

## **E-3G ADST OBJECTIVES**

### **01 MISSION PLANNING**

Purpose: This lesson introduces the student to the course outline and materials, procedures and student/instructor responsibilities.

**TLO 01.01: Given an E-3G mission sortie, perform general mission planning requirements in support of mission operations IAW AFMAN 11-2E-3, Volume 3, and/or AFMAN 11-2E-3, Volume 3, 552d OG/513th ACG Supplement 1, as specified in the topic and enabling learning objectives.**

TO 01.01.01: Post/maintain issued publications in support of mission operations as specified in the enabling learning objectives.

ELO 01.01.01.01: Identify the source requirements for publications.

ELO 01.01.01.02: Identify how publications/updates are provided to crewmembers.

ELO 01.01.01.03: Perform Stan/Eval procedures on updating the Electronic Flight Bag (EFB).

ELO 01.01.01.04: Identify common terms and procedures related to posting publications.

ELO 01.01.01.05: Identify the general contents of issued publications.

ELO 01.01.01.06: Identify the form(s) used to report errors in the Flight Manual.

ELO 01.01.01.07: Post all changes prior to use and when performing flight duties annotate on flight orders that publications are correct.

ELO 01.01.01.08: Perform or demonstrate understanding procedures for reporting to OC-ALC 557 ACSS/GFEAC Flight Manual errors.

TO 01.01.02: Review/Comply with all applicable Flight Crew Information File (FCIF), Operational Read File (ORF), and the Special Interest Items (SII).

TO 01.01.03: Perform Patriot Excalibur (PEX), Individual Training Summary (ITS) and administrative procedures to verify that your currency and training requirements have sufficient completion dates to enable you to perform duties in your crew position as specified in the enabling learning objectives.

TO 01.01.04: Certify the flight order request/flight orders. Certification procedures will also include computing/using an Operational Risk Management (ORM) score.

TO 01.01.05: Comply with required crew report/briefing activities in support of mission operations.

**TLO 01.02: Review/develop mission information in support of mission operations AFMAN 11-2E-3, Volume 3, 552d OG/513th ACG Supplement 1, 552d OGI 10-7, Volume 2 and 552 OG Form 41, E-3G ADST Aircrew Aids as specified in the topic and enabling learning objectives.**

TO 01.02.01: Obtain mission forms.

TO 01.02.02: Review/develop mission information as specified in the enabling learning objectives.

ELO 01.02.02.01: Coordinate with mission crew leadership to determine software and additional mission attachments for the Onboard/Offboard Media (OOM) build.

ELO 01.02.02.02: Coordinate with mission crew leadership to determine Iridium Communications System (ICS) requirement.

ELO 01.02.02.03: Perform transferring of mission related documents to the Ground Support System (GSS).

ELO 01.02.02.04: Coordinate with mission crew leadership to determine Internet Protocol Enabled Communications (IPEC) System requirement.

TO 01.02.03: Given 552 OG Form 36B *Airborne Data Systems Technician Log* and 552 OG Form 15TJ *Surveillance Worksheet*, coordinate/record Link 16 requirements with mission crew as specified in the enabling learning objectives.

ELO 01.02.03.01: Identify basic terms and facts pertaining to the OPTASKLINK message concerning LINK 16.

ELO 01.02.03.02: Identify basic terms and facts pertaining to the Network Description Document.

ELO 01.02.03.03: Given access to mission planning documents, review the 552 OG Form 15TJ to determine the network parameters, crypto, and other Link 16 units.

TO 01.02.04: Comply with OPSEC/COMSEC requirements.

**TLO 01.03: Given an E-3G mission sortie, 552 OG Form 41, E-3G ADST Aircrew Aids, to coordinate and inventory mission kits in support of mission operations as specified in the topic and enabling learning objectives.**

TO 01.03.01: Coordinate/reserve required mission kits with 552d ACNS library.

ELO 01.03.01.01: Coordinate with security manager to determine access to classified/crypto equipment.

ELO 01.03.01.02: Coordinate with 552d ACNS library window to determine completion of Secure Voice Responsible Officer (SVRO) training.

## **02 FLIGHT PREPARATION**

**TLO 02.01: Given an E-3G mission sortie, report with required professional equipment and perform crew position duties required before going to the aircraft in support of mission operations, IAW AFMAN 11-2E-3, Volume 3, 552d OG/513th ACG Supplement 1 as specified in the topic objectives.**

TO 02.01.01: Inventory/Obtain required mission hardware kits coordinated during mission planning.

TO 02.01.02: Report with required professional equipment and publications.

**TLO 02.02: Given an E-3G mission, comply with flightline security/safety directives and security requirements in support of mission operations as specified in the topic objectives.**

TO 02.02.01: Select statements that best describe flightline safety and security requirements.

**TLO 02.03: Given an E-3G mission sortie or static aircraft session, perform Preflight procedure in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic and enabling learning objectives.**

TO 02.03.01: Perform Interior Inspection procedures as specified in the enabling learning objectives.

ELO 02.03.01.01: Identify warnings, cautions and notes associated with E-3G seats within preflight procedures.

ELO 02.03.01.02: Identify warnings, cautions and notes associated with E-3G oxygen systems within preflight procedures.

ELO 02.03.01.03: Select statements associated with warnings, cautions and notes pertaining to mission equipment within preflight procedures.

ELO 02.03.01.04: Select statements that best identify configuring SIC and IPEC Systems for mission operations.

ELO 02.03.01.05: Select statements that best describe how to verify Cryptographic Ignition Keys (CIK) with equipment.

TO 02.03.02: Review AFTO Form 781 and describe how applicable information/discrepancies affect equipment and/or mission operations IAW TO 00-20-1, as specified in the enabling learning objectives.

ELO 02.03.02.01: Verify/document current software and aircraft configuration.

ELO 02.03.02.02: Select statements that best describe the meaning of the symbols in the AFTO Form 781.

ELO 02.03.02.03: Select statements that best describe information/discrepancies found in different sections in the AFTO Form 781.

TO 02.03.03: Report discrepancies to the appropriate personnel and document discrepancies in the AFTO Form 781 IAW TO 00-20-1 prior to Before Start procedure as specified in the enabling learning objectives.

ELO 02.03.03.01: Select statements that identify how to document a discrepancy and how to clear a discrepancy.

