NOTICE: This publication is available digitally on the AFDPO WWW site at: http://afpubs.hq.af.mil.

This instruction provides guidance for the Air Defense System (ADS) elements of the Continental United States (CONUS), PACOM (Alaska and Hawaii), and Air Forces Iceland. It implements policy found in AFPD 13-1, *Theater Air Control System*. This instruction applies to Air Force Reserve Command (AFRC) when referenced in the AFRC Index 2. Throughout this instruction, AFSC 13B refers to Air Battle Managers (ABMs) and AFSC 1C5X1D refers to Weapons Directors (WDs). Reference to forms within this instruction also equates to electronic products when authorized. The reporting requirement in this directive is exempt from licensing in accordance with paragraph 2.11.1 in AFI 37-124, *The Information Collections and Reports Management Program: Controlling Internal, Public, and Interagency Air Force Information Collections.* Send comments and suggested improvements to this publication on AF Form 847, **Recommendation for Change of Publication**, through channels, to HQ ACC/OPR office symbol, 205 Dodd Blvd, Suite 101, Langley AFB VA 23665-2789. This instruction is affected by the Paperwork Reduction Act of 1974 as Amended in 1996.

Records Management. Maintain and dispose of all records created by prescribed processes in accordance with AFMAN 37-139, *Records Disposition Schedule*.

Chapter 1

INTRODUCTION

1.1. General. This instruction and the references herein outline procedures to be followed by units/elements of the Air Combat Command (ACC) Air Defense System (ADS). HQ ACC organizes, trains, equips and provides support operations for the air defense of North America. PACAF organizes, trains, equips and provides support operations for the air defense of Alaska and Hawaii.

1.2. Reviews, Waivers, Changes and Supplements. Reviews, waivers, and recommendations for changes/supplements will be forwarded through command channels to HQ ACC/XOY for approval. Mailing address is 205 Dodd Blvd, Suite 101, Langley AFB VA 23665-2789.

1.3. Purpose. Within North America, Hawaii, and Iceland, the vehicle to conduct Command and Control Operations is the ADS. This instruction provides guidance for the ADS, which is comprised of the following elements:

1.3.1. CONUS Region Air Operations Center (CONUS RAOC)

1.3.2. Sector Air Operations Center (SAOC)

1.3.3. Iceland Control and Reporting Center (ICRC)

1.3.4. Alaska Region Air Operations Center (ARAOC)

1.3.5. Hawaii Region Air Operations Center (HIRAOC)

1.3.6. Sensor networks (Tethered Aerostat Radar System [TARS], Joint Surveillance Site [JSS], Over-the-Horizon [OTH], North Warning System [NWS], Caribbean Basin Radar Network [CBRN])

1.3.7. Airborne Warning and Control System (AWACS) aircraft.

1.3.8. Additional C^2 inputs (e.g., Joint Operational Tactical System [JOTS], intelligence sources, Joint Tactical Air Operations [JTAO], etc.).

Chapter 2

MISSION

2.1. General:

2.1.1. Air Defense System (ADS). The mission of the ADS is to provide Commander-in-Chief, North American Aerospace Defense Command (CINCNORAD)/Commander-in-Chief, United States Atlantic Command (CINCUSACOM)/Southern Command (SOUTHCOM) Pacific Command (PACOM) with the means to detect, monitor, identify, intercept, report, and, if necessary, destroy an airborne object that may pose a threat to North America, Hawaiian Air Defense Region (HADR) and/or Iceland, in fulfillment of the tactical threat warning/attack assessment (TW/AA) and collateral missions of NORAD. The ADS also supports the drug interdiction mission of the operational CINCs. The ADS provides CINCNORAD, CINCPAC and CINCUSACOM the capability to integrate air defense forces with other service components and allies. To accomplish the mission of the ADS, associated units/elements perform functions that may be generally categorized as Air Surveillance, Force Management, and Airspace Control.

2.1.2. Joint Surveillance System (JSS). The JSS is a binational US Air Force (USAF) and Canadian Forces (CF) program for acquiring and operating RAOCs/SAOCs, a System Support Element, and the necessary communication and radar sensors to provide a modern air defense and surveillance capability for the CONUS, Alaska, and Canada, and to interface with like systems in Iceland and Hawaii. The primary mission of the JSS is peacetime air sovereignty. In the event of war, a SAOC will provide Sector C^2 for as long as it remains operational. Under normal circumstances, the SAOC will be augmented by the E-3 and other sensors to form an integrated system. When it becomes impractical/impossible to conduct the air battle from the SAOC, C^2 responsibility will transition to an expanding sector, as appropriate.

2.1.3. Tethered Aerostat Radar System (TARS). The TARS is a series of lighter-than-air platforms (balloons) called aerostats anchored to the ground by a tether, with an associated 'look down' capable radar. These systems are located at fixed locations across the US from Arizona to Florida and into the Caribbean. The system is designed to create an effective radar detection capability in the low and medium altitude drug corridors to support the counterdrug mission. The TARS augments the JSS radar system providing the low level coverage that a single ground radar is incapable of providing to support the air sovereignty mission.

2.1.4. Theater Air Control System (TACS):

2.1.4.1. One of the airborne elements of the TACS (AETACS) is the E-3 Airborne Warning and Control System (AWACS). The system is designed to perform a variety of missions as an element of the US general purpose forces. In the air defense role, AWACS functions as an element of NORAD/PACAF, providing early warning, surveillance, C^2, and decentralized identification. Its advanced surveillance radar provides long-range, low-level detection of aircraft targets over all types of terrain. The AWACS is a Tactical Digital Information Link A (TADIL-A)/Link 11 participant and interfaces through the RAOC/AWACS Digital Information Link (RADIL).

2.1.4.2. The Modular Control System (MCS) is a weapons system that support the aerospace roles as defined in AFM 1-1 of aerospace control, force application, force enhancement, and force support. The MCS provides the theater commander with the Air Force's ground radar elements of

the TACS (GTACS). The MCS is a mobile; sustainable; ground; command, control, communications, and intelligence (C^3I) component of the TACS. The MCS consists of ground elements that use Modular Control Equipment (MCE) to perform Control and Reporting Center (CRC) or Control and Reporting Element (CRE) functions depending on manning and equipment configuration. The MCS provides an integrated air picture via data links from multiple air/sea/land-based sensors, including its own long-range radars. It is capable of performing battle management, airspace and weapons control, surveillance, and identification, as part of the TACS. The system is capable of integrating with and directing Army air defense assets to include theater missile defense (TMD) systems. Elements of the MCS are equipped with a wide spectrum of secure capable communications media and support equipment including generators and vehicles. Survivability is enhanced through the use of radar remoting, anti-radiation missile (ARM) decoys, and electronic protection measure (EPM) capabilities. Elements can be readily tailored to meet specific mission requirements. The SAOC interfaces with the MCS via data link to the MCE. The Air Force MCE is comprised of the AN/TYQ-23(V)2 Operations Module (OM) with environmental pallet and the MCE interface group (MIG) located in the AN/TPS-75 radar set. MCM 3-1, Volume 26 is the reference document for more information.

