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HAZARDOUS STDR

LRV RADIONUCLIDE CONTROL HANDLING AND INSTALLATION

PROJECT 223

SUBMITTED UNDER F04701-68-C-0034

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MCDONNELL DOUGLAS ASTRONAUTICS COMPANY
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MCDONNELL DOUGLAS

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PCN SUMMARY

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ANOMALY REPORT SUMMARY

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INTRODUCTION

THIS DOCUMENT PROVIDES THE DETAILED PROCEDURES TO BE FOLLOWED FOR ALL OPERATIONS DIRECTLY INVOLVING THE RADIONUCLIDE MATERIAL ASSOCIATED WITH THE LRV. THE SPECIFIC OPERATIONS COVERED ARE:

1) RECEIVING AND STORAGE OF RADIONUCLIDE MATERIAL
2) INSTALLATION OF BODY HEATSHIELD PLUGS
3) INSTALLATION OF LRV NOSE TIP.

TEST REQUIREMENTS AND PREPARATION

1.1 GENERAL REQUIREMENTS - TEST DATA SHALL BE RECORDED IN SPACES PROVIDED WITHIN THE TEST PROCEDURE. THE TEST ENGINEER OR HIS DESIGNEE WILL USE THE TEST SUMMARY SHEETS TO DESCRIBE TEST EVENTS, SUCH AS DOWN TIME, DISCREPANT CONDITIONS AND CORRECTIVE ACTION. THE COMPLETED DOCUMENT WITH ALL DATA ENTERED, SHALL BE RETAINED BY QUALITY ASSURANCE FOR HISTORICAL DATA.

1.2 REFERENCE DOCUMENTS

° 67A310003-1	INSTRUMENTATION ASSY., FWD BODY
° 67A320005-79	INSTRUMENTATION ASSY., AFT BODY/DOME
° GROUND SAFETY	DATA AND PROCEDURES, MDAC REPORT H275
° 67A300015-1	NOSE ASSY 2A6
° STDR 170	HANDLING PROCEDURES

1.3 SAFETY - IN ADDITION TO OBSERVING NORMAL ROUTINE SAFETY PRECAUTIONS, SPECIAL PRECAUTIONS ASSOCIATED WITH RADIOACTIVE MATERIAL WILL BE IN EFFECT. ONLY ESSENTIAL PERSONNEL WILL BE ALLOWED IN RADIATION CONTROLLED AREAS. THESE PERSONNEL MUST WEAR RADIATION MONITORING DEVICES DISTRIBUTED BY THE SAFETY ENGINEER. AT COMPLETION OF OPERATIONS AND UPON LEAVING THE CONTROLLED AREA, ALL PERSONNEL WILL TURN IN THEIR MONITORING DEVICES TO THE SAFETY ENGINEER. SPECIFIC SAFETY REQUIREMENTS ARE CONTAINED WITHIN MDAC REPORT H275, GROUND SAFETY DATA AND PROCEDURES.

1.4 TEST CONFIGURATION - SPECIFIC CONFIGURATION REQUIREMENTS ARE DEFINED WITHIN THIS PROCEDURE.

1.5 SUPPORT AND CLEARANCE

1.5.1 THE VAFB BIOLOGICAL ENVIRONMENTAL HEALTH OFFICE MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO ARRIVAL OF RADIOACTIVE MATERIAL AT VAFB.

1.5.2 THE VAFB FIRE DEPARTMENT MUST BE NOTIFIED OF INITIAL STORAGE LOCATION AND SCHEDULE OF ALL MOVES FOR THE RADIOACTIVE MATERIAL.

1.6 SYMBOLS AND ABBREVIATIONS

VCON	VEHICLE TEST CONDUCTOR
TE	TEST ENGINEER
MESH	MECHANICAL SYSTEMS AND HANDLING ENGINEER
MECH	MECHANICAL
MSE	MCDONNELL SAFETY ENGINEER
MQA	MCDONNELL QUALITY ASSURANCE
PAB-2	PAYLOAD ASSEMBLY BUILDING #2
PAB-1	PAYLOAD ASSEMBLY BUILDING #1
GDC	GENERAL DYNAMICS/CONVAIR
SRS	SPACE REENTRY SYSTEMS (DIV. OF PHILCO FORD)

TEST PREPARATION SHEET NO. 1

TEST EQUIPMENT READINESS SUMMARY

SYSTEM	P/N	NOMENCLATURE	SER. NO	INSP.
		EQUIPMENT FOR SEQUENCE 01-000		
MSE	740D	VICTOREEN SURVEY METER	____	____
	* 541	VICTOREEN POCKET DOSIMETER		____
MESH	N/A	RADIATION WARNING SIGNS	____	____
	N/A	STANDS AND ROPE	____	____
		EQUIPMENT FOR SEQUENCE 02-000		
MSE	740D	VICTOREEN SURVEY METER	____	____
	* 541	VICTOREEN POCKET DOSIMETER		____
MESH	N/A	RADIATION WARNING SIGNS		____
	N/A	STANDS AND ROPE		____
		HEATSHIELD RADIONUCLIDE BONDING AGENT		____
	N/A	GLOVES, WHITE COTTON (PAN STOCK ITEM)		____
	N/A	CHEESECLOTH, COMMERCIAL GRADE - BLEACHED		____
		EQUIPMENT FOR SEQUENCE 03-000		
MSE	740D	VICTOREEN SURVEY METER		____
	* 541	VICTOREEN POCKET DOSIMETER		____
MESH	N/A	RADIATION WARNING SIGNS	____	____
	N/A	STANDS AND ROPE		____
		FORK LIFT		____
		EQUIPMENT FOR SEQUENCE 04-000		
MSE	740D	VICTOREEN SURVEY METER	____	____
	541	VICTOREEN POCKET DOSIMETER		____