ELO 02.03.03.02: Select statements that best describe notifying personnel on preflight discrepancies.

**TLO 02.04: Given an E-3G mission sortie, perform Before Start procedure in support of mission operations IAW TO 1E-3G-43-1-1.**

### **03 MISSION PREPARATION**

**TLO 03.01: Given an E-3G mission sortie or ATD session perform Mission Computing System (MCS) and Electronic Support Measures System (ESMS) power preparation procedures IAW TO 1E-3G-43-1-1 as specified in the topic and enabling learning objectives.**

ELO 03.01.00.01: Select statements that best describe location of the circuit breakers for the MCS.

ELO 03.01.00.02: Select statements that best describe location of the circuit breakers for the ESMS.

ELO 03.01.00.03: Select statements that best describe how power is supplied to the MCS.

ELO 03.01.00.04: Select statements that best describe how power is supplied to the ESMS.

ELO 03.01.00.06: Select statements that best describe the cautions that relate to circuit breakers and aircraft power.

TO 03.01.02: Enable MCS 60 Hz Power as specified in the enabling learning objective.

ELO 03.01.02.01: Select statements that best describe the function of the E20 Circuit Breaker Panel controls and indicators.

TO 03.01.06: Perform P73 communications operator workstation (OWS) power up/login as specified in the enabling learning objective.

ELO 03.01.06.01: Select statements that best describe DaR-400's.

TO 03.01.07: Start SHMM and monitor MCS status.

TO 03.01.08: Map OWS computers to disk array.

TO 03.01.09: Select/delete mission maps.

TO 03.01.10: Apply power to the IO Assembly and monitor SHMM status.

TO 03.01.11: Run NASDetox batch file.

TO 03.01.12: On load mission set data from OOM.

TO 03.01.13: Monitor SHMM for boot status of Time/Azimuth/Navigation System (TANS).

**TLO 03.02: Given an E-3G mission sortie perform MCS Software Load procedures IAW TO 1E-3G-43-1-1 as specified in the topic and enabling learning objectives.**

TO 03.02.01: Perform verifying TANS operation.

TO 03.02.02: Perform MCS application initialization.

TO 03.02.03: Perform verifying mission recording status.

**TLO 03.03: Given an E-3G mission sortie, perform MIDS-JTRS Power Up procedures IAW TO 1E-3G-43-1-1.**

## **04 MISSION OPERATION**

**TLO 04.01: Given an E-3G mission sortie, maintain mission logs/forms in support of mission operations IAW 552 OGI 10-7, Volume 2 as specified in the enabling learning objective.**

ELO 04.01.00.01: Select Statements on how to fill out the following required mission forms.

- Standard Form 153
- 552 ACNS Form 2
- 552 OG Form 36G

**TLO 04.02: Given an E-3G mission sortie, perform crew coordination procedures in support of mission operations IAW TO 1E-3G-43-1-1 and AFMAN 11-2E-3, Volume 3, 552d OG/513th ACG Supplement 1 as specified in the topic and enabling learning objectives.**

TO 04.02.01: Identify the crewmembers on an E-3G mission sortie IAW AFMAN 11-2E-3, Volume 3 as specified in the enabling learning objectives.

ELO 04.02.01.01: Select statements that best describe the E-3G crew positions with the duties they perform.

ELO 04.02.01.02: Select statements that best describe the minimum crew manning required to power up the mission systems.

TO 04.02.02: Operate the Audio Distribution System (ADS) for crew coordination IAW TO 1E-3G-43-1-1 as specified in the enabling learning objectives.

ELO 04.02.02.01: Select statements that best describe the operation, controls and indicators of the Mission ADS Panel.

ELO 04.02.02.02: Select statements that best describe the limitations and interlocks.

ELO 04.02.02.03: Select statements that describe the use of the Mission Maintenance Intercom and Panels.

ELO 04.02.02.04: Select statements that describe the use of the Aircraft Maintenance Intercom and Panels.

ELO 04.02.02.05: Select statements that describe the internal communications capabilities for the E-3G.



**TLO 04.03: Given an E-3G mission sortie, perform mission support and assuming station responsibilities in support of Mission Operations IAW TO 1E-3G-43-1-1, AFTTP 3-3 AWACS, and as specified in the topic and enabling learning objectives.**

TO 04.03.01 Monitor/Maintain MCS operations

ELO 04.03.01.01: Select statements that best describe the functions of the MCS.

ELO 04.03.01.02: Select statements that best describe MCS equipment limitations.

ELO 04.03.01.03: Select statements that identify how to enable performance monitoring of the IFF System.

ELO 04.03.01.04: Select statements that identify how to test different IFF Line Replaceable Units (LRUs) using On-board Test Monitor and Maintenance (OBTM&M).

ELO 04.03.01.05: Interpret IFF indications/messages displayed in SHMM, PAD and SmViewer.

ELO 04.03.01.06: Select statements that best describe the purpose of Interrogator Functional Group Maintenance Program (IFGMP).

ELO 04.03.01.07: Select statements that best describe the purpose of Monitor and Test Subsystem (MATS) equipment.

ELO 04.03.01.08: Select statements that best describe the location of MATS equipment.

ELO 04.03.01.09: Select statements that best describe reported IFF OBTM&M failure messages.

ELO 04.03.01.10: Select statements that best describe MATS power distribution.

ELO 04.03.01.11: Perform identifying DDG equipment and associated indicators/controls using static aircraft.

ELO 04.03.01.12: Select statements that best describe the functions of the Communications Console Operator Workstations.

ELO 04.03.01.13: Select statements that best describe the function of the Encrypted Console Computer.

ELO 04.03.01.14: Select statements that best describe the function of the Key FOB.

ELO 04.03.01.15: Select statements that best describe the function of the DaR-400.

ELO 04.03.01.16: Select statements that best describe the function of Operator Workstations (OWS).

ELO 04.03.01.17: Select statements that best describe the functions of the OWS console computer.

ELO 04.03.01.18: Select statements that best describe the use of Communications Console workstation/OWS Universal Serial Bus (USB) ports.

ELO 04.03.01.19: Select statements that best describe power flow within the DDG.

ELO 04.03.01.20: Select statements that best describe the function/uses of the printer.