2.1.5. The Puerto Rico Operations Center's (PROC) primary mission is to provide USACOM/ The Adjutant General of Puerto Rico (TAG-PR) with the means to detect, monitor, identify, intercept, report and if necessary destroy an airborne object which may pose a threat to US territories in the Caribbean, specifically the island of Puerto Rico (PR). Additionally, it establishes command and control liaison and navigational air rescue assistance. The PROC is the primary control and surveillance facility, which integrates multiple radar to form a correlated recognizable air picture of the PR area of operations. This facility also is capable of data linking with airborne, naval and ground elements of the Theater Air Control System. Collateral missions include Drug Interdiction and Air Defense Training for Latin American Countries (LATAM).

2.1.6. The HIRAOC primary mission is to provide CINCPAC/COMPACF with the means to detect, monitor, identify, intercept, report and if necessary destroy an airborne object that may pose a threat to the Hawaiian Air Defense Region (HADR). Additionally, it establishes command and control liaison and navigational air rescue assistance. The HIRAOC is the primary control and surveillance facility, which integrates joint service air defense assets and multiple radars to form a correlated recognizable air picture of the HADR. This facility is also capable of data linking with airborne, naval and ground elements of the Theater Air Control System.

2.2. Tactical Warning/Attack Assessment (TW/AA):

2.2.1. Air Surveillance. Air surveillance provides a current picture of air traffic, possible threats, and friendly forces within the designated area of responsibility (AOR). It includes:

2.2.1.1. Detection of airborne objectives that require identification.

2.2.1.2. Reporting air activity to users, as required.

2.2.2. Force Management. The force management function supports the operational commander's role by planning, organizing, directing, coordinating, and controlling forces committed to accomplishing the assigned operational missions. Additionally, the operational commanders must be provided with the means to assess the threat. Threat assessment consists of warning, characterization, current assessment of defense, and penetration analysis. After consideration of the threat, the operational

commander will require an assessment of friendly forces. This involves the total resources available, status, location, and any limitations to those resources. The combined assessment of enemy and friendly forces will permit the appropriate posturing of defensive forces to counter the threat.

2.2.3. Airspace Control. The airspace control function encompasses all aspects of air sovereignty/air defense operations to include interception, airborne identification, identification by electronic means, identification by procedural means, and engagement.

2.3. Interoperability. The purpose of this section is to provide information about other operational systems employed with the SAOC in the joint arena. Joint Tactical Air Operations (JTAO) concept, as established by the Joint Chiefs of Staff (JCS), requires the exchange of tactical information between component services on a real-time or near-real-time basis. The JTAO interface concept is designed to support air defense and air control operations and provide high-speed digital exchange between tactical data systems of the Air Force, Army, Marines, Navy, and Allies.

2.3.1. US Navy (USN) Systems. The Navy air defense systems that interface with RADIL include ships equipped with the Naval Tactical Data Systems (NTDS) and Navy Airborne Early Warning (AEW) and patrol aircraft equipped with the Airborne Tactical Data System (ATDS).

2.3.1.1. The NTDS, sometimes referred to as the Combat Director System (CDS), is the C^2 system used by the Navy for surface elements. NTDS is capable of both TADIL-A (Link 11) and TADIL-C (Link 14) information exchange. NTDS equipped ships can operate in a JTAO interface to exchange air defense information. NTDS can also use Link 14 to transmit a limited amount of track data via secure low speed communications to a RAOC/SAOC equipped with a Joint Operational Tactical System (JOTS).

2.3.1.2. The ATDS is an airborne early warning system that extends the range of the NTDS radars and provides surveillance and weapons control to the fleet. It is used on an E-2C turboprop aircraft equipped with a surveillance radar antenna.

2.3.1.3. In addition to the US Navy, some allied naval systems are equipped with TADIL-A (Link 11). Due to the area of operations of these ships, they are candidate systems for TADIL-A (Link 11) exchange via the Data Link.

2.3.2. The following system also employs Data Link:

2.3.2.1. Modern Tracking System (MTS).

2.3.2.2. Anti-Drug Network (ADNET).

2.3.2.3. NORAD Alert System.

Chapter 3

CONTINENTAL UNITED STATES REGION AIR OPERATIONS CENTER (CONUS RAOC)

3.1. Mission. The First Air Force Commander (1 AF/CC), in his role as the CONUS NORAD Region Commander, provides CINCNORAD/Commander US Element NORAD with TW/AA, surveillance and control of the airspace of the United States and appropriate response against air attack. The CONUS Region Commander is operationally responsible for centralized command of the CONUS Region Air Defense activities. Decentralized control may be executed by the three sectors through the SAOC. The CONUS Region Commander is responsible for forces employment, deployment, and execution in support of air defense operations during peacetime, transition, and wartime. This responsibility involves those resources (forces) assigned or made available to the CONUS NORAD Region.

3.2. Responsibilities. Responsibilities of the CONUS NORAD Region Staff, which are executed through the CONUS RAOC, include the following:

3.2.1. Attack warning and atmospheric threat assessment for the CONUS.

3.2.2. Employment planning for CONUS air defense.

3.2.3. Atmospheric defense of the CONUS.

3.2.4. Operational control of the three SAOCs and all forces available for air sovereignty, air defense and atmospheric attack warning.

3.2.5. Resources allocation within the CONUS.

3.2.6. Force deployment as needed for exercise or OPLAN support.

3.2.7. Joint and combined training.

3.2.8. OPLANs and exercises to ensure system readiness.

3.2.9. Continuity of operations.

3.2.10. OPORD execution within the CONUS AOR.

3.2.11. Rules of engagement (ROE) and engagement authorities in accordance with (IAW) CINCNORAD/Commander, US Element NORAD guidelines.

3.2.12. Planning interface with the Canadian and Alaskan NORAD Regions.

3.2.13. Appropriate response for weapons readiness states IAW CINCNORAD/Commander, US Element NORAD guidelines.

3.2.14. Alert condition (LERTCON) declaration IAW the CINCNORAD/Commander, US Element NORAD guidelines.

3.2.15. Force status reporting IAW CINCNORAD/Commander, US Element NORAD guidelines.

3.2.16. Intelligence collection, evaluation and dissemination affecting the CONUS.

3.2.17. Succession of command IAW CINCNORAD/Commander, US Element NORAD guidelines.

3.2.18. Air order of battle with Alaska and Canadian NORAD Regions.

3.2.19. Counterdrug operations.

3.3. Organization. CONUS RAOC operations are divided into four functional areas: Battle Staff (BS), Extended Battle Staff (EBS), Air Defense Center (ADC), and Intelligence Center. The following paragraphs discuss the function of each.

3.3.1. Battle Staff (BS). The BS will be assembled to assist the commander. The BS is the primary command agency for coordination, decentralized execution on CONUS NORAD Region (CONR) air defense operations. The BS will assist the commander in executing CONR operations. Additionally, the BS will advise the Battle Commander (BC) in executing ROE, contingency and war plans, and provide for air defense forces. Essential to the CONUS Region operations is near-real-time indications and warning (I&W) support focused on the strategic threat to North America. The support will address the intelligence situation, in-depth analysis of strategic air breathing threat in support of 1 AF, and time sensitive reporting of strategic indications of enemy bomber and naval deployments and movements. Additionally, it will furnish near-real-time tracking (via intelligence sources) and reporting of air breathing threats that may fly within the CONR AOR.

3.3.2. Extended Battle Staff (EBS). The EBS supports cell chiefs in the BS. They respond to contingency situations, implement OPLANs, monitor and display status of forces and achieve optimum levels of war preparedness.

3.3.3. Air Defense Center (ADC). The ADC provides a centralized capability for the surveillance and control of air activities in the CONR AOR that could be detrimental to national sovereignty or a threat to national security.