* SERIAL NUMBERS RECORDED IN MSE LOG

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SYSTEM	P/N	NOMENCLATURE	SER. NO.	INSP.
MESH	N/A	RADIATION WARNING SIGN		———
		HEATSHIELD PLUG BONDING AGENT		———
	N/A	GLOVES, WHITE COTTON (PAN STOCK ITEM)		———
	N/A	CHEESECLOTH, COMMERCIAL GRADE - BLEACHED		———
	N/A	STOPWATCH		———
	67D800008-1	TOOL - LRV NOSE TIP HANDLING	———	———
	67D800019-1	MOBILE STAND, SHIELDED CONTAINER	———	———
	67D800001-1	SLING ASSY., RV EQUIP. HOISTING	———	———
	67D800004-1	SLING ASSY., RV HOISTING	———	———
	67D800027-1	KIT, SPANNER WRENCH, HEATSHIELD PLUG	———	———
	67D830004	CONTAINER ASSY SHIPPING AND STORAGE	———	
	GFE	WORKSTANDS (2)		———
	N/A	PROTECTIVE FLOOR PAD (2)		———

* THE 67D800004-1 SLING ASSY. IS TO BE CONFIGURED WITH THE -9 CABLES (2) ATTACHED TO THE CENTER LUG OF THE NO. 2 ATTACH POINTS. THE 55E460065-13 SPREADER BARS (2), -15 CABLES (4), AND -17 CABLES (4) WILL NOT BE USED. THE FREE ENDS OF THE -9 CABLES CAN BE STOWED FOR PROTECTION BY ATTACHING THEM TO THE OUTER LUGS OF THE NO. 1 ATTACH POINT.

SYSTEM	P/N	NOMENCLATURE	SER. NO.	INSP.
		EQUIPMENT FOR SEQUENCE 05-000		
MESH	* 541	VICTOREEN POCKET DOSIMETERS		____
	67D800008-1	TOOL - LRV NOSE TIP HANDLING	____	____
	67D800019-1	MOBILE STAND, SHIELDED CONTAINER	____	____
	67D800001-1	SLING ASSY., RV EQUIP. HOISTING	____	____
	** 67D800004-1	SLING ASSY., RV HOISTING	____	____
	67D800027-1	KIT, SPANNER WRENCH, HEATSHIELD PLUG		____
	67D830004	CONTAINER ASSY SHIPPING AND STORAGE		
	GFE	WORKSTANDS (2)		____
	N/A	PROTECTIVE FLOOR PAD (2)		____
	N/A	GLOVES, WHITE COTTON (PAN STOCK ITEM)		____
	N/A	STOPWATCH		____

* SERIAL NUMBERS RECORDED IN MSE LOG

** THE 67D800004-1 SLING ASSY., IS TO BE CONFIGURED WITH THE -9 CABLES (2) ATTACHED TO THE CENTER LUG OF THE NO. 2 ATTACH POINTS. THE 55E460065-13 SPREADER BARS (2), -15 CABLES (4), AND -17 CABLES (4) WILL NOT BE USED. THE FREE ENDS OF THE -9 CABLES CAN BE STOWED FOR PROTECTION BY ATTACHING THEM TO THE OUTER LUGS OF THE NO. 1 ATTACH POINTS.

RV TEST CONDUCTOR DATE

TEST PREPARATION SHEET NO. 2

MASTER CHECK LIST

1. CHECK LIST FOR SEQUENCE 01-000.

A. NOTIFY VAFB BIOLOGICAL ENVIRONMENTAL HEALTH OFFICE, AT LEAST 24 HOURS IN ADVANCE, OF ARRIVAL OF RADIONUCLIDE SHIPMENT.

B. NOTIFY VAFB FIRE DEPARTMENT OF STORAGE LOCATION AND TIME SCHEDULE OF ALL MOVES OF THE RADIONUCLIDES.

C. VERIFY TEST EQUIPMENT READINESS PER TPS NO. 1 FOR SEQUENCE 01-000.

D. VERIFY STORAGE AREA IS CLEARED AND ROPE STANDS ARE IN PLACE.

2. CHECK LIST FOR SEQUENCE 02-000.

A. VERIFY TEST EQUIPMENT READINESS PER TPS NO. 1 FOR SEQUENCE 02-000.

B. MOVE RADIONUCLIDE SHIPPING CONTAINER TO VICINITY OF LRV. ROPE OFF AREA AROUND VEHICLE AND CONTAINER AND DESIGNATE WITH RADIATION WARNING SIGNS.

