ten minutes, abort test and continue with tests below. Record time and comments on data sheets.

2-1A. LOADING BALANCED MK-1A BASKET INTO MCO

1. Load MK-1A fuel basket with 48 dummy fuel elements.
2. Place 2/3 MCO prototype in KBMU. Plumb MCO using adjustable feet on MCO spider.
3. Without using loading guide, load Fuel Basket in to MCO. Start recording time when Fuel Basket is approximately one foot above MCO. End time when fuel basket bottoms in MCO. If time is greater than ten minutes, abort test and continue with tests below. Record time and comments on data sheets.

2-SPR. LOADING BALANCED SPR BASKET INTO MCO

1. Load SPR fuel basket with a balanced load of lead bricks or other weights equal to the weight of a fully loaded basket.
2. Place 2/3 MCO prototype in KBMU. Plumb MCO using adjustable feet on MCO spider.
3. With basket hanging from grapple and pole hook, load Fuel Basket in to MCO. Start recording time when Fuel Basket is approximately one foot above MCO. End time when fuel basket bottoms in MCO. If time is greater than ten minutes, abort test and continue with tests below. Record time and comments on data sheets.

LOADING BALANCED BASKETS INTO MCO WITH GUIDE

2a-IV. LOADING BALANCED MK-IV BASKET INTO MCO WITH GUIDE.

Repeat test 2-IV using loading guide. Record data on data sheets.

2a-1A. LOADING BALANCED MK-1A BASKET INTO MCO WITH GUIDE.

Repeat test 2-1A using loading guide. Record data on data sheets.

2a-SPR. LOADING BALANCED SPR BASKET INTO MCO WITH GUIDE.

Repeat test 2-SPR using loading guide. Record data on data sheets.

OFF BALANCE LOADING OF FUEL BASKET

3-IV. OFF BALANCE LOADING MK-IV BASKET INTO MCO.

1. Load MK-IV fuel basket with 54 dummy fuel elements.
2. Raise loaded fuel basket approximately two feet. Using digital level, record plumb measurement at two places 180 degrees apart. Record data on data sheets. Record digital level calibration data on calibration data sheets.
3. Using fuel removal map found as appendix A, remove dummy fuel element identified as 1. Repeat step 2 above.
4. Continue removing dummy fuel in order outlined on fuel removal map until 20 fuel pieces are removed or the basket reaches 20 degrees out of plumb. Record two level measurements for each fuel piece removed on data sheets.
5. Reload basket with fuel elements.

6. Without using loading guide. Load Fuel basket with one element removed into MCO. Start recording cycle time when Fuel Basket is approximately one foot above MCO. End cycle time when of Fuel Basket bottoms in MCO. If time is greater than ten minutes, abort test. Record time and comments to data sheets.

7. Continue removing dummy fuel and loading basket into MCO until 20 fuel pieces are removed, the basket reaches 20 degrees out of plumb, or it takes greater than 10 minutes to load Fuel Basket in MCO. Record comments and times for each fuel piece removed to data sheets.

3-1A. OFF BALANCED LOADING MK-1A BASKET INTO MCO.

Repeat test 3-IV. Record data on data sheets.

3-SPR. OFF BALANCED LOADING SPR BASKET INTO MCO.

Repeat test 2-SPR. Place lead bricks or other weights into SPR basket. Position weight in basket to closely simulate out of plumb values found in test 3-IV above. Record data on data sheets.

OFF BALANCE LOADING OF FUEL BASKET WITH USE OF MCO LOAD GUIDE

3a-IV. OFF BALANCED LOADING MK-IV BASKET INTO MCO WITH USE OF LOAD GUIDE.

Repeat test 3-IV. Record data on data sheets.

3a-1A. OFF BALANCED LOADING MK-1A BASKET INTO MCO WITH USE OF LOAD GUIDE.

Repeat test 3-1A. Record data on data sheets.

3a-SPR. OFF BALANCED LOADING MK-1A BASKET INTO MCO WITH USE OF LOAD GUIDE.

Repeat test 3-SPR. Record data on data sheets.

4-IV. MULTIPLE OFF CENTER MK-IV FUEL BASKETS LOADING IN MCO.