3.3.4. Intelligence Center

3.4. Battle Staff. BS positions will include, but not be limited to, the following:

3.4.1. Battle Commander (BC). The BC is directly responsible to CINCNORAD for the centralized command of the Region's operational mission during peace and wartime. The BC's primary responsibilities and duties are:

3.4.1.1. To implement all command directives and instructions from CINCNORAD.

3.4.1.2. To conduct the Region air sovereignty mission.

3.4.1.3. To direct strategic action and force management during crisis situations IAW applicable operations and contingency plans

3.4.1.4. To coordinate C^2 functions with NORAD, Alaskan and Canadian Regions and the SAOCs.

3.4.1.5. To exercise operational command over all assigned and augmentation air defense forces.

3.4.2. Director of Operations (DO). The DO is responsible to the BC for implementation of and control over the Region's OPLANs. The DO functions as the Region's director for force and battle management, and performs a liaison function with the sectors, NORAD Command Center (NCC), and other elements of the ADS.

3.4.3. General Deployment and Sustainment Officer (GDSO). The GDSO is responsible to the BC through the DO. The GDSO provides expertise on the execution of OPLANs and OPORDs. The GDSO participates in the development of plans through the JCS crisis action system; monitors force generation, deployment and sustainment; and coordinates with the ACC BS on the availability of CONUS general purpose forces.

3.4.4. Command and Control Officer (C^2O). The C^2O is responsible to the BC through the DO. The C^2O advises the DO on E-3, OTH, and JSS/radar resources management; CONR communications; and Security Control of Air Traffic (SCAT) matters. The C^2O also coordinates with the ADC and Sectors to meet tactical warning and damage limitation needs for the CONR ADS.

3.4.5. Fighter Officer (FO). The FO is responsible to the BC through the DO for direction and recommendation for the use of Region assigned fighter/tanker resources. The FO uses applicable OPLANs/ OPORDs and BC direction to ensure appropriate fighter/tanker employment. The FO works directly with the Sector BS to ensure applicable operations and contingency plans are carried out by assigned fighter units and augmentation forces and tracks the combat readiness status of fighter units during peacetime, transition, wartime, and exercise situations.

3.4.6. Intelligence Officer (IO). The IO supports the BS and ADC. As the Region's intelligence specialist, the IO presents intelligence reports and threat assessment information for Region operations management and ensures that timely strategic and tactical intelligence reports are formulated and presented to the BC. The IO analyzes and formulates special intelligence reports and summaries so other supporting agencies can take preparatory contingency actions.

3.4.7. EAC. The EAC is responsible for encrypting, and decrypting all Emergency Action Message (EAM) and provide emergency action guidance to battle staff IAW NR 55-5 Volume 3. The EAC will be familiar with emergency action team procedures and shall be fully conversant with all regulations and procedures that apply. The EAC works for the MCC under normal peacetime operations and works for the BC during increased alert status or exercises.

3.4.8. NABS.

3.5. Extended Battle Staff (EBS). The EBS supports cell chiefs in the BS. It consists of a GDSO cell, FO cell, C^2O cell, IO cell, weather officer (WO), and the BS coordinator. EBS tasking includes data base management, force planning, distribution and execution, planning for force reconstitution, issuing coordinated directives to subordinate units, providing expedited coordinated staff action for crisis situations, and accomplishing tasks as outlined in ACC, CINCNORAD, CINCUSACOM, SOUTHCOM or JCS OPLANs, OPORDs, and Contingency Plans (CONPLANs). The WO supports and advises the BC/DO and staff by providing weather briefings and forecasts. The WO also identifies any area of adverse weather within the Region that could affect safety or impact execution of the air battle.

3.6. Air Defense Center (ADC). The ADC is manned by personnel assigned to the 701st Air Defense Squadron (ADS), who are responsible to the 701 ADS/CC. The ADC is the 24-hour focal point for air sovereignty and air defense. It provides tactical warning to NORAD and confirmation of critical air events, including event assessments when appropriate. Additionally, it provides the facility through which the CONR Commander executes the NORAD, US Element NORAD (USELMNORAD), and 1 AF air defense mission responsibilities. Furthermore, the ADC duty staff monitors daily operations including status of forces, status of equipment and specified resources, and maintains an accurate and timely computer data base of forces, resources and equipment. The 701 ADS staff will provide augmentation during exercises or contingencies as required. Crews are organized, trained, and certified to conduct ADC operations. Additional responsibilities include:

3.6.1. Operational control of assigned E-3s.

3.6.2. Interpreting OTH-B radar inputs for early warning and intelligence analysis; directing OTH-B beam steering and establishing operational priorities as required; directs illumination of special interest areas; and providing inputs to OTH-B sites regarding friendly forces and intelligence or other radar data regarding threat aircraft approaching the OTH-B AOR to ensure an accurate and complete surveillance picture.

3.6.3. Interpreting intelligence information and responding IAW published plans, procedures, and authorities.

3.6.4. Back-briefing the Space Command (SPACC) Operations Center Director when the NCC is inoperative or as directed.

3.6.5. Participating in exercise and training sessions to increase and maintain crew and SAOC proficiency.

3.6.6. Preparing the air defense portion of the CONR/1 AF Commander's daily briefing.

3.6.7. Receiving and displaying forward tell track messages on the computer generated graphic display and the geographic location, speed, and altitude of the following tracks:

    3.6.7.1. Unknowns.

    3.6.7.2. HOSTILEs/FAKERs.

    3.6.7.3. AWACS/ships/subs of special interest.

    3.6.7.4. Special tracks.

    3.6.7.5. Interceptors.

3.6.8. Displaying location of degraded radar sites with a depiction of their radar coverage.

3.6.9. Monitoring E-3s operating in the CONUS Region.

3.6.10. Displaying location of E-3 orbits with their notional radar coverage.

3.6.11. Responding as required to war and contingency OPLANs/OPORDs.

3.6.12. Maintaining satellite communications (SATCOM) links.

3.7. ADC Duty Positions. The following duty positions will be manned in the ADC:

3.7.1. Air Defense Director (ADD). The ADD represents the CONR Commander in daily administration and management of assigned air defense forces for the protection of the assigned AOR. The ADD also monitors and evaluates overall threat assessment and provides recommendations to CONR Commander and tasks assigned forces as directed. Interfaces with NORAD C^2 agencies to include the NCC, Alaskan RAOC, Canadian ROCC, ICRC, and other multi-service agencies, and is responsible for implementation of CONPLANs. The ADD presents briefs to the commander and staff, and leads the crew in mission accomplishment.

3.7.2. Air Defense Technician (ADT). The ADT monitors air defense information received in the ADC and is responsible for the presentation of ground environment statuses (tabular and geographically) on computer workstation monitors, Large Screen Visual Displays (LSVD) and the Closed Circuit Television (CCTV) systems. The ADT assists the ADD in preparing briefings for the CONR Commander. Additionally, the ADT monitors, obtains, and provides additional information on for-

ward tell messages for the CONUS, Iceland, OTH-B, and assigned E-3 assets. The ADT will monitor and validate as necessary potential threat traffic and special interest tracks approaching or within CONR AOR. Finally, the ADT is responsible for maintaining displays, updating manual inputs, monitoring reports, and current operational activities.