3. CHECK LIST FOR SEQUENCE 03-000.

A. REPEAT STEP 1A.

B. REPEAT STEP 1B.

C. VERIFY TEST EQUIPMENT READINESS PER TPS NO. 1 FOR SEQUENCE 03-000.

4. CHECK LIST FOR SEQUENCE 04-000.

A. VERIFY TEST EQUIPMENT READINESS PER TPS NO. 1 FOR SEQUENCE 04-000.

B. VERIFY NOSE TIP CONTAINER ON FLAT BED TRUCK IS LOCATED IN STAGING AREA.

C. VERIFY THE FOLLOWING ITEMS ON MISSILE SERVICE TOWER LEVEL 84.

67D800008 TOOL, LRV NOSE TIP HANDLING

67D800019 MOBILE STAND, SHIELDED CONTAINER

67D800027 KIT, SPANNER WRENCH

67D800004-1 SLING (-9 CABLES (2) ON NO. 2 LUGS)

CLEAN WIPING CLOTHS AND GLOVES

PROTECTIVE FLOOR PAD

67A300018-3 NOSE TIP ATTACH PINS (2 EACH)

67A300016-1 HEATSHIELD PLUG

67A300016-3 HEATSHIELD PLUG

D. VERIFY LEVEL 84 WORKSTANDS (GFE) IN PLACE.

E. VERIFY 67D800001 SLING AVAILABLE AT BASE OF MST.

F. VERIFY GDC HAS OPENED DOORS AND STOWED PLATFORMS AS REQUIRED.

G. VERIFY ALL PERSONNEL INVOLVED IN OPERATION HAVE RADIATION MONITORING DEVICES.

H. VERIFY RADIATION WARNING SIGNS ARE DISPLAYED.

I. VERIFY CRANE HOOK AT GANTRY BASE LEVEL.

J. VERIFY SRS HAS COMPLETED ALL OPERATIONS ON MST LEVELS 66, 75 AND 84 EXCEPT FOR INSTALLING TRIDENT ACCESS DOOR (MST LEVEL 66) AND COMPLETING FLY-AWAY SHROUD INSTALLATION AND RIGGING (MST LEVEL 84).

K. VERIFY MDAC HAS COMPLETED ALL OPERATIONS ON MST LEVELS 66, 75 AND 84 EXCEPT FOR LRV AND SRV NOSE TIP INSTALLATIONS.

5. CHECK LIST FOR SEQUENCE 05-000.

A. VERIFY TEST EQUIPMENT READINESS PER TPS NO. 1 FOR SEQUENCE 05-000.

B. VERIFY NOSE TIP CONTAINER ON FLAT BED TRUCK IS LOCATED IN STAGING AREA WITH CONTAINER LID REMOVED.

C. VERIFY THE FOLLOWING ITEMS ON MISSILE SERVICE TOWER LEVEL 84.

67D800001 SLING

67D800004 SLING

67D800008 TOOL, LRV NOSE TIP HANDLING

67D800019 MOBILE STAND, SHIELDED CONTAINER

67D800027 KIT, SPANNER WRENCH

GLOVES

PROTECTIVE FLOOR PAD

D. VERIFY LEVEL 84 WORKSTANDS (GFE) IN PLACE.

E. VERIFY GDC HAS OPENED DOORS AND STOWED PLATFORMS AS REQUIRED.

F. VERIFY ALL PERSONNEL INVOLVED IN OPERATION HAVE RADIATION MONITORING DEVICES.

G. VERIFY RADIATION WARNING SIGNS ARE DISPLAYED.

H. VERIFY CRANE HOOK AT MSE LEVEL 84.

I. VERIFY SRS HAS COMPLETED FLY-AWAY SHROUD REMOVAL.

TEST CONDUCTOR DATE

SEQUENCE	SYST. AREA		DESCRIPTION	REMARKS
			SECTION II	
01-000			RECEIVING, STORAGE AND HANDLING OF HEATSHIELD RADIONUCLIDE BODY PLUGS	
01-001	MESH		VERIFY TPS NO. 2 FOR SEQUENCE 01-000 COMPLETED.	
01-002	MESH	MSE	VERIFY/ISSUE RADIATION MONITORING DEVICES WORN BY ALL PERSONNEL INVOLVED.	
01-003	MESH	MSE	RECORD SHIPPING CONTAINER EXTERNAL RADIATION LEVEL MARKED ON CONTAINER. RADIATION LEVEL _____	
01-004	MESH	MSE	USING THE 740D SURVEY METER, PERFORM A RADIATION SURVEY OF THE SHIPPING CONTAINER PRIOR TO REMOVING FROM TRUCK. RECORD MEASURED LEVEL _____. VALUE SHOULD NOT EXCEED 200 MR/HR.	
01-005	MESH	MECH	UTILIZING FORK LIFT TRANSPORT SHIPPING CONTAINER TO DESIGNATED STORAGE AREA IN PAB-2.	
01-006	MESH	MECH MSE	ROPE OFF AREA AROUND SHIPPING CONTAINER GREATER THAN 2 MR PER HOUR AND IDENTIFY WITH RADIATION WARNING SIGNS. MINIMUM DISTANCE TO BE ROPED OFF IS 5 FEET.	
01-007	MESH	MECH MQA	OPEN CONTAINER AND QUICKLY INSPECT FOR QUANTITY AND PHYSICAL DAMAGE. THE BODY PLUGS REQUIRED ARE: P/N FOR 2-A8 67A710006-3CLGA1 67A710006-3CLGA2 67A710006-3CLGA3 67A710006-3CLGA4 67A710006-5CLGA5 67A710006-5CLGA6 67A710006-5CLGA7 67A710006-5CLGA8 67A710006-7CLGA9 67A710006-9CLGA10	

