



MASTER ACTIVITIES PLAN

Site Manufacturing

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ACTIVATION EXERCISE SUMMARY

INCREMENT 10.4

TITLE: DRY RUN - EXERCISE MODE - SHUTDOWN BETWEEN T-40 and T-1

OBJECTIVE:

The purpose of this activity is to verify that the countdown can progress to T-1. Upon "unfreezing" of the FCS-GO status at T-1 a manually introduced FCS-NO-GO (at approximately T-30) will automatically cause a shutdown at T-1.

DESCRIPTION:

This test will be conducted as a Weapon System countdown (Exercise Mode) per WDD-M-SR-59-46 with the exceptions that the following special conditions shall also apply:

1. Propellants and pressurization gases will not be loaded.
2. A FCS No-Go shall be manually introduced at T-30 by placing the FCS Mode switch in the Malfunction position. This shall initiate an automatic shutdown at approximately T-1.
3. Certain sequence signals and other functions will be simulated by test tool(s).

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5.10.4.1



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ACTIVATION EXERCISE SUMMARY

INCREMENT 10.5

TITLE: DRY RUN - EXERCISE MODE - SHUTDOWN AFTER T-0

OBJECTIVE:

The purpose of this activity is to verify:

1. The sequencing and compatibility of the integrated weapon system in the Exercise Mode to check lift-off.
2. The safe shutdown of the Weapon System at check lift-off after having failed the ground power rectifier between T-40 and T-1.

DESCRIPTION:

This checkout will be conducted as a Weapon System countdown (Exercise Mode) per WDD-M-SR-59-46 with the exceptions that the following special conditions shall also apply:

1. Propellants and pressurization gases will not be loaded.
2. Simulate failure of the ground power rectifier between T-40 and T-1.
3. Certain sequence signals and other functions will be simulated by test tool(s).



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ACTIVATION EXERCISE SUMMARY

INCREMENT 10.6

TITLE: DRY RUN - LAUNCH MODE - SHUTDOWN AFTER T-0

OBJECTIVE:

The purpose of this activity is to verify that the countdown will progress without unscheduled "holds" or "shutdowns" to T + 3 at which time automatic "shutdown" will occur at check TCPS.

DESCRIPTION:

This test will be conducted as a Weapon System countdown (Launch Mode) per WDD-M-SR-59-46 with the exceptions that the following special conditions shall also apply:

1. Propellants and pressurization gases will not be loaded;
2. An automatic shutdown shall occur at approximately T-3 (check TCPS) due to a lack of thrust chamber pressure;
3. Certain sequence signals and other functions will be simulated by test tool(s).

5.10.6.1



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ACTIVATION EXERCISE SUMMARY

INCREMENT 10.7

TITLE: TEST TOOL REMOVAL

OBJECTIVE:

The purpose of this activity is to remove the test tool previously installed for use in the Dry Run activities.

DESCRIPTION:

All special equipment and connections shall be removed. All GOE termination disconnected for the purpose of the Dry Runs will be reconnected to the proper terminals. The N₂ start system shall be repressurized. At completion of this exercise the Weapon System shall be in its operation configuration.

5.10.7.1



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ACTIVATION EXERCISE SUMMARY

INCREMENT 11.0

TITLE: WET EXERCISE (RP-1)

RESPONSIBILITY:

- A. The Martin Company
- B. All Associate Contractors shall provide technical assistance where required.

DOCUMENT REQUIREMENTS:

AD-XXX-11 Administrative Procedure

AE-XXX-11 Activation Exercise Special Procedure

COMPONENTS:

Missile (Propellant System)

PLS System

PLPS Controller

LOCATION:

Missile Silo

Propellant Terminal & Missile Silo

Equipment Terminal

OBJECTIVE:

The objective of this Activation Exercise is to demonstrate the capability of the Propellant Loading System to transfer cryogenic liquids to the missile tanks without deleterious effects to the facility or missile.

DESCRIPTION:

This activity shall be conducted in three progressive steps:

1. Facility cold soak
2. Partial fill and unload
3. Full load-point sensor check - unload

REFERENCE DOCUMENTS:

T.O.'s as specified in the applicable Administrative and Special Procedures

PREREQUISITE:

Weapon System Checkout, Weapon System Readiness Monitoring and Fuel Unloading activities must be completed prior to this exercise.

SUPPORT:

Proper propellant system commodities must have been delivered prior to the start of this exercise.

5.11.0.1



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RECOMMENDED MANPOWER:

2 Engineers

5 Technicians

SPECIAL REQUIREMENTS:

This exercise shall be performed at each launcher prior to **any Launch** Countdown exercise. Martin Safety Procedures shall be adhered to during this activity.



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ACTIVATION EXERCISE SUMMARY

INCREMENT 11.1

TITLE: FACILITY COLD SOAK

OBJECTIVE:

The purpose of this exercise is to verify that the facility propellant loading system can operate properly under cryogenic conditions and that the facility installation is free of leaks.