ELO 04.03.01.21: Select statements that best describe data flow of the DDG.

ELO 04.03.01.22: Select statements that best describe OWS/console computer data flow within MCS.

ELO 04.03.01.23: Select statements that best describe the E74 cabinet equipment controls and indicators.

ELO 04.03.01.24: Select statements that best describe the controls and indicators of the E74 cabinet Power Control Module.

ELO 04.03.01.25: Perform identifying equipment in the Data Storage Group and associated indicators/controls using static aircraft.

ELO 04.03.01.26: Select statements that best describe the OOM functions.

ELO 04.03.01.27: Select statements that best describe the function of the Disk Array components.

TO 04.03.01.28: Identify Networking Group equipment and their functions as specified in the enabling learning objectives.

ELO 04.03.01.29: Perform identifying equipment in the Networking Group associated indicators/controls using static aircraft.

ELO 04.03.01.30: Select statements that best describe the function of the Network Switch related to the E74 cabinet and E77 cabinet.

ELO 04.03.01.31: Select statements that best describe functions that the Ethernet LAN provide to the MCS.

ELO 04.03.01.32: Perform identifying equipment in the DPG and associated indicators/controls using static aircraft.

ELO 04.03.01.33: Select statements that best describe the functions of E74 cabinet blade server assembly and associated components.

ELO 04.03.01.34: Select statements that best describe the functional data flow between the E74 and E77 cabinets.

ELO 04.03.01.35: Select statements that best describe the simplified internal E74 cabinet power distribution.

ELO 04.03.01.36: Select statements that best describe how the blade chassis assembly sends data to the Disk Array.

ELO 04.03.01.37: Select statements that best describe the functional data flow within the E74 cabinet.

ELO 04.03.01.38: Select statements that best describe how data from the MCS is stored on either the OOM or Disk Array.

ELO 04.03.01.39: Select statements that best describe the functions of the E77 cabinet equipment controls and indicators.

ELO 04.03.01.40: Select statements that best describe the controls and indicators of the E77 cabinet power control module.

ELO 04.03.01.41: Select statements that best describe the simplified internal E77 cabinet power distribution.

ELO 04.03.01.42: Select statements that best describe the functional data flow within the E77 cabinet.

ELO 04.03.01.43: Select statements that best describe the simplified data flow to the E77 cabinet I/O assembly from the avionic systems.

ELO 04.03.01.44: Select statements that best describe how TANS data is routed through the MCS.

ELO 04.03.01.45: Select statements that best describe the functions of the E77 cabinet Input Output (IO) Assembly and associated components.

ELO 04.03.01.46: Select statements that best describe the function of the E77 cabinet IO Assembly Board Reset.

ELO 04.03.01.47: Perform identifying equipment in the Time/Azimuth Processing Group and associated indicators/controls using static aircraft.

ELO 04.03.01.48: Select statements that best describe the location/function of the time servers.

ELO 04.03.01.49: Select statements that best describe the function of the TANS.

ELO 04.03.01.50: Select statements that best describe the function of the Azimuth Transducer Assembly (ATA).

ELO 04.03.01.51: Select statements that best describe the function of the Syncro Power Supply.

ELO 04.03.01.52: Select statements that best describe MCS IFF data flow.

**TO 04.03.02: Given an E-3G mission sortie, monitor/maintain MIDS-JTRS operations IAW TO 1E-3G-43-1-1, AFTTP 3-3 AWACS, and as specified in the enabling learning objectives.**

ELO 04.03.02.06: Select statements that best describe the E28 cabinet power distribution.

ELO 04.03.02.07: Select statements that best describe the data flow of the MDS-JTRS functional data flow within the E28 cabinet.

ELO 04.03.02.09: Select statements identifying fine and course synchronization characteristics and transmit/receive capabilities.

ELO 04.03.02.10: Select statements describing transmission interference protection features (IPF) and when they are used.

ELO 04.03.02.11: Select statements identifying types of BIT used on MDS-JTRS and their basic characteristics.

ELO 04.03.02.12: Select statements that best describe the function of the Data Extraction and Reduction Guide (DERG) tool.

ELO 04.03.02.13: Monitor status of Link 16 on the data link coordination net.

ELO 04.03.02.14: Interpret Link 16 indications/messages displayed in System Health Maintenance Monitor (SHMM), Data Extraction and Reduction Guide (DERG), and Primary AWACS Display (PAD).

ELO 04.03.02.15: Select statements that best describe the Frequency band for Link 16.

ELO 04.03.02.16: Select statements that best describe the Time Division Multiple Access (TDMA) Epoch ring for Link 16.

ELO 04.03.02.17: Select statements that best describe the location and function of MIDS-JTRS equipment.

**TO 04.03.03: Given an E-3G mission sortie, monitor/maintain Electronic Support Measures System (ESMS) operations in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the enabling learning objectives.**

ELO 04.03.03.01: Select statements that best describe the purpose of the ESMS.

ELO 04.03.03.02: Select statements that best describe the function of the ESMS controls and indicators.

ELO 04.03.03.03: Select statements that best describe the function and location of ESMS components.

ELO 04.03.03.04: Select statements that best describe ESMS simplified data flow.

ELO 04.03.03.05: Select statements that best describe ESMS power distribution.

ELO 04.03.03.06: Interpret ESMS indications/messages displayed in System Health Maintenance Monitor (SHMM) and Primary AWACS Display (PAD).

ELO 04.03.03.07: Select statements that best describe the components of the continuous and periodic built-in test (BIT) operational software diagnostics.

ELO 04.03.03.08: Select statements that best describe Line Replaceable Unit Diagnostics (LRUD) software.

ELO 04.03.03.09: Interpret ESMS indications/messages displayed in System Health Maintenance Monitor (SHMM), and Primary AWACS Display (PAD).

**TO 04.03.04: Given a classroom demonstrate knowledge of monitor/maintain Iridium Communication System (ICS) operations procedures and mission operational concepts IAW TO 1E-3G-43-1-1 as specified in the enabling learning objectives to an ACC level of b.**

ELO 04.03.04.01: Select statements that best describe the purpose of the ICS.

ELO 04.03.04.02: Select statements that best describe the operation of the Iridium satellite network.

ELO 04.03.04.03: Select statements that best describe the locations and functions of ICS components.