3.7.3. Communications-Computer Operations (CCO). The CCO is the focal point for all communications and electronic equipment in the CONUS RAOC through the Systems Communications Office (1 AF/SC). The CCO's duties include:

3.7.3.1. Monitoring and operating the mission support communications and responding to all problems.

3.7.3.2. Monitoring, operating and ensuring the cryptographic security of all secure systems interfacing with the CONUS RAOC are fully functional.

3.7.3.3. Monitoring the CONUS RAOC electronics and reporting detected problems.

3.7.3.4. Acting as communications security (COMSEC) controlling agent for CONUS RAOC.

Chapter 4

SENSORS

4.1. CONUS/JSS Long Range Radars (LRR). The JSS radars are surveillance systems with a design range of 250 nautical miles (NM). They collectively form an element of the Integrated Tactical Warning and Assessment (ITW&A) function. JSS radars are strategically positioned to provide the SAOCs with digitized inputs of detected air activity. These inputs in turn are used in support of the SAOC's mandate of air sovereignty and drug interdiction.

4.2. Tethered Aerostat Radar System (TARS). The TARS is a balloon-borne radar system that is tethered at approximately 12,000 to 17,000 feet mean sea level. The radar's look-down coverage provides 150 NM of low level coverage. The system is capable of detecting surface vessels in 8- to 12-foot waves, as well as airborne objects. The system is stretched across the southern US and interfaces with the southeast and western air defense sectors, providing a TW/AA functions. In addition, TARS is used by the US Customs and Drug Enforcement Agency in the drug interdiction mission.

4.3. North Warning System (NWS). The system is composed of 15 LRRs (11 in Canada and 4 in Alaska) and 39 Unattended Radars (UARs; formerly referred to as Short Range Radars (SRRs)) (36 in Canada and 3 in Alaska). The NWS will provide TW/AA to the Canadian and Alaskan NORAD Regions who will forward tell appropriate information to Cheyenne Mountain Air Force Station (CMAFS). When completed, the NWS will provide contiguous radar coverage across the Arctic Archipelago.

4.4. Caribbean Basin Radar Network (CBRN). The CBRN will provide US Southern Command (USSOUTHCOM) and US Atlantic Command (USACOM) with air surveillance of the Caribbean Region in support of the drug interdiction mission. The system will include 8 new radar sites located throughout the Caribbean, telling information to the Southern Region Operations Center (SROC) at Howard AFB, Panama; the Caribbean Region Operations Center (CARIBROC) at Key West, Florida; and/or the SE SAOC. Five existing radar sites in the Caribbean area will be integrated into the CBRN system. In addition, fixed and mobile radars in the Commonwealth of Puerto Rico will be merged at the Puerto Rican Radar Integration Site (PRIS) and sent to the CARIBROC and the Puerto Rican Operations Center (PROC).

4.5. Over-the-Horizon (OTH) Radar System. The OTH radar provides extended range surveillance and tactical early warning required by the National Command Authorities (NCA) for decision making; for posturing of forces for increased survivability; and for countering an attack on North America.

4.6. Iceland . The Iceland Air Defense System (IADS) will provide US Atlantic Command (USACOM) with air surveillance of the North Atlantic within the military Air Defense Identification Zone (MADIZ) primarily, and secondly, to the limits of radar coverage. The system includes Remote Radar Heads (RRH'S) with FPS-117v5 radars on the four corners of Iceland, and the Iceland Control and Reporting Center (ICRC) at Keflavik NAS that controls operations. The ICRC forward tells information to NORAD and CONR, lateral tells to Canada East and the North East SAOC, and links with Norway and the United Kingdom.

4.7. Hawaii. The Hawaiian Air Defense System provides PACOM/COMPACF with air surveillance of the HADR within the limits of radar coverage and/or data link information. The system includes an ARSR-4 and a FPS-117v4 located on Oahu and Kauai with a 250nm design range. The data is forwarded to the RAOC located at Wheeler AAF where air defense operations are conducted.

Chapter 5

SECTOR AIR OPERATIONS CENTER (SAOC)

5.1. Organization. The sector is divided into two functional areas: Battle Staff (BS) and the Air Operations Center (AOC), which is comprised of the Command and Control (C2), Weapons, Air Surveillance, and Identification Sections. The OCC has a C^2 function.

5.2. Battle Staff. When formed, the BS directs Sector/Region air defense/air sovereignty activities. Additionally, it directs and coordinates activities of subordinate radar units, relays instructions from senior ACC/NORAD/PACOM elements to subordinate and lateral units, and coordinates allocation and employment of air defense resources. The BS is assigned or allocated air defense resources, e.g., interceptor, early warning aircraft, etc., that are necessary to defend its assigned AOR. These resources are used by the BC via the Mission Crew Command (MCC) for the conduct of assigned responsibilities. The BS is comprised of, but not limited to, the following positions that will be manned at the discretion of the BC to accomplish the assigned mission.

5.2.1. Battle Commander (BC). The Sector commander or the Air Defense Commander (ADC) will be designated as a BC. In the absence of the commander, the succession to the Sector commander list will be used. The BC shall be the senior ranking officer not lower than the rank of Colonel (Lt Col HIRAOC). The BC is responsible for implementing air defense/air sovereignty through employment of the forces assigned or made available.

5.2.2. Director of Operations (DO)/(BSC HIRAOC). The DO is responsible to the BC/ADC for the supervision of all Sector operations. The DO/BSC will:

5.2.2.1. Implement NORAD/PACOM/ACC policy and formulate methods and procedures for Sector operations.

5.2.2.2. Maintain and analyze operational records that are required by higher headquarters.

5.2.2.3. Identify personnel requirements to accomplish the assigned mission.

5.2.2.4. Be fully conversant with OPLANs/OPORDs pertinent to the Region/Sector mission.

5.2.2.5. Be knowledgeable of the duties of the MCC.

5.2.3. Intelligence Officer (IO). The IO duties on the BS include, but are not limited to:

5.2.3.1. Advising the BC on the threat.

5.2.3.2. Planning and conducting training of operations personnel regarding intelligence matters.

5.2.3.3. Reviewing intelligence data including technical reports of equipment and estimating probable courses of actions, force structures, and characteristics and capabilities of potential threats.

5.2.3.4. Maintaining current situation maps, warning displays, local data base, and the intelligence library.

5.2.3.5. Coordinating and integrating intelligence data from all sources available to the RAOC/SAOC. This includes tasking intelligence collection organizations.

5.2.3.6. Conducting studies of enemy forces and preparing intelligence reports and scenarios which realistically represent those forces.

5.2.3.7. Receiving and relaying all reports and other intelligence items to higher headquarters as required.

5.2.4. NORAD Airborne Battle Staff (NABS). (please supply info)

5.2.5. Aircraft Control and Warning Officer (ACWO) (13B/1C5). The ACWO is responsible to the BC through the DO. The ACWO will advise the BC on assigned sensor assets and function as the Sector's Ground Environment Resources Manager. The ACWO ensures the Sector's operations and contingency plans are carried out by ground environment units and provides BS E-3 employment recommendations.

5.2.6. Fighter Officer (FO). The FO is responsible to the BC through the DO for direction and recommendations for the use of assigned fighter/tanker resources, using applicable OPLANs and BC direction to ensure appropriate fighter/tanker employment. The FO ensures applicable operations and contingency plans are carried out by fighter/tanker units and tracks the combat readiness of assigned fighter units.