SEQUENCE	SYSTEM AREA	DESCRIPTION	REMARKS
		P/N	
		FOR 2-A6	
		67A710006-3CLGA5 67A710006-3CLGA7 67A710006-5CLGA8 67A710006-5CLGA18 67A710006-7CLGA9 67A710006-9CLGA10	
01-008	MESH	MECH CLOSE CONTAINER	
01-009	MESH	MSE PERFORM RADIATION SURVEY TO VERIFY CONTAINER IS PROPERLY CLOSED.	

SEQUENCE	SYSTEM AREA	DESCRIPTION	REMARKS
02-000		RADIONUCLIDE BODY PLUG INSTALLATION	
02-001	MESH	ALL VERIFY TPS NO. 2 FOR SEQUENCE 02-000 IS COMPLETE.	
02-002	MESH	MSE VERIFY/ISSUE RADIATION MONITORING DEVICES TO ALL INVOLVED PERSONNEL. MONITOR PLUG INSTALLATION.	
02-003	MESH	MECH REMOVE BOLTS HOLDING CONTAINER LID DOWN. DO NOT OPEN EXCEPT TO REMOVE A PLUG.	
02-004	MESH	MECH INSTALL BODY PLUGS PER DRAWING:	
		2A8 NOSE 1D15146-1	
		FWD BODY 1D15150-1	
		AFT BODY/DOME 67A320005-1	
		2A6 NOSE/FWD BODY 67A310003-1	
		AFT BODY/DOME 67A320005-79	
02-005	MESH	MECH ROPE OFF AREAS GREATER THAN 2 MR PER HOUR AND IDENTIFY WITH RADIATION WARNING SIGNS.	
02-006	MESH	MECH PLACE RADIATION WARNING SIGNS ON RV HANDLING FIXTURE.	

SEQUENCE	SYSTEM AREA		DESCRIPTION	REMARKS
03-000			RECEIVING, STORAGE AND HANDLING OF RADIOACTIVE NOSE TIP	
03-001	MESH	ALL	VERIFY TPS 2 FOR SEQUENCE 03-000 HAS BEEN COMPLETED	
03-002	MESH	MSE	VERIFY/ISSUE RADIATION MONITORING DEVICES TO ALL PERSONNEL INVOLVED. MONITOR OPERATION.	
03-003	MESH	MSE	RECORD SHIPPING CONTAINER EXTERNAL RADIATION LEVEL MARKED ON CONTAINER. RADIATION LEVEL _____	
03-004	MESH	MSE	USING THE 740D SURVEY METER PERFORM A RADIATION SURVEY OF THE SHIPPING CONTAINER PRIOR TO REMOVING FROM TRUCK. RECORD MEASURED VALUE _____. MEASURED VALUE SHOULD NOT EXCEED 200 MR/HR.	
03-005	MESH	MECH	USING FORK LIFT TRANSPORT SHIPPING CONTAINER TO DESIGNATED STORAGE AREA IN PAB-2.	
03-006	MESH	MECH	ROPE OFF AREA AROUND SHIPPING CONTAINER WITH RADIATION LEVEL GREATER THAN 2 MR PER HOUR AND IDENTIFY WITH RADIATION WARNING SIGNS.	

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SEQUENCE	SYSTEM AREA		DESCRIPTION	REMARKS
04-000			INSTALLATION OF LRV NOSE TIP NOTE: (1) THIS PROCEDURE DEFINES THE STEPS REQUIRED FOR INSTALLING THE NOSE TIP. THE INTEGRATED MASTER COUNTDOWN WILL CONTROL THE INSTALLATION SCHEDULE. (2) UNLESS OTHERWISE SPECIFIED, ALL CRANE OPERATIONS WILL BE CONDUCTED AT FAST SPEED (15 FEET/MIN). (3) REFER TO STDR 170 FOR DETAILED USAGE OF HANDLING AGE. CAUTION: THE NOSE TIP CONTAINS RADIOACTIVE MATERIAL (TANTALUM 182). REMAIN AS FAR AS POSSIBLE FROM THE NOSE TIP AT ALL TIMES.	
04-001	VCON	MESH	VERIFY TPS #2 FOR SEQUENCE NO. 04-000 HAS BEEN COMPLETED.	
04-002	VCON	MSE	VERIFY/ISSUE RADIATION MONITORING DEVICES TO ALL PERSONNEL INVOLVED. MONITOR OPERATION.	
04-003	VCON	ALL	PERFORM COMMUNICATION CHECK AND VERIFY FOLLOWING PERSONNEL ON STATION. MESH _____ MECH-1 _____ MECH-2 _____ MSE _____ MQA _____ CRANE OPERATOR (MST LV. 84) _____ CRANE OPERATOR (MST BASE) _____	
04-004	VCON	MESH	REQUEST ALL NON-ESSENTIAL PERSONNEL TO CLEAR MST LEVELS 66, 75, 84 AND 93 AND BASE OF GANTRY.	
04-005	VCON	MESH	REQUEST FLAT BED TRUCK WITH SHIPPING CONTAINER TO MOVE FROM STAGING AREA TO BASE OF GANTRY.	
04-006	VCON	MESH	PLACE 67D800019 MOBILE STAND IN POSITION NEAR OUTSIDE GUARD RAIL (EAST SIDE) DIRECTLY UNDER CRANE TRACK ON MST LEVEL 84. LOCK CASTERS.	
04-007	MESH	VCON	FLAT BED WITH SHIPPING CONTAINER IS IN POSITION UNDER MST CRANE.	
04-008	VCON		NOTIFY SRS TEST CONDUCTOR READY TO BEGIN HOISTING OPERATION.	