1. Place 2/3 MCO prototype in KBMU. Plumb MCO using adjustable feet on MCO spider.

2. Place .009-.020 Plastigage¹ (Part Number PY-1) at six expected basket to basket contact points on top of MK-IV basket. The Plastigage shall be taped down (tape placed in noncontact areas).
3. Place empty MK-IV fuel basket from step 2 into MCO. When basket is approximately 1/2 way down prototype MCO, pull with hand pressure so basket slides down side of MCO. Note direction of pulling force.
4. Place a fully loaded MK-IV basket into MCO. When top of basket is below top of MCO, pull with hand pressure 180 degrees from direction noted in step 3. Continue lowering basket until it rests on top of first basket.
5. Remove baskets. Note location and take measurements of Plastigage to three decimal places. Record data on data sheets.

4-1A. MULTIPLE OFF CENTER MK-1A FUEL BASKETS LOADING IN MCO.

Repeat test 4-IV using MK-1A baskets. Record data on data sheet.

4a-SPR. MULTIPLE OFF CENTER SPR FUEL BASKET LOADING IN MCO.

Repeat test 4-IV using SPR fuel baskets and lead bricks or other weights in place of MK-IV dummy fuel. Record data on data sheets

6.0 SAFETY

The safety class for this work is 3. All work shall be performed in accordance with the "Safety Manual" (WHC-CM-1-10), "Hanford Site Hoisting and Rigging Manual" (DOE-RL-92-36), "Standard Engineering Practices" (WHC-CM-6-1), and the "305 Facility Administration Manual" (WHC-IP-1155).

There are no radiation hazards associated with this work.

7.0 QUALITY ASSURANCE

Testing will be conducted under the Westinghouse Quality Assurance requirements as specified in the Quality Assurance Manual (WHC-CM-4-2).

Quality Assurance will be notified of the proposed testing schedule and will witness testing activities as they feel necessary.

¹ Plastigage is a registered trademark of Perfect Circle, Hastings, Nebraska.

APPENDIX A

FUEL REMOVAL MAPS

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(sheet 1 of 3)

MK-IV FUEL

REMOVAL MAP

FUEL REMOVAL MAPS

(sheet 2 of 3)

REMOVAL MAP

BEST COPY AVAILABLE

APPENDIX A

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FUEL REMOVAL MAPS

(sheet 3 of 3)

SPR FUEL
REMOVAL MAP

APPENDIX B - DATA SHEETS

TEST 1-IV MK-IV BASKET LOAD TEST

MK-IV Basket (SK-2-300375)
MK-IV Dummy fuel (SK-1-80027-1)

Weight of fully loaded basket _____ Pounds _____ Kilograms

125% of fully loaded basket _____ Pounds _____ Kilograms

PASS / FAIL

Damage/comments _____

TEST 1-1A MK-1A BASKET LOAD TEST

MK-1A Basket (SK-1-80208)
MK-IV Dummy fuel (SK-1-80027-1)

Weight of fully loaded basket _____ Pounds _____ Kilograms

125% of fully loaded basket _____ Pounds _____ Kilograms

PASS / FAIL

Damage/comments _____

TEST 1-SPR SPR BASKET LOAD TEST

SPR Basket (SK-300376)

Weight of fully loaded basket _____ Pounds _____ Kilograms

125% of fully loaded basket _____ Pounds _____ Kilograms

PASS / FAIL

Damage/comments _____

TEST 2-IV LOADING BALANCED MK-IV FUEL BASKET INTO MCO (no load guide)

MK-IV Basket (SK-2-300375)

MK-IV Dummy Fuel (SK-1-80027-1)

Loaded Fuel Basket one foot above MCO - start time _____

Loaded Fuel Basket bottoms in MCO - end time _____

Elapsed time (if greater than 10 min, abort test) _____

Comments _____

TEST 2-1A LOADING BALANCED MK-1A FUEL BASKET INTO MCO (no load guide)

MK-1A Basket (SK-1-80208)

MK-1A Dummy Fuel (SK-1-80027-1)

Loaded Fuel Basket one foot above MCO - start time _____

Loaded Fuel Basket bottoms in MCO - end time _____

Elapsed time (if greater than 10 min, abort test) _____

Comments _____

TEST 2-SPR LOADING BALANCED SPR FUEL BASKET INTO MCO (no load guide)

SPR Basket (SK-300376)