5.2.7. Communications and Electronics Officer (CEO). The CEO shall ensure that assigned communications and electronics equipment are serviceable to accomplish the mission; and shall track and initiate repairs on unserviceable equipment, and report it to the BC through the ACWO.

5.2.8. Weather Officer (WO). (N/A to HIRAOC) The WO supports and advises the BC and the DO by providing weather briefings and forecasts, and identifying the area of adverse weather with the Sector that could affect safety or impact on the execution of the air battle. Responds to specific weather requests for E-3 aircraft.

5.2.9. E-3 Coordinator (13B/1C5). The E-3 Coordinator is responsible through the ACWO to the BC for coordinating all aspects of E-3 participation in the Sector's AOR. Specific duties include BS/ NORAD Airborne Battle Staff (NABS) coordination on locating E-3 orbits and E-3 communications set-up.

5.2.10. SAOC Director (13B). The SAOC Director will be the senior C^2 advisor to the BC and is the chief of the AOC.

5.3. Sector Air Operations Center (SAOC). The SAOC is the focal point for the conduct of weapons, surveillance, and identification functions. It is tasked to support the NORAD/PACOM mission on a continuous basis and is supervised by the MCC. The SAOC is manned by the following duty positions:

5.3.1. Mission Crew Command (MCC)/Mission Crew Command Technician (MCCT) (13B/1C5X1). The MCC is the on-duty representative for the Air Defense Commander/Sector Commander and is responsible for the conduct of all air sovereignty/air defense operations, training and emergency actions within the Sector during the duty shift. The MCC will communicate directly with the CONUS RAOC regarding operations IAW RAOC/SAOC Operating Instructions (OIs). The MCC will exercise sound judgment, ensuring the safe and expeditious handling of all air sovereignty/air defense related events within the Sector. The MCC works for the SAOC Director administratively and is operationally responsive to the Sector Commander/DO in peacetime and BC/DO during increased alert status and exercises. The MCCT assists the MCC in supervising the conduct of air sovereignty/ air defense operations and training.

5.3.2. The Emergency Action Coordinator (EAC) (13B/1C5X1). The EAC is responsible for encrypting, and decrypting all Emergency Action Message (EAM) and providing emergency action guidance to battle staff IAW NI 10-4. The EAC will be familiar with emergency action team procedures and shall be fully conversant with all regulations and procedures that apply. The EAC works for the MCC under normal peacetime operations and works for the BC during increased alert status or exercises.

5.3.3. Weapons:

5.3.3.1. Senior Director (SD)/Senior Director Technician (SD/T) (13B/1C5X1). The SD is responsible to the MCC for battle management and the use of the fighter forces in the assigned AOR. The SD will supervise the Weapons Director (WD) employment of resources during both daily training and wartime/peacetime missions. The SD will coordinate with other SDs and the MCC to ensure effective battle management. The SDT assists the SD with the supervision of the weapons team.

5.3.3.2. WD/Weapons Director Technician (WDT) (1C5X1D). The WD is responsible to the SD for effective utilization of assigned forces during either wartime/peacetime operations or training. The WD and Aircrew are responsible for defending their AOR. The WDT, as the controller's assistant, handles all internal and external telephone coordination, all log keeping duties, and enters, as directed, computer instructions for the mission.

5.3.4. Identification (13B/1C5X1). The Identification Officer/Technician (IDO/T) is responsible to the MCC for the identification of all traffic IAW governing regulations. The IDO/T monitors all tracks of special interest to ensure they conform to the approved route/altitude of flight or reports deviations to the MCC for appropriate action. The IDO/T coordinates as necessary with the appropriate air traffic control facility regarding the identification of aircraft with the SAOC's AOR (IDO N/A HIRAOC).

5.3.5. Surveillance. The Air Surveillance section is responsible for detecting, tracking and reporting of air surveillance data and interfacing of other source data into one complete air picture. This section also directs the optimum configuration of sensors for effective radar coverage.

5.3.5.1. Air Surveillance Officer/Technician (ASO/T) (13B/1C5X1). The ASO/T is responsible to the MCC for the maintenance of an optimal air picture within the Sector's AOR. The AST is responsible for the management of all air surveillance functions and personnel within their section (ASO N/A HIRAOC & AKRAOC).

5.3.5.2. Data Quality Monitor (DQM) (1C5X1). The DQM is responsible to the ASO/T for maintaining the best air picture possible through judicious use of available LRR electronic protection (EP) fixes and SAOC computer capabilities. The DQM is responsible for coordinating this activity with the JSS/FAA supervisors at the Sector's LRRs.

5.3.5.3. Tracking Technician (TT) (1C5X1). The TT is responsible to the ASO/T for performing tracking (active and passive), height checks, if required; and manual track telling duties as assigned. The TT is responsible for an assigned AOR.

5.3.5.4. Interface Control Officer/Technician (ICO/T) (13B/1C5X1). The ICO/T is responsible to the MCC for the configuration and operation of the data link, interface equipment within this section. The ICT is responsible for initiating communications with data link participants, and moni-

toring the quality and quantity of track data received from and sent to external sources other than Sector radar sites.

5.3.6. Simulation. During exercises and crew training periods, an additional section is formed to simulate external participants. All duty positions within the simulation section are unit certified.

5.4. SAOC Minimum Manning Requirements. The SAOC requires the necessary manning to adequately conduct the assigned mission continuously. Manning requirements will be determined by the SAOC Director. It will cover day-to-day operations, periods of increased readiness, and exercises; however, manning shall not be less than that shown in **table 5.1.**

Table 5.1. SAOC/AKRAOC Minimum Manning Requirements.

POSITION	WADSMIDS/ MIN	NEADSMIDS/ MIN	SEADSMIDS/ MIN	AKRAOCMIDS/ MIN
MCC	1	1	1	1
MCCT	1	1	1	1
EAC	1 (Note 1)	1 (Note 1)	1 (Note 1)	1 (Note 1)
SD	1	1	1	1
SDT	1	1	1	1
WD	1 (Note 4)	1 (Note 4)	1 (Note 4)	1
WDT	1 (Note 4)	1 (Note 4)	1 (Note 4)	1
ASO/ AST	2 (Note 2)	1	2 (Note 3)	1
TT	4	2	3	2
IDO/IDT	2	2	2	2
MIT	Optional (Note 1)	Optional	Optional	Optional
ICC	1	1	1	1(Note 1)
DQM	1	1 (Note 2)	1 (Note 2)	1 (Note 2)

NOTES: The SAOC Director may determine manning requirements to meet the SAOC's operation workload on all shifts, weekends and holidays, but they will never fall below the minimum manning set for mids.

1. A qualified person in this position may be manned against another position requiring equal qualification.

2. ASO/AST performs DQM functions if qualified. (Night Shifts only)

3. 1 AST may perform TT functions if qualified; and no Active Air Defense missions are in progress.

4. WD/WDT minimum requirements will remain as indicated for each shift until the daily flying, including any active air defense scramble in progress, is concluded. Following the conclusion of daily flying, at the SAOC director's discretion, the minimum requirement for WD/WDT may be reduced on Mid shifts, provided the SD and SDT are qualified.

5.5. Sector Expansion. The ability of SAOCs to expand into adjacent, Partially/Non-Mission Capable (P/NMC) sectors provides additional flexibility in the prosecution of the air defense mission. When notified of possible expansion the Fully Mission Capable (FMC) sector(s), will follow procedures in accordance with NI 10-18.