ELO 04.03.04.04: Select statements that best describe ICS power distribution.

ELO 04.03.04.05: Select statements that best describe the controls, operation, and display indications of the ICS Handset.

ELO 04.03.04.06: Select statements that best describe the connections and indicators of the E3 Adjunct Computer Display (E3ACD).

ELO 04.03.04.07: Select statements that best describe the connections/indicators of the Keyboard/Mouse (KM) switch.

ELO 04.03.04.08: Select statements that best describe ICS limitations.

**TO 04.03.05: Given a classroom demonstrate knowledge of monitor/maintain Internet Protocol Enabled Chat (IPEC) operations procedures and mission operational concepts IAW TO 1E-3G-43-1-1 as specified in the enabling learning objectives to an ACC level of b.**

**ELO 04.03.05.01: Select statements that best describe the function of the IPEC controls and indicators.**

**ELO 04.03.05.02: Select statements that best describe the purpose of the IPEC System.**

**ELO 04.03.05.03: Select statements that best describe the International Maritime Satellite (INMARSAT) network.**

**ELO 04.03.05.04: Select statements that best describe the location/function of the IPEC components.**

**ELO 04.03.05.05: Select statements that best describe the IPEC data flow.**

**ELO 04.03.05.06: Select statements that best describe the IPEC power flow.**

**ELO 04.03.05.07: Select statements that best describe the controls, operation, and display indications of the IPEC Control Panel.**

**ELO 04.03.05.08: Select statements that best describe the connections/indicators of the IPEC Network Encryptor.**

**ELO 04.03.05.09: Select statements that best describe the connections/indicators of the Keyboard/Video/Mouse (KVM) switch.**

**ELO 04.03.05.10:** Select statements that best describe the status indicators of the IPEC Network Monitoring Software (NMS).

**ELO 04.03.05.11:** Select statements that best describe the status indicators of the IPEC Radio Operations Controller (IROC).

**TO 04.03.06:** Verify mission recording.

**TLO 04.04:** Given an E-3G mission sortie, perform Air Refueling Procedures in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic objectives.

TO 04.04.01: Perform Rendezvous procedure.

TO 04.04.02: Perform Preparation for Contact (Before ½ NM) procedure.

TO 04.04.03: Perform Post Air-to-Air Refueling procedure.

**TLO 04.05:** Given an E-3G mission sortie utilize/interpret primary AWACS display (PAD) application in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic objectives and enabling learning objectives.

ELO 04.05.00.01: Select statements that best describe the PAD menus.

TO 04.05.01: Perform messaging actions within PAD.

TO 04.05.02: Perform interpreting and analyzing PAD E-3G status window.

TO 04.05.03: Interpret/analyze alarm/alerts displayed by PAD.

TO 04.05.04: Interpret sign-in status of other OWS.

TO 04.05.05: Interpret controls/indicators of the Menu Bar as specified in the enabling learning objectives.

ELO 04.05.05.01: Interpret/analyze system counts display.

ELO 04.05.05.02: Load user profile.

TO 04.05.06: Given an E-3G mission sortie utilize Link 16 Terminal Control window IAW T.O. 1E 3G-43-1-1 using Primary AWACS Display (PAD) application as specified in the enabling learning objectives.

ELO 04.05.06.01: Perform/interpret Channels menu

ELO 04.05.06.02: Perform/interpret Crypto Status menu

ELO 04.05.06.03: Perform/interpret Frequency Remap menu

ELO 04.05.06.04: Perform/interpret HPA/Time menu

ELO 04.05.06.05: Perform/interpret Message Structure/Crypto Variable menu

ELO 04.05.06.06: Perform/interpret Resets/Controls menu

ELO 04.05.06.07: Perform/interpret TSR menu

ELO 04.05.06.08: Perform/interpret TSR Algorithm menu

ELO 04.05.06.09: Perform/interpret Time Slot Assign menu

ELO 04.05.06.010: Perform/interpret User Data menu

TO 04.05.07: Given an E-3G mission sortie utilize Link 16 Participant List window IAW T.O. 1E 3G-43-1-1 using Primary AWACS Display (PAD) application Participant List application

TO 04.05.08: Given an E-3G mission sortie utilize NPG Status window IAW T.O. 1E 3G-43-1-1 using Primary AWACS Display (PAD) application Participant List application

TO 04.05.09: Given an E-3G mission sortie utilize Link 16 Link Controls window IAW T.O. 1E 3G-43-1-1 using Primary AWACS Display (PAD) application Participant List application as specified in the enabling learning objectives.

ELO 04.05.09.01: Perform/interpret Controls menu.

ELO 04.05.09.02: Perform/interpret Filters menu.

ELO 04.05.09.03: Perform/interpret EW Requests menu.

ELO 04.05.09.04: Perform/interpret EA Receive Filters menu.

ELO 04.05.09.05: Perform/interpret DLTAs menu.

ELO 04.05.09.06: Perform/interpret Corr Param menu.

**TLO 04.06: Given an E-3G mission sortie perform/interpret system manager viewer (SmViewer) in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic objectives and enabling learning objectives.**

ELO 04.06.00.01: Select statements that best describe the SmViewer Menus.

ELO 04.06.00.02: Select statements that best describe the areas of Full Up Mission Computing Window.



ELO 04.06.00.03: Select statements that best interpret a message in System Log Viewer.

TO 04.06.01: Perform/interpret the View Menu.

TO 04.06.02: Perform/interpret the Tools Menu.

TO 04.06.03: Perform/interpret the SmViewer tree as specified in the enabling learning objectives.

ELO 04.06.03.01: Verify all recording applications are writing to an OOM.

ELO 04.06.03.02: Select statements that best describe the function of Virtual IP application.

**TLO 04.07: Given an E-3G mission sortie perform/interpret MCS system health and maintenance monitor (SHMM) client application in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic objectives and enabling learning objectives.**

ELO 04.07.00.01: Select statements that best describe the function of SHMM Server and Client:

ELO 04.07.00.02: Select statements that best describe the SHMM Client areas.

TO 04.07.01: Perform/Interpret/Analyze the TANS tabbed display pane/TANS web page.

TO 04.07.02: Interpret/Analyze the MCS tabbed display pane for discrepancies.