SEQUENCE	SYSTEM AREA	DESCRIPTION		REMARKS
04-009	VCON	MESH	START HOISTING OPERATION	
04-010	MESH	MECH	ATTACH 67D800001 SLING LIFTING EYE TO CRANE HOOK.	
04-011	MESH	MECH	REMOVE THE TWO HANDKNOB FASTENERS ON OUTER LID.	
04-012	MESH	MECH	ATTACH SLING TO THE 4 LIFTING LUGS ON OUTER LID AND PLACE PROTECTIVE FLOOR PAD BESIDE CONTAINER ON BED OF TRUCK.	
04-013	MESH	CRANE OP	HOIST LID, SET ASIDE ON PROTECTIVE PAD AND DISCONNECT SLING FROM 4 LIFTING LUGS.	
04-014	MESH	CRANE OP	POSITION SLING OVER INNER CONTAINER.	
04-015	MESH	MECH	ATTACH SLING TO FOUR PERIPHERIAL LIFTING LUGS ON INNER CONTAINER.	
04-016	MESH	CRANE OP	HOIST INNER CONTAINER TO LEVEL 84.	
04-017	MESH	VCON	INNER CONTAINER IS AT LEVEL 84.	
04-018	MESH	CRANE OP	LOWER INNER CONTAINER INTO MOBILE STAND.	
04-019	MESH	MECH	DISCONNECT SLING FROM 4 LIFTING LUGS.	
04-020	MESH	MECH	REMOVE FOUR (4) INNER CONTAINER LIFTING LUGS AND ASSOCIATED WASHERS.	
04-021	MESH	MECH	ATTACH ONE SLING CABLE TO INNER CONTAINER LID LIFTING LUG. (CENTER LUG)	
04-022	MESH	VCON	READY TO INSTALL NOSE TIP.	
04-023	VCON		NOTIFY SRS TEST CONDUCTOR READY TO INSTALL NOSE TIP.	
04-024	VCON	MESH	VERIFY ALL NON ESSENTIAL PERSONNEL ON MST LEVELS 57 AND ABOVE ARE CLEAR OF THE AREA AND PROCEED WITH NOSE TIP INSTALLATION. CAUTION: AT ALL TIMES REMAIN AS FAR AS POSSIBLE FROM THE NOSETIP. ALL OPERATIONS ARE TO BE DONE AS QUICKLY AS POSSIBLE.	

SEQUENCE	SYSTEM AREA	DESCRIPTION		REMARKS
04-025	MESH	CRANE OP	HOIST LID FROM CONTAINER AND SET LID AND SLING ASIDE ON PROTECTIVE FLOOR PAD. DETACH SLING LIFTING EYE FROM CRANE HOOK.	
04-026	MESH	MECH	ATTACH 67D800004 SLING LIFTING EYE TO CRANE HOOK AND POSITION OVER NOSE TIP ASSEMBLY.	
04-027	MESH	MECH	ATTACH LRV NOSE TIP HANDLING TOOL TO THE BASE OF LRV NOSE TIP.	
04-028	MESH	MECH	ATTACH SLING CABLES TO HANDLING TOOL.	
04-029	MESH	MSE	START STOPWATCH AS NOSE TIP CLEARS CONTAINER.	
04-030	MESH	CRANE OP	HOIST LRV NOSE TIP CLEAR OF CONTAINER.	
04-031	MESH	MECH	SWIVEL HANDLING TOOL TIP SUPPORTS TO GRASP TIP AND INSTALL PINS. SWIVEL NOSE TIP WITH HANDLING TOOL TO A TIP UP POSITION AND LATCH TOOL TO SLING CABLES.	
04-032	MESH	CRANE OP	HOIST NOSE TIP AND TOOL TO POSITION DIRECTLY OVER THE LRV.	
04-033	MESH	CRANE OP	LOWER NOSE TIP AND TOOL TO POSITION APPROXIMATELY SIX (6) INCHES ABOVE LRV.	
04-034	MESH	MECH	ASSUME POSITIONS ON WORKSTANDS BESIDE LRV AND GRASP HANDLES ON LRV NOSE TIP HANDLING TOOL.	
04-035	MESH	MECH	ASSUME WEIGHT OF LRV NOSE TIP AND TOOL FROM HOIST AS CRANE OP CONTINUES TO LOWER ASSEMBLY WITH CRANE AT SLOW SPEED.	
04-036	MESH	CRANE OP	LOWER NOSE TIP AND TOOL (SLOW SPEED) UNTIL MECH(S) HAVE ASSUMED WEIGHT AND CONTROL OF ASSEMBLY AND ENOUGH CABLE SLACK IS PROVIDED TO COMPLETE NOSE TIP INSTALLATION.	
04-037	MESH	MECH	LOWER NOSE TIP INTO PLACE ON LRV.	
04-038	MESH	MECH	ALIGN NOSE TIP ON LRV TO ACCEPT ATTACH PINS.	
04-039	MESH	MECH	REMOVE LRV NOSE TIP HANDLING TOOL FROM NOSE TIP.	