5.6. Degraded SAOC Control Environment. There are three basic types of degradation to the SAOC's control ability. In ascending order of severity of impact, they are: loss of radar, loss of computer, and loss of communications. The type of degradation affects both the transfer of surveillance and control from the SAOC to other agencies and the delegation of command authorities. The availability of an on-station E-3 will determine the actions taken when degradation occurs. Specific procedures are outlined in NI 10-8 and local directives.

   5.6.1. SAOC Degraded Radar Procedures:

   5.6.1.1. Surveillance. When the loss of a radar picture prevents the SAOC from detecting aircraft:

      5.6.1.1.1. TADIL-A link or voice tell from an AWACS will be displayed in the SAOC computer and identified using standard operating procedures. The SAOC AST will take immediate action to establish the tell required, determining priority areas of voice tell to ensure mission requirements are met. If an AWACS is on station with ADIZ coverage, its surveillance AOR will be expanded within the ADIZ without an orbit change. The SAOC AST, through the MCC, will recommend to the DO an AWACS orbit change and/or other means to reconfigure the Sector to support the active air defense mission as necessary.

      5.6.1.1.2. An AWACS orbit may be adjusted to cover the loss of a single site's radar. The orbit change would offset the loss of ADIZ coverage without degrading overall coverage.

      5.6.1.1.3. If available, GTACS can be used in-garrison to provide surveillance capability.

   5.6.1.2. Weapons. Interceptor control would be provided solely by AWACS or site (assuming radar and deployed WDs are available at the source) in the area affected. The extent of the radar coverage loss would dictate whether or not the Sector Commander would transition the AWACS from Level I to Level II. If the SAOC has degraded coverage in an area, AWACS should anticipate transition to Level II or Level III, depending on the air situation at the time. Command would be retained at the SAOC. Airborne fighters would be informed of the situation by the SAOC WD and directed to contact the AWACS, JSS site, or augmenting GTACS unit as appropriate.

   5.6.1.3. SAOC Computer Non-Mission Capable (NMC) Procedures. Loss of the SAOC computer prevents the SAOC from detecting, identifying or controlling aircraft anywhere in the Sector Commander's AOR. AWACS will receive direction to transition to Level III. JSS sites or augmenting GTACS would be tasked to provide available services in areas that AWACS is unable to control. The TADIL-A link to the RADIL would be maintained to facilitate rapid reconstruction of the SAOC air picture and to provide key BS personnel a visual reference to any critical air situation. All communications links would be maintained. Airborne fighters would informed of the situation and directed to contact AWACS, JSS site, or GTACS unit as appropriate. Once restored to at least PMC, the SAOC will direct the AWACS to resume operations at the level directed.

   5.6.1.4. SAOC Communications Out Procedures. Loss of most or all of the SAOC's communications would probably dictate a change in the C^2 identifiers. AWACS would assume Level II or III,

depending on the situation existing at the time of the communications loss and its communications connectivity. Airborne fighters would have to recognize the communications loss and contact either the AWACS or an adjoining Sector, as appropriate. If unable, Aircrew would commence autonomous operations. Peacetime constraints require employment of specific procedures and the use of SAOC safety monitors when practicing autonomous operations during exercises.

5.7. SAOC Equipment. The SAOC is supported by the following major pieces of equipment:

5.7.1. H5118ME Central Computer (CC).

5.7.2. HMD-22 ODC.

5.7.3. Radar Display Unit (RDU).

5.7.4. Remote Access Terminal (RAT)

5.7.5. Data Link.

5.7.6. NORAD Alert System (NAS)

5.7.7. CTAPS

5.7.8. AOCAICU.

5.7.8.1. For OTH integration purposes, the AOCAICU will allow five OTH-B output messages: track, system status, interrogate beam, EA, and free text. All forwarded OTH-B data must pass through the AOCAICU for display at the SAOC and forwarding to SAOC/RAOC/CMAFS. OTH-B track messages are displayed on existing SAOC ODCs while all other OTH-B data will be sent to the stand-alone terminal for display and/or printout. The AOCAICU also allows the RAOC/SAOCs to backtell free text and tasking messages to the OTH-B operations center as required.

5.7.8.2. If at any time the AOCAICU is deemed to be working unsatisfactorily during operations, it may be turned off only after coordination with the CONR Air Defense Director who will in turn notify NORAD ADOC. Taking the AOCAICU off-line will not negatively impact SAOC to CMAFS data; however, without the AOCAICU, OTH-B data cannot be digitally told.

5.7.9. CTAPS.

5.7.10. ADNET.

5.7.11. FMS.

5.7.12. GCCS.

5.7.13. NGCCS.

5.7.14. AICU.

5.7.15. Link Monitoring System (LMS).

5.7.16. Joint Visual Information Display System (JVIDS).

5.7.17. Automated Air Movement Data System (AAMDS).

5.7.18. OPLAN 3310 CINCNORAD.

Chapter 6

AWACS-SAOC OPERATING PROCEDURES

6.1. AWACS CONUS-SAOC Operating Procedures-General. This chapter establishes procedures for the operations of AWACS aircraft operating with the CONR SAOCs. This chapter complements AFI 11-1E3A Volume 3, AFI 11-214 (as supplemented), and CINCNORAD CONPLAN 3310. Sector BS procedures are included only to the extent that they affect SAOC and AWACS mission crew operations. Internal AWACS procedures are included for SAOC personnel to understand what is required for effective operations with their AWACS counterparts.

6.2. Command and Control. AWACS will normally be under the tactical control (TACON) of a Region. Additionally, there are three levels of decentralization IAW NI 10-8. Initially, the Sector Battle Commander retains authority to declare HOSTILEs (FAKERs), order tactical action (e.g., visual identification, engagement, etc.), determine Combat Air Patrol (CAP) manning, and control fighter flow (launch authority over fighters). AWACS will normally be decentralized Level I. When the Region BC decentralizes authorities, these authorities are delegated to the SAOC BC or the NABS. When the BC decentralizes, AWACS should expect Level III authorities.

6.2.1. Transition to AWACS decentralized Level III should be considered if equipment problems, EA, and/or the target load stress the SAOC's span of control. In the event of lost communications, AWACS will follow NORAD procedures for succession to command and continuity of operations.

6.2.2. Joint Procedures--General. When radio contact can be established, the NABS or the AWACS MCC will contact the Sector BS for E-3 TABS and EAM. If the BS is not manned, contact the MCC.

6.2.2.1. En route to station, the AWACS mission crew will:

6.2.2.1.1. Contact the SAOC as soon as possible after takeoff on UHF SATCOM, HF, or UHF Air Intercept Control Common (AICC) for an update briefing on mission taskings, authorities, coordination procedures, air bases statuses, etc. Secure radio connectivity may be attempted; otherwise, KL-43 encrypted messages will be used to pass equipment problems. KY-68 and KY-58 secure devices are also used to communicate.

6.2.2.1.2. The AWACS ASO/T will contact the SAOC ASO/T on the surveillance frequency to review the AWACS/SAOC surveillance procedures; to discuss factors affecting their respective system's performance; agree upon the primary common reference point(s) to be used for point out(s); and discuss identification support that the SAOC can provide.

6.2.2.1.3. The AWACS Communication System Operator (CSO) will contact the ICO/T to establish data link operations and confirm Operations Data (OPDAT) details, link frequency, Net Control Station (NCS) designation, the Data Link Reference Point (DLRP) and Participating Unit (PU) designations. Data tell procedures will be the primary means to exchange track information.