TO 04.07.03: Interpret/Analyze the ESM tabbed display pane for discrepancies as specified in the enabling learning objective.

ELO 04.07.03.01: Select statements that best describe how to force ESM Periodic BIT.

TO 04.07.04: Interpret/Analyze the IO Assembly tabbed display pane for discrepancies as specified in the enabling learning objective.

ELO 04.07.04.01: Select statements that best describe how to reset a single piece of equipment from the SHMM application.

TO 04.07.05: Interpret/Analyze the Radar Interface Card (RIC) tabbed display pane for discrepancies.

TO 04.07.06: Interpret/Analyze the IFF tabbed display pane for discrepancies as specified in the enabling learning objectives.

ELO 04.07.06.01: Select statements that best describe how to start IFF performance monitoring.

ELO 04.07.06.02: Select statements that best describe how to override a specific OBTM&M test point in the IFF pane.

TO 04.07.07: Interpret/Analyze the Links tabbed display pane.**05 INBOUND PROCEDURES**

**TLO 05.01: Given an E-3G mission sortie perform the Mission Computing System Shutdown Preparation procedure in support of inbound procedures IAW TO 1E-3G-43-1-1 as specified in the topic and enabling learning objectives.**

TO 05.01.01: Perform ESMS LRUD procedure as specified in the enabling learning objectives.

ELO 05.01.01.01: Identify and coordinate LRUD testing requirements.

ELO 05.01.01.02: Locate and initiate ESMS LRUD via SHMM.

ELO 05.01.01.03: Identify IFPSHARE test within LRUD.

ELO 05.01.01.04: Initiate remaining LRUD tests for ESMS.

ELO 05.01.01.05: Select statements that best describe requirements for initiating IFPSHARE LRUD tests.

TO 05.01.02: Perform MCS Shutdown Preparation SmViewer procedures as specified in the enabling learning objectives.

ELO 05.01.02.01: MCS Standby configured

ELO 05.01.02.02: Subsystem Status Summary

ELO 05.01.02.03: Export System Log

**TLO 05.02: Given an E-3G mission sortie perform the Disk Array File Transfer to OOM procedure in support of inbound procedures IAW TO 1E-3G-43-1-1 as specified in the topic objectives.**

TO 05.02.01: Locate/initiate NAS Transfer program using SmViewer.

TO 05.02.02: Perform verifying finalized tail directory created on Mission/Recording OOM.

**TLO 05.03: Given an E-3G mission sortie perform the MIDS-JTRS Power Down procedure in support of inbound procedures IAW TO 1E-3G-43-1-1.**

**TLO 05.04: Given an E-3G mission sortie perform the Mission Computing System Software Shutdown procedure in support of inbound procedures IAW TO 1E-3G-43-1-1 as specified in the topic and enabling learning objectives.**

TO 05.04.01: Perform MCS software shutdown as specified in the enabling learning objective.

ELO 05.04.01.01: svcshutdown script run.

ELO 05.04.01.02: Perform coordination to set OWS power switches to off.

ELO 05.04.01.03: Select statements that best describe MCS software shutdown procedures.

**TLO 05.05: Given an E-3G mission sortie perform Mission Computing System Power Down procedure in support of mission operations IAW TO 1E-3G-43-1-1.**

**TLO 05.06: Given an E-3G mission sortie perform Mission Computing System Power Removal procedure in support of mission operations IAW TO 1E-3G-43-1-1.**

**TLO 05.07: Given an E-3G mission sortie, perform Descent procedure in support of mission operations IAW TO 1E-3G-43-1-1.**

**TLO 05.08: Given an E-3G mission sortie, perform Taxi Back/Boarding/Deplaning procedure in support of mission operations IAW TO 1E-3G-43-1-1.**

**TLO 05.09: Given an E-3G mission sortie, perform Before Leaving the Airplane procedure in support of mission operations IAW TO 1E-3G-43-1-1.**

## **06      EMERGENCY PROCEDURES**

**TLO 06.01:** Given an E-3G mission sortie and a planned emergency drill or static aircraft session, perform, direct or lead E-3G emergency procedures in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic and enabling learning objectives.

ELO 06.01.00.01: Select statements that identify aircraft evacuation routes for any emergency.

ELO 06.01.00.02: Select statements that identify the aural and/or visual notification for any emergency.

ELO 06.01.00.03: Select statements that identify the required equipment and procedures necessary to perform any emergency.

TO 06.01.01: Perform and/or demonstrate understanding of the Ground Evacuation procedure.

TO 06.01.02: Perform and/or demonstrate understanding of the Takeoff Emergency procedure.

TO 06.01.03: Perform and/or demonstrate understanding of the Fire, Smoke or Fumes procedure.

TO 06.01.04: Perform and/or demonstrate understanding of the Smoke Evacuation, Inadequate Ventilation procedure.

TO 06.01.05: Perform and/or demonstrate understanding of the Sudden Loss of Cabin Pressure procedure.

TO 06.01.06: Perform and/or demonstrate understanding of the Nuclear Event, System Recovery procedure.

TO 06.01.07: Perform and/or demonstrate understanding of the Crash Landing/Ditching procedure.

TO 06.01.08: Perform and/or demonstrate understanding of the Workstation Overheat Indication procedure.

TO 06.01.09: Perform and/or demonstrate understanding of the Classified Destruction procedure.

**NOTE:** Performance objectives 06.01.01 through 06.01.09 are taught with verbal scenarios during classroom training and require a simulated emergency procedure to be performed. In most situations, performing the task will conflict with actual mission operations. Verbal scenarios can be used to certify the student's ability to perform the task and are accomplished during the full mission training phase. Students will perform 06.01.03 and 06.01.05 at least two times via planned crew inflight simulated emergency procedures.

**TLO 06.02: Given an E-3G mission sortie or static aircraft session, locate, identify or perform proper use of emergency equipment in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic and enabling learning objectives.**

ELO 06.02.00.01: Select statements that identify the location of emergency equipment.

ELO 06.02.00.02: Select statements that identify procedural warnings, cautions and notes concerning emergency equipment use.

ELO 06.02.00.03: Select statements that identify the steps of the Charging Portable Oxygen Bottle procedure.

ELO 06.02.00.04: Select statements that identify why the Purging Portable Oxygen Bottle procedure is to be performed.