SEQUENCE	SYSTEM AREA	DESCRIPTION		REMARKS
04-040	MESH	CRANE OP	HOIST HANDLING TOOL CLEAR OF NOSE TIP AND SET TOOL AND SLING ASIDE ON FLOOR. DETACH SLING LIFTING EYE FROM CRANE HOOK.	
04-041	MESH	MECH	USING A BLADE SCREWDRIVER, INSTALL THE TWO (2) NOSE TIP ATTACH PINS.	
04-042	MESH	MECH	USING THE 67D800027-1 TOOL, INSTALL THE TWO (2) NOSE TIP HEATSHIELD PLUGS WITH PROPER BONDING AGENT. OUTER FACE OF PLUGS TO BE FLUSH WITH MOLD LINE. WIPE EXCESS BONDING AGENT FROM HEAT-SHIELD SURFACE.	
04-043	MESH	ALL	VACATE AREA OF NOSE TIP.	
04-044	MESH	MSE	STOP THE STOPWATCH, RECORD ELAPSED TIME. _____	
04-045	MESH	VCON	NOSE TIP INSTALLATION COMPLETE.	
04-046	MESH	MSE	USING THE 740D SURVEY METER, PERFORM AREA RADIATION SURVEY AND MAP AREA.	
04-047	VCON		NOTIFY SRS TEST CONDUCTOR THAT NOSE TIP INSTALLATION IS COMPLETE AND READY FOR FINAL INSTALLATION AND RIGGING OF FLYAWAY SHROUD.	
04-048	MESH	MECH	REATTACH 67D80001 SLING LIFTING EYE TO CRANE HOOK. (WITH INNER CONTAINER LID STILL ATTACHED)	
04-049	MESH	CRANE OP	HOIST LID AND INSTALL ON INNER CONTAINER.	
04-050	MESH	MECH	INSTALL THE FOUR (4) LIFTING LUGS AND ASSOCIATED WASHERS.	
04-051	MFSH	MECH	STOW THE MOBILE STAND WITH CONTAINER ASSEMBLY, 67D800004 SLING, AND THE HANDLING TOOL IN PREPARATION FOR GANTRY ROLLBACK.	
04-052	MESH	MECH	REMOVE 67D800001 SLING CRANE HOOK AND STOW FOR GANTRY ROLLBACK.	
04-053	MESH	CRANE OP	SECURE GANTRY CRANE FOR MDAC OPERATIONS	
04-054	MSE		GATHER RADIATION MONITORING DEVICES AND RECORD DOSIMETER READINGS FOR EACH INDIVIDUAL.	

SEQUENCE	SYSTEM AREA	DESCRIPTION	REMARKS
04-055	MESH	MECH OUTER CONTAINER LID IS NOT TO BE REINSTALLED UNTIL AFTER LAUNCH.	
04-056	MESH	REQUEST FLATBED TRUCK WITH SHIPPING CONTAINER TO MOVE TO STAGING AREA.	

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SEQUENCE	SYSTEM AREA		DESCRIPTION	REMARKS
05-000			ABORT RECYCLE - LRV NOSE TIP REMOVAL NOTE: (1) THIS PROCEDURE DEFINES THE STEPS REQUIRED FOR REMOVING THE NOSE TIP. THE INTEGRATED MASTER COUNTDOWN WILL CONTROL THE REMOVAL SCHEDULE. (2) UNLESS OTHERWISE SPECIFIED, ALL CRANE OPERATIONS WILL BE CONDUCTED AT FAST SPEED (15 FEET/MIN). (3) REFER TO STDR 170 FOR DETAILED USAGE OF HANDLING AGE. CAUTION: THE NOSE TIP CONTAINS RADIOACTIVE MATERIAL (TANTALUM 182). REMAIN AS FAR AS POSSIBLE FROM THE NOSE TIP AT ALL TIMES.	
05-001	MESH		VERIFY TPS #2 FOR SEQUENCE NO. 05-000 HAS BEEN COMPLETED.	
05-002	VCCN		PERFORM COMMUNICATION CHECK AND VERIFY FOLLOWING PERSONNEL ON STATION. MESH _____ MECH-1 _____ MECH-2 _____ MSE _____ MQA _____ CRANE OPERATOR (MST LV. 84) _____ CRANE OPERATOR (MST BASE) _____	
05-003	VCCN		REQUEST ALL NON-ESSENTIAL PERSONNEL TO CLEAR MST LEVELS 66, 75, 84 AND 93 AND BASE OF GANTRY.	
05-004	VCCN		REQUEST FLAT BED TRUCK WITH SHIPPING CONTAINER TO MOVE FROM STAGING AREA TO BASE OF GANTRY.	
05-005	VCCN	MESH	PLACE 67D800019 MOBILE STAND IN POSITION NEAR OUTSIDE GUARD RAIL (EAST SIDE) DIRECTLY UNDER CRANE TRACK. LOCK CASTERS.	
05-006	MESH	VCCN	FLAT BED WITH SHIPPING CONTAINER IS IN POSITION UNDER MST CRANE.	