6.2.2.1.4. The AWACS MCC will contact the MCC to obtain a summary of the current air situation, fighter base weather updates, and fighter flow plans. Status information will be followed by a review of the procedures to be used for coordinating tactical actions and hand-offs.

6.2.2.1.5. AWACS WDs will establish a listening watch on their counterpart SAOC WD frequencies. When the tactical situation permits, agree on a primary reference point for pointouts, obtain fighter statuses, and resolve any procedural questions.

6.2.2.2. The MCC will declare ON STATION and pass additional data to indicate equipment status. Mission crew personnel will inform their SAOC counterparts that they are on station. Unless otherwise briefed, the ON STATION call will signify that the AWACS is capable of interrogating Mode 4 and classifying tracks friendly based on positive replies.

6.2.3. Surveillance and Identification--General. To ensure effective battle management, surveillance and identification operations will provide the SAOC and AWACS an identical air track picture within the area of interest. Interoperability among all participants will be facilitated by procedures designed to provide a common designator for each track in both systems. Any track in one system and not in the other will be told through the data link or by voice.

6.2.3.1. Surveillance Procedures**:**

6.2.3.1.1. AWACS surveillance will contact SAOC surveillance to initiate a correlation check; 5 miles is the maximum tolerable limit. Once the correlation check is completed, the AWACS (assuming the link is up) will tell all non-interceptor tracks in the assigned area. They will start with priority area and low level tracks that may be beneath/outside SAOC radar coverage.

6.2.3.1.2. If the SAOC has a track that correlates with a point out by the AWACS, the SAOC will reply with the SAOC track number and, if necessary, correct the identity. Track IDs and category differences will be handled IAW JCS Pub 3.56, 'Tactical Command and Control Planning Guidance and Procedures for Joint Operations.'

6.2.3.1.3. If the data-link is not up, the AWACS will pass the tracks using a US Message Text Format (USMTF) voice tell format. If the track classification is pending, AWACS will include any applicable modes and codes. Do not pass Mode 2 codes in the clear.

6.2.3.2. Identification Procedures:

6.2.3.2.1. All tracks detected within assigned AOR will be identified using NORAD identification rules published in NI 10-15/NI10-41 and NORADRs, 55-67 and/or NR 55-68. During exercises, the target monitor team will direct track classification changes in the event a non-participant is erroneously classified UNKNOWN or FAKER. All track classification decisions/changes will be passed to the AWACS on the surveillance net by voice, using the common track number.

6.2.3.2.2. SAOC/AWACS TgM team coordination is necessary to ensure both agencies have the same track classifications. SAOC and AWACS surveillance personnel must be alert for track classification changes.

6.2.4. Weapons Control--General:

6.2.4.1. AWACS MCC will contact the SD to obtain call signs of all interceptors airborne or in airborne/scramble order status. As communications and the tactical situation allow, the SAOC MCC will provide interceptor/tanker availability/intentions, post-attack intentions, etc., to the AWACS MCC. Alternatively, the SAOC SD, with AWACS/MCC concurrence, may direct SAOC WDs to pass this information directly to the AWACS WDs.

6.2.4.2. The SAOC SD and AWACS MCC will maintain a listening watch on a discrete frequency. The SD and AWACS MCC will keep one another informed of observed air situations that may affect air battle management decisions. The SAOC SD will:

   6.2.4.2.1. Process all airborne and scramble orders.

   6.2.4.2.2. Inform the AWACS MCC of bases in Mandatory Scramble Order (MSO) status.

   6.2.4.2.3. Inform the AWACS MCC of individual aircraft status.

6.2.4.3. Tactical actions and commit priorities taken by the Sector BC will be passed to the AWACS. The AWACS may be assigned an area and delegated commit authority within it. The SAOC should, time permitting, pre-coordinate all tactical actions with the AWACS. The AWACS BC or NABS will pass the results of all AWACS tactical actions to the ACWO/$C^2$0/E-3 Coordinator. If the AWACS BC or NABS is unable to contact the ACWO/C^2 0/E-3 Coordinator, the AWACS will pass the results of all AWACS tactical actions to the SAOC SD. To the maximum extent possible, WDs will maintain situational awareness by monitoring the control frequency.

6.2.5. Degraded AWACS Environment. As with the SAOC, the AWACS can experience various levels of degraded capability. Depending upon the nature and severity of degradation, the SAOC may alter the designated AOR for the AWACS, its surveillance and weapons control responsibilities, or communications connectivity. With the exception of a complete loss of radar, most system degradations can be compensated for in this manner. The MCC will normally consult with the SAOC MCC to determine appropriate alterations or work-arounds to AWACS responsibilities following equipment outages or degradations. When the BS is formed, the MCC will contact the Sector ACWO to report equipment outages or degradations.

Chapter 7

ICELAND CONTROL AND REPORTING CENTER (ICRC)

7.1. Organization. The ICRC has unique operations equipment. This equipment creates unique operational situations and procedures that set it aside from other RAOCs and SAOCs. The ICRC manning is comprised of the MCC/MCCT, and the Weapons, Air Surveillance, and Identification sections. The ICRC operational procedures outlined below will be supplemented, as required, by Director of Operations Operating Instructions (DOOIs).

7.2. Chain of Command:

7.2.1. Operationally. The MCC is responsible to the Air Defense Commander (ADC) (Designated Hammer) for the ICRC operations. The ADC is the Air Forces Iceland/CC's representative located at the 85th Group Command Post (CP) during contingencies and is responsible for employment of forces during peacetime and through all phases of conflict. In the event the Air Forces Iceland Command Post is evacuated, CP personnel and the ADC will deploy to the ICRC to continue operations.

7.2.2. Administratively:

7.2.2.1. The 932d Air Control Squadron (ACS). The 932 ACS/CC, DO or designated representative are responsible to the 85th Group Commander (85 GP/CC). All squadron personnel are responsible to the 932 ACS/CC. Although the 932 ACS/CC may be a qualified MCC, duties during increased readiness may preclude that duty.

7.2.2.2. The 932 ACS/DO. The 932 ACS/DO is responsible to the 932 ACS/CC for ICRC personnel's compliance with operations, training, and Stan/Eval directives. During periods of increased readiness, the 932 ACS/DO will act as the deputy commander and fulfill those duties as directed by the 932 ACS/CC.

7.3. ICRC Operational Procedures:

7.3.1. MCC/MCCT. The MCC (13B) will provide direct support to the ADC in C^2 operations. The MCC is responsible for the conduct of all air sovereignty operations and training within the region during the duty shift. The MCC is normally on standby status and takes position during contingencies, exercises, and as needed. The MCC will communicate directly with the ADC or 85 GP/CC regarding peacetime air sovereignty operations IAW Air Forces Iceland/932 ACS DOOIs. The MCC will exercise sound judgment, ensuring the safe and expeditious handling of all air sovereignty related events, and up channel reporting procedures within the region. The MCCT (1C5) is responsible to the MCC and assists the MCC in supervising the conduct of air sovereignty operations and training in peacetime and Air Defense Operations in transition and wartime. The MCCT is responsible for the administrative and operational conduct of the enlisted personnel in the flight.

7.3.2. Weapons Section. The weapons section provides the control necessary for employment/positioning of air defenses resources IAW governing regulations. The missions conducted within the ICRC AOR could include air defense, air sovereignty, assistance to aircraft in distress, flight follow, and air refueling. Weapons control procedures and techniques are contained in AFTTP 3-1, AFI 11-214 as supplemented, and local governing directives. Weapons positions are SD, SDT, WD, and WDT.