Loaded Fuel Basket one foot above MCO - start time _____

Loaded Fuel Basket bottoms in MCO - end time _____

Elapsed time (if greater than 10 min, abort test) _____

Comments _____

TEST 2a-IV LOADING BALANCED MK-IV FUEL BASKETS INTO MCO WITH GUIDE

MK-IV Basket (SK-300375)
MK-IV Dummy Fuel (SK-1-80027-1)
Load Guide funnel (SK-300388)

Loaded Fuel Basket one foot above MCO - start time _____

Loaded Fuel Basket bottoms in MCO - end time _____

Elapsed time (if greater than 10 min, abort test) _____

Comments _____

TEST 2a-1A MCO LOAD TEST WITH GUIDE

MK-1A Basket (SK-1-80208)
MK-IV Dummy Fuel (SK-1-80027-1)
Load Guide funnel (SK-300388)

Loaded Fuel Basket one foot above MCO - start time _____

Loaded Fuel Basket bottoms in MCO - end time _____

Elapsed time (if greater than 10 min, abort test) _____

Comments _____

TEST 2a-SPR FUEL BASKET MCO LOAD TEST WITH GUIDE

SPR Basket (SK-300376)
Load Guide funnel (SK-300388)

Loaded Fuel Basket one foot above MCO - start time _____

Loaded Fuel Basket bottoms in MCO - end time _____

Elapsed time (if greater than 10 min, abort test) _____

Comments _____

TEST 3-IV OFF BALANCE LOADING MK-IV FUEL BASKET (no load guide)

MK-IV Basket (SK-2-300375)

MK-IV Dummy Fuel Element (SK-1-80027-1)

Fuel Element(s) Removed	Level Readings	Start/End/Cycle time
1	____/____	____/____/____
2	____/____	____/____/____
3	____/____	____/____/____
4	____/____	____/____/____
5	____/____	____/____/____
6	____/____	____/____/____
7	____/____	____/____/____
8	____/____	____/____/____
9	____/____	____/____/____
10	____/____	____/____/____
11	____/____	____/____/____
12	____/____	____/____/____
13	____/____	____/____/____
14	____/____	____/____/____
15	____/____	____/____/____
16	____/____	____/____/____
17	____/____	____/____/____
18	____/____	____/____/____
19	____/____	____/____/____
20	____/____	____/____/____

Comments _____

TEST 3-1A OFF BALANCE LOADING MK-1A FUEL BASKET (no load guide)

MK-1A Basket (SK-1-80208)

MK-IV Dummy Fuel Element (SK-1-80027-1)

Fuel Element(s) Removed	Level Readings	Start/End/Cycle time
1	____/____	____/____/____
2	____/____	____/____/____
3	____/____	____/____/____
4	____/____	____/____/____
5	____/____	____/____/____
6	____/____	____/____/____
7	____/____	____/____/____
8	____/____	____/____/____
9	____/____	____/____/____
10	____/____	____/____/____
11	____/____	____/____/____
12	____/____	____/____/____
13	____/____	____/____/____
14	____/____	____/____/____
15	____/____	____/____/____
16	____/____	____/____/____
17	____/____	____/____/____
18	____/____	____/____/____
19	____/____	____/____/____
20	____/____	____/____/____

Comments _____

TEST 3-SPR OFF BALANCE LOADING SPR FUEL BASKET (no load guide)

MK-IV Basket (SK-2-300375)

MK-IV Dummy Fuel Element (SK-1-80027-1)

Fuel Element(s) Removed	Level Readings	Start/End/Cycle time
1	____/____	____/____/____
2	____/____	____/____/____
3	____/____	____/____/____
4	____/____	____/____/____
5	____/____	____/____/____
6	____/____	____/____/____
7	____/____	____/____/____
8	____/____	____/____/____
9	____/____	____/____/____
10	____/____	____/____/____
11	____/____	____/____/____
12	____/____	____/____/____
13	____/____	____/____/____
14	____/____	____/____/____
15	____/____	____/____/____
16	____/____	____/____/____
17	____/____	____/____/____
18	____/____	____/____/____
19	____/____	____/____/____
20	____/____	____/____/____

Comments _____

TEST 3a-IV OFF BALANCE LOADING MK-IV FUEL BASKET WITH LOAD GUIDE

MK-IV Basket (SK-2-300375)

MK-IV Dummy Fuel Element (SK-1-80027-1)