SEQUENCE	SYSTEM AREA		DESCRIPTION	REMARKS
05-007	VCON		NOTIFY SRS TEST CONDUCTOR READY TO BEGIN NOSE TIP REMOVAL. CAUTION: AT ALL TIMES REMAIN AS FAR AS POSSIBLE FROM THE NOSETIP. ALL OPERATIONS ARE TO BE DONE AS QUICKLY AS POSSIBLE.	
05-008	VCON	MESH	START NOSE TIP REMOVAL OPERATION	
05-009	MESH	CRANE OP	POSITION CRANE HOOK DIRECTLY OVER INNER CONTAINER LOCATED IN MOBILE STAND.	
05-010	MESH	MECH	ATTACH 67D800001 SLING TO CRANE HOOK.	
05-011	MESH	MECH	REMOVE FOUR (4) PERIPHERAL INNER CONTAINER LIFTING LUGS AND ASSOCIATED WASHERS.	
05-012	MESH	MECH	ATTACH SLING CABLE TO INNER CONTAINER LID LIFTING LUG.	
05-013	MESH	CRANE OP	HOIST LID FROM CONTAINER AND SET ASIDE ON PROTECTIVE FLOOR PAD WITH SLING.	
05-014	MESH	MECH	DISCONNECT SLING FROM CRANE HOOK.	
05-015	MESH	MECH	ATTACH 67D800004 SLING TO CRANE HOOK.	
05-016	MESH	CRANE OP	POSITION CRANE HOOK WITH SLING DIRECTLY OVER THE LRV NOSE TIP	
05-017	MESH	MSE	START THE STOPWATCH.	
05-018	MESH	MECH	USING THE 67D800027-1 TOOL, REMOVE THE TWO (2) NOSE TIP HEATSHIELD PLUGS.	
05-019	MESH	MECH	USING A BLADE SCREWDRIVER, REMOVE THE TWO (2) NOSE TIP ATTACH PINS.	
05-020	MESH	MECH	ATTACH LRV NOSE TIP HANDLING TOOL TO THE LRV NOSE TIP.	
05-021	MESH	MECH	ATTACH SLING CABLES TO HANDLING TOOL.	
05-022	MESH	MECH	GRASP HANDLES ON LRV NOSE TIP HANDLING TOOL AND RAISE NOSE TIP CLEAR OF LRV.	

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SEQUENCE	SYSTEM AREA	DESCRIPTION		REMARKS
05-023	MESH	CRANE OP	AT SLOW CRANE SPEED, REMOVE SLACK FROM SLING CABLES AND ASSUME WEIGHT OF NOSE TIP AND TOOL.	
05-024	MESH	CRANE OP	HOIST NOSE TIP AND TOOL TO POSITION DIRECTLY OVER THE INNER CONTAINER.	
05-025	MESH	CRANE OP	LOWER NOSE TIP AND TOOL TO POSITION APPROXIMATELY THIRTY (30) INCHES ABOVE INNER CONTAINER.	
05-026	MESH	MECH	UNLATCH UPPER TOOL CABLE LATCHES FROM SLING CABLES AND SWIVEL NOSE TIP TO TIP DOWN POSITION.	
05-027	MESH	MECH	UNLATCH LOWER TOOL ATTACH ARMS AND SWIVEL UPWARD TO STOWED POSITION.	
05-028	MESH	MECH	ASSUME WEIGHT OF LRV NOSE TIP AND TOOL FROM HOIST AS CRANE OP CONTINUES TO LOWER ASSEMBLY WITH CRANE AT SLOW SPEED.	
05-029	MESH	CRANE OP	LOWER NOSE TIP AND TOOL (SLOW SPEED) UNTIL MECH(S) HAVE ASSUMED WEIGHT AND CONTROL OF ASSEMBLY AND ENOUGH CABLE SLACK IS PROVIDED TO COMPLETE NOSE TIP INSTALLATION INTO CONTAINER.	
05-030	MESH	MECH	LOWER NOSE TIP INTO CONTAINER.	
05-031	MESH	MECH	REMOVE LRV NOSE TIP HANDLING TOOL FROM NOSE TIP.	
05-032	MESH	MSE	STOP STOPWATCH, RECORD ELAPSED TIME _____.	
05-033	MESH	CRANE OP	HOIST HANDLING TOOL CLEAR OF NOSE TIP AND SET ASIDE ON FLOOR WITH SLING.	
05-034	MESH	MECH	DETACH SLING FROM CRANE HOOK.	
05-035	MESH	CRANE OP	POSITION CRANE HOOK OVER INNER CONTAINER LID AND 67D800001 SLING.	
05-036	MESH	MECH	ATTACH SLING TO CRANE HOOK.	
05-037	MESH	CRANE OP	HOIST LID AND INSTALL ON INNER CONTAINER.	
05-038	MESH	MECH	DISCONNECT SLING FROM INNER CONTAINER LID CENTER LIFTING LUG.	