TO 06.02.01: Perform the Charging Portable Oxygen Bottle procedure.

TO 06.02.02: Perform Purging a Portable Oxygen Bottle procedure.

TO 06.02.03: Perform Firefighter's Smoke Mask Preflight procedure in support of mission operations.

**TLO 06.03: Given an E-3G mission sortie, perform Cooling Loss Action procedures in support of mission operations IAW TO 1E-3G-43-1-1 as specified in the topic objectives.**

ELO 06.03.00.01: Select statements that best describe the operations of E-3G cooling systems and the impact if cooling is lost.

ELO 06.03.00.02: Select statements that identify the maximum unpressurized operational limitation for all MCS equipment.

ELO 06.03.00.03: Select statements that identify MCS temperature limitation for ground operations.

ELO 06.03.00.04: Select statements that identify the temperature limit of the MCS based on operation status.

ELO 06.03.00.05: Select statements that best describe the operations of E-3G cooling systems and the impact if cooling is lost.

ELO 06.03.00.06: Select statements that identify the maximum unpressurized operational limitation for all MCS equipment.

ELO 06.03.00.07: Select statements that identify MCS temperature limitation for ground operations.

ELO 06.03.00.08: Select statements that identify the temperature limit of the MCS based on operation status.

ELO 06.03.00.09: Select statements that best describe MCS equipment cooling.

ELO 06.03.00.10: Select statements that best describe ESMS equipment cooling.

ELO 06.03.00.11: Select statements that best describe ICS equipment cooling.

ELO 06.03.00.12: Select statements that best describe MIDS-JTRS equipment cooling.

ELO 06.03.00.13: Select statements that best describe IPEC equipment cooling.

ELO 06.03.00.14: Select statements that identify the caution concerning E-3G cabin air temperature.

TO 06.03.01: Perform and/or demonstrate understanding of the Communications Console Cooling Air Monitor Panel – FWD FORCED indicator procedure.

TO 06.03.02: Perform and/or demonstrate understanding of the Communications Console Cooling Air Monitor Panel – AFT FORCED indicator procedure.

TO 06.03.03: Perform and/or demonstrate understanding of the Forward AFAC Ground Maintenance Control Panel E20 Rack Indicator is illuminated procedure.

TO 06.03.04: Perform and/or demonstrate understanding SHMM Indicates ESM Equipment Overheat procedure.

TO 06.03.05: Perform and/or demonstrate understanding of the Cooling Air Monitor Panel Rack E13, E14, E17, E28 procedure.

**NOTE:** Each of the Cooling Loss Actions requires an emergency procedure to be performed. In most situations, performing the task will conflict with actual mission operations. Verbal scenarios can be used to demonstrate/practice/certify the student's ability to perform the task and are accomplished during the flight training phase.

## **07 POST FLIGHT REQUIREMENTS**

**TLO 07.01: Given an E-3G mission sortie, debrief the mission in support of mission operations AFMAN 11-2E-3, Volume 3, 552d OG/513th ACG Supplement 1 as specified in the topic objectives.**

TO 07.01.01: Perform debriefing maintenance personnel in support of mission operations.

TO 07.01.02: Perform debriefing the crew in support of mission operations.

**TLO 07.02: Given an E-3G mission sortie, return/dispose of classified material in support of mission operations AFMAN 11-2E-3, Volume 3, 552d OG/513th ACG Supplement 1 as specified in the topic objective.**

TO 07.02.01: Ensure all classified material, logs, reports and forms are returned/secured.

**TLO 07.03: Given an E-3G mission sortie, complete/file mission documentation in support of mission operations TO 00-20-1, AFI 11-401 552d ACW SUP 1, AFMAN 11-2E-3, Volume 3, 552d OG/513th ACG Supplement 1 and 552 OGI 10-7 Volume 2 as specified in the topic objective.**

TO 07.03.01: Given a requirement, file required forms/reports.

## **08 – PERFORMING GENERAL USE PROCEDURES**

TLO 08.01: Given a classroom identify Internet Protocol Enabled Communication (IPEC) System power turn on procedure IAW TO 1E 3G 43-1-1 to an ACC level of b.

TLO 08.02: Given a classroom identify Internet Protocol Enabled Communication (IPEC) System checkout and shut down procedure IAW TO 1E 3G 43-1-1 to an ACC level of b.

TLO 08.03: Given an E-3G mission sortie and an Electronic Transfer Device (ETD) perform GINS SKL key setup procedures IAW TO 1E-3G-43-1-1.

TLO 08.04: Given an E-3G mission sortie and an Electronic Transfer Device (ETD) perform mode 5 IFF key loading procedures IAW TO 1E-3G-43-1-1.

TLO 08.05: Given an E-3G mission sortie perform OOM Installation procedure IAW TO 1E-3G-43-1-1 and as specified in the enabling learning objectives.

ELO 08.05.00.01: Select statements that best describe OOM unit assignment.

ELO 08.05.00.02: Select statements that best describe proper OOM installation.

TLO 08.06: Given an E-3G mission perform OOM Removal procedure IAW TO 1E-3G-43-1-1 and as specified in the enabling learning objective.

ELO 08.06.00.01: Select statements that best describe proper OOM unit removal.

TLO 08.07: Perform Map Data Transfer procedure.

TLO 08.08: Given a classroom identify the SWT Installation procedure as specified in the enabling learning objective to an ACC level of b.

TLO 08.09: Given a classroom identify the SWT Removal procedure as specified in the enabling learning objective to an ACC level of b.

TLO 08.10: Given a classroom identify the E3ACD Solid State Hard Drive Installation procedure to an ACC level of b.

TLO 08.11: Given a classroom identify the E3ACD Solid State Hard Drive Removal procedure to an ACC level of b.

TLO 08.12: Given a classroom identify the E3ACD Optical Drive Installation procedure to an ACC level of b.