DESCRIPTION:

LOX will be automatically transferred by initiation of the Load Lox signal from the Launch Control Console (LCC). Upon receipt of a LOX present signal from the facility liquid sensors a shutdown will be manually initiated from the LCC. The system will be held in the shutdown condition for approximately one hour. The facility piping shall be observed to verify the absence of leaks. The facility piping shall be unloaded and returned to readiness by manual initiation from the PLPS/GOE.



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ACTIVATION EXERCISE SUMMARY

INCREMENT 11.2

TITLE: PARTIAL FILL AND UNLOAD

OBJECTIVE:

The purpose of this exercise is to verify the capability of the PLPS to transfer LOX to the missile tanks and its capability to unload LOX from the missile tanks and return the PLPS to the readiness condition.

DESCRIPTION:

LOX will be loaded into the missile tanks by initiation of the Load Lox signal of the LCC. After receipt of the LOX present signal from both low level sensors shutdown will be manually initiated from the LCC. The missile tanks shall unload and the system returned to readiness by manual initiation from the PLPS/GOE.



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ACTIVATION EXERCISE SUMMARY

INCREMENT 12

TITLE: LAUNCH READINESS MONITORING

RESPONSIBILITY:

- A. The Martin Company - Test Conductor
- B. Associate Contractor Support as required

DOCUMENT REQUIREMENTS:

M-1-765-CL-14-2 - Launch Readiness Monitoring Checklist Deck

M-1-766-SC-14-2 - Launch Readiness Monitoring Sequence Chart

AP-XXX-12 - Administrative Procedure

COMPONENTS:

All Weapon System GOE

LOCATION:

Complex

OBJECTIVE:

The objective of this Activation Exercise is to demonstrate the capability of the GOE to maintain a launch readiness condition continuously for a 24 hour period.

DESCRIPTION:

This exercise shall be performed by cycling every subsystem and system through a checkout mode. Each system will be returned to the Launch Readiness Mode after a "GO" status has been achieved. The Launch Readiness condition requires a "GO" status at the Launch Complex Facility Console for each system. This status shall be maintained for 24 hours.

REFERENCE DOCUMENTS:

AFBM Exhibit 59-11 Rev. A

AFBM Exhibit 60-5

WDD-M-SR-59-102

T.O.'s as specified in the Administrative Procedure and Checklist Deck

PREREQUISITES:

All special tools must be removed and the Weapon System must be in its operational configuration.

5.12.0.1



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SUPPORT:

None

RECOMMENDED MANPOWER:

1 Engineer

2 Technicians

SPECIAL REQUIREMENTS:

A Weapon System Readiness activity shall be demonstrated **once per**
complex.

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5.12.0.2



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ACTIVATION EXERCISE SUMMARY

INCREMENT 13

TITLE: LAUNCH COUNTDOWN - EXERCISE MODE

RESPONSIBILITY:

- A. The Martin Company - Test Conductor
- B. All other Associate Contractors shall provide technical assistance where required.

DOCUMENT REQUIREMENTS:

- AP-XXX-13 -- Administrative Procedure
- SP-XXX-13 -- Specail Procedure
- M-1-7650CL-17-2 -- Launch Countdown Check List Deck
- M-1-766-SC-17-2 -- Launch Countdown Sequence Chart

COMPONENTS AND LOCATION:

Complete Launch Complex with all associated GOE, GSE, and Missile.

OBJECTIVE:

The objectives of this Activation Exercise is to demonstrate the capability of the Weapon System on each of the three launchers to independently complete a Launch Exercise in accordance with the checklist.

DESCRIPTION:

The launch exercise is a complete operational checkout of the Weapon System. This mode of operation permits the launch control equipment to be operated through all of the launch sequence operations except generation of the following signals:

Transfer Power	Check Power Transferred
Transfer D.C. Bus	Fire Stage I Engines
Activate Batteries	

This demonstration will be run without fuel on board. Other than this provision, it will be a complete launch exercise countdown.

The launch exercise countdown is begun by pressing the EXERCISE pushbutton indicator for a given missile on the Launch Control Console. Pressing the EXERCISE pushbutton indicator disables the activate batteries, power transfer, and fire engine signals in the launch sequencer, and lights the



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DESCRIPTION: (Continued)

EXERCISE indicator green. As the launch exercise countdown begins, the EXERCISE pushbutton indicator changes to white. On completion of liquid oxygen loading, once per complex, the one hour tactical decision hold will begin at T-281. Upon completion of one hour tactical hold demonstration, a signal from the launch console will raise the launcher. As the countdown progresses through T-Zero, automatic shutdown will occur T/7 second (checklist off).

Re-cycle is accomplished by: Pressing the lower launcher pushbutton which changes the LOWER LAUNCHER indication from green to white, showing that launcher lowering is in progress. Upon completion of launcher lowering, the liquid oxygen fill disconnects will be connected and liquid oxygen is returned to facility storage and cold Helium will be vented. Post operation procedures will be performed and the facility and missile will be returned to a ready condition.