SEQUENCE	SYSTEM AREA	DESCRIPTION		REMARKS
05-039	MESH	MECH	INSTALL THE FOUR (4) PERIPHERAL LIFTING LUGS AND ASSOCIATED WASHERS.	
05-040	MESH	MECH	ATTACH SLING TO FOUR LIFTING LUGS.	
05-041	MESH		NOTIFY VCON NOSE TIP REMOVAL COMPLETE AND READY TO HOIST INNER CONTAINER WITH NOSE TIP TO BASE OF GANTRY FOR INSTALLATION INTO OUTER CONTAINER.	
05-042	VCON		NOTIFY SRS TEST CONDUCTOR THAT NOSE TIP IS REMOVED AND READY TO HOIST INNER CONTAINER WITH NOSE TIP TO MST BASE FOR STOWAGE IN OUTER CONTAINER.	
05-043	MESH	CRANE OP	HOIST INNER CONTAINER TO MST BASE LEVEL DIRECTLY OVER OUTER CONTAINER ON FLAT BED TRUCK.	
05-044	MESH	MECH	GUIDE INNER CONTAINER INTO OUTER CONTAINER AS CRANE OPERATOR CONTINUES TO LOWER AT SLOW SPEED.	
05-045	MESH	CRANE OP	LOWER INNER CONTAINER (AT SLOW SPEED) INTO OUTER CONTAINER.	
05-046	MESH	MECH	DETACH SLING FROM FOUR (4) PERIPHERAL LUGS ON INNER CONTAINER LID.	
05-047	MESH	CRANE OP	POSITION CRANE HOOK OVER OUTER CONTAINER LID.	
05-048	MESH	MECH	ATTACH SLING TO OUTER CONTAINER LID LIFTING LUGS.	
05-049	MESH	CRANE OP	HOIST LID AND INSTALL ON OUTER CONTAINER.	
05-050	MESH	MECH	INSTALL THE TWO (2) HANDKNOB FASTENERS ON OUTER LID.	
05-051	MESH	MECH	DETACH SLING FROM CRANE HOOK (SLING SHOULD REMAIN WITH OUTER CONTAINER FOR SUBSEQUENT REINSTALLATION)	
05-052	MESH		NOTIFY VCON THAT INNER CONTAINER WITH NOSE TIP HAS BEEN STOWED IN OUTER CONTAINER AT MST BASE.	
05-053	VCON		NOTIFY SRS TEST CONDUCTOR THAT LRV NOSE TIP REMOVAL OPERATION IS COMPLETE AND THAT NOSE TIP IS SECURED IN STORAGE CONTAINER.	

SEQUENCE	SYSTEM AREA		DESCRIPTION	REMARKS
05-054	MESH	CRANE OP	SECURE CRANE FROM NOSE TIP REMOVAL OPERATIONS.	
05-055	MESH	MECH	SECURE NOSE TIP HANDLING AGE ON MST LEVEL 84.	
05-056	MESH	MECH	REQUEST FLAT BED TRUCK WITH STORAGE CONTAINER TO MOVE TO STAGING AREA.	
05-057	MESH	MSE	GATHER RADIATION MONITORING DEVICES AND RECORD DIRECT READING DOSIMETER VALUES FOR EACH INDIVIDUAL.	

DATE _____ TEST SUMMARY SHEET SHEET 1 OF 2

VEHICLE S/N _____ TEST LOCATION _____

- THIS SUMMARY IS A RECORD OF TEST COMPLETION FOR THE _____ SYSTEM, AS DEPICTED IN THIS STDR.
- THIS SYSTEM WAS TESTED WITH ☐ FLIGHT HARDWARE ☐ NON-FLIGHT HARDWARE

PARA/ SEQ.	MALFUNCTION	DOWNTIME		ACTION REQUIRED
		START	STOP	

MDAC-ED SYSTEM ENGINEER _____ DATE _____ RV TEST CONDUCTOR _____ DATE _____

INSPECTION MDAC-ED _____ DATE _____ INSPECTION - CUSTOMER _____ DATE _____

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TEST SUMMARY SHEET SHEET 2 OF 2

VEHICLE NUMBER _____ DATE _____

THIS IS TO SIGNIFY THAT A TEST AS DEFINED BY THIS PROCEDURE HAS BEEN COMPLETED. CHANGES TO THIS PROCEDURE MADE DURING THIS TEST ARE SUMMARIZED ON THE PCN SUMMARY. PROBLEMS ENCOUNTERED ARE LISTED ON THE ANOMALY REPORT SUMMARY, AND THE PRECEEDING TEST SUMMARY SHEETS. THE SYSTEMS TESTED ARE APPROVED AS READY FOR THE FOLLOWING ACTIVITY:

RV TEST CONDUCTOR _____ DATE _____