Fuel Element(s) Removed	Level Readings	Start/End/Cycle time
1	____/____	____/____/____
2	____/____	____/____/____
3	____/____	____/____/____
4	____/____	____/____/____
5	____/____	____/____/____
6	____/____	____/____/____
7	____/____	____/____/____
8	____/____	____/____/____
9	____/____	____/____/____
10	____/____	____/____/____
11	____/____	____/____/____
12	____/____	____/____/____
13	____/____	____/____/____
14	____/____	____/____/____
15	____/____	____/____/____
16	____/____	____/____/____
17	____/____	____/____/____
18	____/____	____/____/____
19	____/____	____/____/____
20	____/____	____/____/____

Comments _____

TEST 3a-1A OFF BALANCE LOADING MK-1A FUEL BASKET WITH LOAD GUIDE

MK-1A Basket (SK-1-80208)

MK-IV Dummy Fuel Element (SK-1-80027-1)

Fuel Element(s) Removed	Level Readings	Start/End/Cycle time
1	____/____	____/____/____
2	____/____	____/____/____
3	____/____	____/____/____
4	____/____	____/____/____
5	____/____	____/____/____
6	____/____	____/____/____
7	____/____	____/____/____
8	____/____	____/____/____
9	____/____	____/____/____
10	____/____	____/____/____
11	____/____	____/____/____
12	____/____	____/____/____
13	____/____	____/____/____
14	____/____	____/____/____
15	____/____	____/____/____
16	____/____	____/____/____
17	____/____	____/____/____
18	____/____	____/____/____
19	____/____	____/____/____
20	____/____	____/____/____

Comments _____

TEST 3a-SPR OFF BALANCE LOADING SPR FUEL BASKET WITH LOAD GUIDE

SPR Basket (SK-2-300376)

MK-IV Dummy Fuel Element (SK-1-80027-1)

Fuel Element(s) Removed	Level Readings	Start/End/Cycle time
1	____/____	____/____/____
2	____/____	____/____/____
3	____/____	____/____/____
4	____/____	____/____/____
5	____/____	____/____/____
6	____/____	____/____/____
7	____/____	____/____/____
8	____/____	____/____/____
9	____/____	____/____/____
10	____/____	____/____/____
11	____/____	____/____/____
12	____/____	____/____/____
13	____/____	____/____/____
14	____/____	____/____/____
15	____/____	____/____/____
16	____/____	____/____/____
17	____/____	____/____/____
18	____/____	____/____/____
19	____/____	____/____/____
20	____/____	____/____/____

Comments _____

4-IV MULTIPLE OFF CENTER MK-IV FUEL BASKET LOADING IN MCO

MK-IV Basket (SK-2-300375)

Draw sketch to note location of Plastigage.

Thickness measurements of Plastigage.

1. _____ inches/_____ millimeters
2. _____ inches/_____ millimeters
3. _____ inches/_____ millimeters
4. _____ inches/_____ millimeters
5. _____ inches/_____ millimeters
6. _____ inches/_____ millimeters

4-1A MULTIPLE OFF CENTER MK-1A FUEL BASKET LOADING IN MCO

MK-1A Basket (SK-1-80208)

Draw sketch to note location of Plastigage.

Thickness measurements of Plastigage.

1. _____ inches/_____ millimeters
2. _____ inches/_____ millimeters
3. _____ inches/_____ millimeters
4. _____ inches/_____ millimeters
5. _____ inches/_____ millimeters
6. _____ inches/_____ millimeters

4-SPR MULTIPLE OFF CENTER SPR FUEL BASKET LOADING IN MCO

SPR Basket (SK-2-300376)

Draw sketch to note location of Plastigage.

Thickness measurements of Plastigage.

1. _____ inches/_____ millimeters
2. _____ inches/_____ millimeters
3. _____ inches/_____ millimeters
4. _____ inches/_____ millimeters
5. _____ inches/_____ millimeters
6. _____ inches/_____ millimeters

WHC-SD-SNF-TP-026
Rev. 0
APPENDIX C - EQUIPMENT CALIBRATION DATA SHEET

EQUIPMENT _____ RECALL DATE _____
STANDARDS CODE NUMBER _____

EQUIPMENT _____ RECALL DATE _____
STANDARDS CODE NUMBER _____

EQUIPMENT _____ RECALL DATE _____
STANDARDS CODE NUMBER _____

EQUIPMENT _____ RECALL DATE _____
STANDARDS CODE NUMBER _____