**TLO 08.13:** Given a classroom identify the E3ACD Optical Drive Removal procedure to an ACC level of b.

**TLO 08.14:** Given a classroom identify the Iridium Communication System Ground Use procedure to an ACC level of b.

**ELO 08.14.00.01:** Select statements that best describe preferred connection of the BDI cables.

**ELO 08.14.00.02:** Select statements that best describe steps necessary to prevent damage to BDI cable and/or SWT.

**TLO 08.15:** Given an E-3G mission sortie and an Electronic Transfer Device (ETD) perform 1MIDS-JTRS Key Loading and Zeroize procedures IAW TO 1E-3G-43-1-1, as specified in the topic and enabling learning objective

**TO 08.15.01:** Preparing the MIDS-JTRS key payload

**ELO 08.15.01.01:** Select statements that best describe Cryptographic Modernization Keys

**ELO 08.15.02.02:** Select statements that best describe Electronic Key Management System (EKMS)

**ELO 08.15.01.03:** Select statements that best describe Common Tier Three (CT3)

**ELO 08.15.01.04:** Select statements that best describe Master Key Encryption Key (MKEK).

**ELO 08.15.01.05:** Perform Create MIDS-JTRS MKEK Platform procedure.

**ELO 08.15.02.06:** Select statements that best describe the waveform Traffic Encryption Keys (TEK).

**ELO 08.15.01.07:** Perform Create MIDS-JTRS TEK Platform procedure.

**ELO 08.15.01.08:** Perform Create MKEK equipment procedure.

**ELO 08.15.01.09:** Perform Waveform Instance ID procedure.

**ELO 08.15.01.10:** Perform Assign MKEK Equipment to MIDS-JTRS MKEK Platform procedure

**ELO 08.15.01.11:** Perform Assign Link 16 CM Equipment to MIDS-JTRS TEKS Platform procedure

**ELO 08.15.01.12: Perform Assign Keys to MIDS-JTRS MKEK Equipment procedure**

**ELO 08.15.01.13: Perform Assign Keys to WII Equipment procedure**

**ELO 08.15.01.14: Select statements that best describe the File Encryption Keys (FEK).**

**TO 08.15.02: Loading the MIDS-JTRS RT with a preconfigured SKL.**

**ELO 08.15.02.01: Perform Loading MKEK to the MIDS-JTRS RT with a Preconfigured SKL procedure.**

**ELO 08.15.02.02: Perform Loading TEK/Link 16 to the MIDS-JTRS RT with a Preconfigured SKL procedure.**

**TO 08.15.03: Zeroizing TEK using SKL.**

**ELO 08.15.03.01: Select statements that best describe MIDS-JTRS zeroization levels**

**ELO 08.15.03.02: Perform Zeroize MKEK/TEKs from the MIDS-JTRS RT procedure**

## **09 – MALFUNCTION ANALYSIS, IN-FLIGHT REPAIR & ALTERNATE PROCEDURES**

**TLO 09.01: Given an E-3G mission sortie or ATD session, perform Mission Computing System (MCS) in-flight fault isolation procedures IAW TO 1E-3G-43-1-1 as specified in the topic objectives.**

**TO 09.01.01: Perform IP address/hostname correlation**

**TO 09.01.02: Perform troubleshooting recording applications.**

**TO 09.01.03: Perform time server possible false failure indication.**

**TLO 09.02: Given an E-3G mission sortie or ATD session, perform Mission Computing System (MCS) alternate procedures IAW TO 1E-3G-43-1-1, as specified in the topic and enabling learning objectives.**

**TO 09.02.01: Perform Disk Array Boot Failure procedure.**

**TO 09.02.02: Perform OWS Display Blank After Power is Applied procedure.**

**TO 09.02.03: Perform PAD Freeze procedure.**

**TO 09.02.04: Perform blade server troubleshooting procedure.**

**TO 09.02.05: Given a classroom identify the operator workstation time correction procedure IAW TO 1E-3G-43-1-1**

**TO 09.02.06: Given a classroom identify the disk array alternate shutdown procedure IAW TO 1E-3G-43-1-1 as specified in the enabling learning objective.**

**ELO 09.02.06.01: Select statements that best describe when to perform disk array alternate shutdown.**

**ELO 09.02.06.02: Select statements that best describe improper system shutdown.**

**ELO 09.02.06.03: Select statements that best describe the program PuTTY.**

**TO 09.02.07: Perform Manual Transfer of Recorded Data to OOM procedure as specified in the enabling learning objective.**

**ELO 09.02.07.01: Select statements that best describe when to accomplish the Manual Transfer of Recorded Data to OOM procedure.**

**TO 09.02.08: Perform technician relevant anomalies workarounds as specified in the enabling learning objectives.**

**ELO 09.02.08.01: Perform SmViewer Hangs workaround.**

**ELO 09.02.08.02: Perform PAD Becomes Hung workaround.**

**ELO 09.02.08.03: Recognize failure notifications reported by SHMM and SmViewer and equipment indicators then perform applicable workaround.**

**TO 09.02.09: Perform servicing printer paper procedures.**

**TO 09.02.10: Given a classroom identify the replacing ink cartridges procedure IAW TO 1E-3G-43-1-1 as specified in the enabling learning objectives.**

**ELO 09.02.10.01: Select statements that best describe cautions associated with servicing the printer ink cartridges.**

**ELO 09.02.10.02: Select statements that best describe single cartridge operation.**

**TO 09.02.11: Perform MCS Key Fob Destruction procedure as specified in the enabling learning objective.**

**ELO 09.02.11.01: Select statements that best describe complete key fob destruction.**

**TO 09.02.12: Perform TANS fault isolation procedure.**

**TO 09.02.13: Perform reboot primary TANS procedure.**

**TO 09.02.14: Perform reboot secondary TANS procedure.**

**TO 09.02.15: Perform change primary TANS manually procedure.**

**TO 09.02.16: Perform reset TANS failover procedure as specified in the enabling learning objective.**

**ELO 09.02.16.01: Select statements that best describe a time server's loss consequence.**

**TO 09.02.17: Perform Time Servers Not Operational after 8 Minute Warm-Up Period in-flight isolation procedure.**

**TO 09.02.18: Perform E-3G (ownership) Shows Up at a Random Location in PAD in-flight isolation procedure as specified in the enabling learning objective.**

**ELO 09.02.18.01: Select statements that best describes the cause of the E-3G showing up at a random location in PAD.**

**TO 09.02.19: Perform SHMM TANS Tab Overall Status is Red or Yellow in flight isolation procedure as specified in the enabling learning objective.**

**ELO 09.02.19.01: Select statements that best describe corrective actions for TANS showing red or yellow for overall status.**