REFERENCE DOCUMENTS:

AFBM Exhibit 59-11, Rev. A

AFBM Exhibit 60-5

WDD-M-SR-102

T.O.'s as specified in the Checklist Deck and Administrative Procedure.

PREREQUISITES:

Completion of the Weapon System Checkout and Readiness Monitoring activities.

RECOMMENDED MANPOWER:

2 Engineers

2 Technicians

SPECIAL REQUIREMENTS:

The Launch Exercise shall be performed once per launcher.



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ACTIVATION EXERCISE SUMMARY

INCREMENT 14

TITLE: P-1 INSPECTION

RESPONSIBILITY: The Martin Company - Test Conductor

DOCUMENT REQUIREMENTS:

T.O. 21-SM68-6-1 -- Weapon System General Inspection Requirements

SC-21-SM68-6-1 -- Sequence Chart 1st Periodic Inspection - Complex

AP-XXX-14 -- Administrative Procedure

WC-SM68-6-1-PE -- 1st Periodic Inspection Work Cards

COMPONENTS:

Complete Weapons System

OBJECTIVE:

The objective of this Activation Exercise is to demonstrate the performance of the first Periodic Inspection which will be accomplished every thirty (30) days.

DESCRIPTION:

The 1st Periodic Inspection provides for routine inspection of Facility, RPIE, GOE/GSE, and Missile items. The inspection is carried out by means of Work Cards and includes inspection of fluid levels, electrical connections, lamps, circuit breaker position and condition, condition of exterior finish, etc.

PREREQUISITES:

Completion of a successful Launch Countdown - Exercise Mode.

SUPPORT:

Tools as specified in the applicable T.O.'s and Work Cards.

RECOMMENDED MANPOWER:

1 Engineer

22 Technicians

SPECIAL REQUIREMENTS:

The P-1 inspection must be completed prior to the start of the Complex Demonstration activity.



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ACTIVATION EXERCISE SUMMARY

INCREMENT 17

TITLE: P-2 INSPECTION

RESPONSIBILITY: The Martin Company - Test Conductor

DOCUMENT REQUIREMENTS:

T.O. 21-SM68-6-1 -- Weapon System General Inspection Requirements

SC 21-SM68-6-2-PE -- 2nd Periodic Inspection Sequence Chart

AP-XXX-17 -- Administrative Procedure

WC-21-SM68-6-2-PE -- 2nd Periodic Inspection Work Cards

OBJECTIVE:

The objective of this Activation Exercise is to demonstrate the performance of the Second Periodic Inspection which will be accomplished every 180 days and prior to the Complex turnkey.

The 2nd Periodic Inspection provides for routine inspection of Facility, RPIE, GOE/GSE, and Missile items which require attention of a lesser frequency than items inspected during the P-1 (30 day) inspection. The P-1 inspection may be run concurrently with the P-2 inspection.

PREREQUISITES:

Completion of the Complex Demonstration activity.

RECOMMENDED MANPOWER:

1 Engineer

27 Technicians

SPECIAL REQUIREMENTS:

This activity shall be demonstrated at one Complex per Squadron.



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ACTIVATION EXERCISE SUMMARY

INCREMENT 19

TITLE: MISSILE REMOVAL AND CONVOY

RESPONSIBILITY:

- A. The Martin Company - Test Conductor
- B. AMF - Handle missile removing equipment and operate launcher
- C. S/C - Communications support

DOCUMENT REQUIREMENTS:

- M-1-765-CL-15-2 -- Missile Removal and Convoy Checklist Deck.
- M-1-766-SC-15-2 -- Missile Removal and Convoy Sequence Chart.
- AP-XXX-15 -- Administrative Procedure

COMPONENTS:

- Missile and Launcher
- Hydraulic Power Pack
- Ground Level Portable Station

LOCATION:

- Missile Silo
- Equipment Terminal
- Missile Silo Mouth

OBJECTIVE:

The purpose of this Activation Exercise is to demonstrate the capability of removing Stage I and Stage II from the silo, placing them on their respective trailers and convoying the missile to the MAMS.

DESCRIPTION:

The Stage II forward lifting adapter is installed, Stage II is separated from Stage I and the aft lifting adapter is installed. Stage II is then hoisted from the silo and positioned on its trailer. The launcher is raised until the top of the stage is level with the silo-mouth work platform and a procedure similar to that for Stage II is followed. Both stages are then convoyed to the MAMS.

REFERENCE DOCUMENTS:

T.O.'s as specified in the Checklist Deck and Administrative Procedure.

PREREQUISITES:

The Missile Installation, Post Installation and R/V removal activities must be performed prior to this test.



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SUPPORT:

Stage I trailer

Stage II trailer

Missile handling crane

Towing vehicles

RECOMMENDED MANPOWER:

1 Engineer

13 Technicians

SPECIAL REQUIREMENTS:

This activity shall be demonstrated once at each Squadron. This demonstration may occur at any launcher of the squadron where it is found necessary to remove the missile.