**TLO 09.03: Given an E-3G mission sortie or ATD session, perform Mission Computing System (MCS) inflight repair procedures IAW TO 1E-3G-43-1-1, as specified in the topic and enabling learning objectives.**

**TO 09.03.01: Perform Cable Reconnection in-flight repair procedure.**

**TO 09.03.02: Perform Communication Console Monitor Opening/Closing procedures as specified in the enabling learning objective.**

**ELO 08.03.02.01: Select statements that best describe required conditions for opening workstation monitor.**

**TO 09.03.03: Perform Operator Workstation Monitor Open/Closing procedure.**

**TO 09.03.04: Perform Communications Console USB Hub Access procedure.**

**TO 09.03.05: Perform Ethernet Port Reconfiguration in-flight repair procedure as specified in the enabling learning objective.**

**ELO 09.03.05.01: Select statements that best describe correct identification of equipment connections to network switches and ports.**

**TO 09.03.06: Perform Radar Interface Card (RIC) Reconfiguration in-flight repair procedure as specified in the enabling learning objectives.**

**ELO 09.03.06.01: Select statements that best describe when to perform RIC reconfiguration.**

**ELO 09.03.06.02: Select statements that best describe RIC 1 cable configuration on E77 cabinet.**

**ELO 09.03.06.03: Select statements that best describe RIC 2 cable configuration on E77 cabinet.**

**ELO 09.03.06.04: Select statements that best describe primary and alternate RIC cable positions.**

**ELO 09.03.06.05: Select statements that best describe RIC cables and their associated signal types.**

**TO 09.03.07: Given a classroom demonstrate knowledge of Synchro Power Supply Replacement procedures IAW TO 1E-3G-43-1-1 to an ACC level of b.**

**TO 09.03.08: Perform 60 Hz Power Reconfiguration in-flight repair procedure as specified in the enabling learning objectives.**

**ELO 09.03.08.01: Select statements that best describe frequency converter requirements to operate MCS.**

**ELO 09.03.08.02: Select statements that best describe loss of one frequency converter.**

**ELO 09.03.08.03: Select statements that best describe sync unit state after 60 Hz power reconfiguration.**

**TLO 09.04: Given an E-3G mission sortie, perform ESMS malfunction analysis/inflight fault isolation/alternate procedures IAW TO 1E 3G 43-1-1 as specified in the following topic and enabling learning objectives.**

**ELO 09.04.00.01: Select statements that best describe how malfunction analysis is performed on the ESM System.**

**TO 09.04.01: Perform In-flight Fault Isolation procedures as specified in the enabling learning objective.**

**ELO 09.04.01.01: Select statements that best describe operational restrictions when performing ESM inflight fault isolation.**

**TO 09.04.02: Perform operational troubleshooting procedures as specified in the enabling learning objective.**

**ELO 09.04.02.01: Select statements that best describe which anomalies are present that suggests initiating operational troubleshooting procedures.**

**TO 09.04.03: Perform System Will Not Power Up or Shuts Down Unexpectedly procedure.**

**TO 09.04.04: Perform System Power Recycle procedure as specified in the enabling learning objective.**

**ELO 09.04.04.01: Select statements that best describe constraints of the power recycle.**

**TLO 09.05: Given a classroom identify the secure Iridium Communications System (ICS) alternate procedures IAW TO 1E 3G 43 1 1 as specified in the following topic and enabling learning objectives to an ACC level of B.**

**ELO 09.05.00.01: Select statements that best describe inflight troubleshooting of the ICS.**

**ELO 09.05.00.02: Select statements that best describe iridium connection redialing.**

**ELO 09.05.00.03: Select statements that best describe iridium satellite issues.**

**ELO 09.05.00.04: Select statements that best describe locating iridium dialing error codes.**

**TO 09.05.01: Identify the iridium connection fails instantly procedure.**

**TO 09.05.02: Identify the one handset display fails (not instantly) procedure.**

**TO 09.05.03: Identify the unable to connect to chat server procedure.**

**TO 09.05.04: Identify the iridium constantly disconnects due to poor or weak signal procedure.**

**TO 09.05.05: Identify the E3ACD master/slave reconfiguration procedure.**

**TO 09.05.06:** Identify the KM switch does not go from OWS position to chat position procedure.

**TO 09.05.07:** Identify the KM switch does not go from chat position to OWS position procedure.

**TLO 09.06:** Given a classroom identify the Internet Protocol Enabled Communications alternate procedures IAW TO 1E 3G 43 1 1 as specified in the following topic and enabling learning objectives to an ACC level of B.

**TO 09.06.01:** Identify the Black Side Control Computer System Crash procedure as specified in the enabling learning objectives.

**ELO 09.06.01.01:** Select statements that best identify wait time required between powering off and on.

**TO 09.06.02:** Identify the Red Side Control Computer System Crash procedure as specified in the enabling learning objectives.

**ELO 09.06.02.01:** Select statements that best identify when to perform the Red Side Control Computer System Crash procedure.

**TO 09.06.03:** Identify the Air-to-Ground link appears to freeze or to be non-responsive procedure.

**TO 09.06.04:** Identify the Zabbix® displays colored alert procedure.

**TLO 09.07:** Given an E-3G mission sortie, perform Link 16 inflight fault isolation procedures IAW T.O. 1E-3G-43-1-1 and T.O. 1E-3A-2-23-2 as specified in the following topic objectives and enabling learning objectives.

**TO 09.07.01:** Perform JTIDS terminal is unable to synchronize to an established JTIDS network; Terminal has no fault indications.

**ELO 09.07.01.01:** Select statements that best describe Network Time Reference (NTR).

**ELO 09.07.01.02:** Select statements that best describe Link 16 initialization procedures.

**ELO 09.07.01.03:** Confirm Link 16 has been initialized with correct parameters IAW OPTASK Link and local directives.

**TO 09.07.02:** Perform JTIDS terminal is unable to initially synchronize a JTIDS network between two stations; Terminal has no fault indications.

**ELO 09.07.02.01: Select statements that best describe Link 16 transmission modes.**

**TO 09.07.03: Perform JTIDS terminal is in course synchronization for extended period of time.**

**TO 09.07.04: Perform JTIDS terminal is unable to exchange data in JTIDS network; All terminals are synchronized and have no fault indications.**