7.3.2.1. SD (13B). The SD is responsible to the MCC for all WDs assigned to the weapons section and manages interceptor scrambles, target selection, and weapons assignment. The SD will be current in weapons and be highly proficient in the operation of the console and associated communications equipment. The SD must also be capable of rapidly evaluating the air defense threat situation and making timely defensive countermeasures. The SD will supervise the allocation of weapons and management of the weapons function at subordinate units. The SD will:

7.3.2.1.1. Conduct the weapons portion of the crew briefing prior to going on duty.

7.3.2.1.2. Understand system capabilities and limitations of unit equipment and equipment used at subordinate/lateral units.

7.3.2.1.3. Commit air defense weapons to counter the threat.

7.3.2.1.4. Assign control of missions to WDs and coordinate aircraft handovers with other control agencies.

7.3.2.1.5. Monitor assigned missions to ensure effective mission accomplishment and flight safety.

7.3.2.1.6. Assign radio frequencies to specific consoles commensurate with mission requirements.

7.3.2.1.7. Specify in advance and/or as specified in the OPORD, aircraft handover points where control will be passed as launch and recovery.

7.3.2.1.8. Execute ROE.

7.3.2.1.9. Coordinate interceptor fighter scrambles and airborne orders.

7.3.2.1.10. Assign aircraft control to WD and provide mission status briefings.

7.3.2.1.11. Coordinate with the Operations Training Officer (OTO) to allocate training sorties to meet Minimum Training Requirements (MTR). Ensure all missions are briefed/debriefed.

7.3.2.1.12. Provide a thorough position briefing to the relieving SD.

7.3.2.1.13. Ensure that all WDs are aware of existing and forecast weather conditions for their AOR and recovery bases.

7.3.2.1.14. Coordinate weapons section switch actions with surveillance and identification to maintain air picture accuracy and clarity.

7.3.2.2. SDT (1C5). The SDT is operationally responsible to the SD and will assist the SD as directed. The SDT will be a qualified WDT and be thoroughly familiar with WDT duties and responsibilities. The SDT will:

7.3.2.2.1. Understand system capabilities and limitation of unit equipment and equipment used at subordinate/lateral units.

7.3.2.2.2. Be familiar with publications/procedures pertaining to weapons control, and employment.

7.3.2.2.3. Coordinate with the WDTs and other control agencies for the smooth transfer of tactical mission aircraft.

7.3.2.2.4. Be thoroughly familiar with authentication procedures.

7.3.2.2.5. Be thoroughly familiar with filing airborne and scramble orders and coordinating airspace for daily training missions.

7.3.2.2.6. Ensure usable voice transmission recordings are being accomplished IAW local directives.

7.3.2.2.7. Complete all forms and records required by the SD. Review all forms prepared by the weapons section for accuracy and content. Note: Forms requirements may vary and are prescribed and/or adopted for use by other governing AFIs.

7.3.2.2.8. Be thoroughly familiar with the daily flying schedule and ensure WDTs are available for applicable missions.

7.3.2.2.9. Coordinate all airspace requests at least 1 hour prior to takeoff time for scheduled training sorties and as soon as possible after receipt of airborne/scramble orders.

7.3.2.2.10. Provide a thorough positional briefing to the relieving SDT.

7.3.2.3. WD. The WD is responsible to the SD for effective utilization of assigned forces during either wartime operations or peacetime training. The WD and aircrew of assigned interceptors are responsible for defending their assigned AOR. The WD will:

7.3.2.3.1. Understand capabilities/limitations of unit equipment and equipment of other services/allied C^2 systems.

7.3.2.3.2. Be thoroughly familiar with the performance and ordnance characteristics of all assigned weapons systems.

7.3.2.3.3. Ensure expeditious fighter positioning for interception and/or engagement of assigned airborne targets.

7.3.2.3.4. Ensure an orderly flow of aircraft for hand-off and recovery to other control agencies.

7.3.2.3.5. Inform the MCC of conditions/situations that may affect successful mission completion or aircraft safety.

7.3.2.3.6. Inform other WDs of any actions being taken that may affect their control actions.

7.3.2.3.7. Keep aircrew advised of tactical information that may affect mission accomplishment.

7.3.2.3.8. Pass control instructions to aircrew and receive aircrew reports as required.

7.3.2.3.9. Obtain pilot weather reports from aircraft under control and relay them to the SD/SDT.

7.3.2.3.10. Ensure maximum flight safety consistent with overall mission requirements.

7.3.2.3.11. Provide navigational and emergency assistance as required.

7.3.2.3.12. Ensure completion of all appropriate logs/forms (as prescribed and/or adopted for use by other governing AFIs).

7.3.2.3.13. Maintain track continuity of assigned aircraft.

7.3.2.3.14. Thoroughly brief the relieving WD on the current operational situation.

7.3.2.3.15. Be proficient in the use of authentication tables.

7.3.2.4. WDT (1C5). As the controller's assistant, the WDT handles all internal and external telephone coordination, all logkeeping duties, and enters computer instructions for the mission. The WDT will:

7.3.2.4.1. Understand capabilities/limitations of unit equipment and equipment of other services/allied C^2 systems.

7.3.2.4.2. Be thoroughly familiar with the performance and ordnance characteristics of all assigned weapons systems.

7.3.2.4.3. Report equipment outages/malfunctions to the SDT for relay to the AST.

7.3.2.4.4. Be proficient in the use of authentication tables.

7.3.2.4.5. Report mission results/in-flight reports to the SDT.

7.3.2.4.6. Ensure adequate operations support supplies are available for WD use.

7.3.2.4.7. Complete all required forms/logs (as prescribed and/or adopted for use by other governing AFIs).

7.3.2.4.8. Thoroughly brief the relieving WDT on the current operational situation.

7.3.3. Identification Section. During normal readiness conditions, the primary requirement is to detect and identify any aircraft entering or passing through the Icelandic Military Air Defense Identification Zone (MADIZ). Establishment of fighter engagement zones, automatic identification zones, safe passage routes, and identification procedures will depend upon the current status of military operations required in Iceland.

7.3.3.1. The IDT (1C5). The IDT is responsible to the MCC/T for The identification of all traffic IAW applicable regulations. The IDT monitors all tracks of special interest to ensure they conform to the approved route/altitude of flight or reports deviations to the MCC for appropriate action. The IDT coordinates as necessary with the appropriate air traffic control facility regarding the identification of aircraft with the ICRC's AOR. The IDT will:

7.3.3.1.1. Ensure all tracks are properly identified IAW applicable Directives.

7.3.3.1.2. Notify the MCC/MCCT of all tracks that cannot be identified IAW established criteria and pursue all means available to obtain an identity.

7.3.3.1.3. Notify the MCC/MCCT of all incidents of identification difficulties in the identification section.

7.3.3.1.4. Disseminate flight plan information on all specific tracks to adjacent Air Defense Control Facilities.

7.3.3.1.5. Be responsible for adherence to identification criteria in accordance with ROE and other area defense procedures.

7.3.4. Air Surveillance Section. The Air Surveillance section provides for detection, collection, and reporting of air surveillance data. This section also directs the optimum configuration for effective radar coverage under the prevailing atmospheric conditions.

7.3.4.1. AST (1C5). The AST is responsible to the MCC for accomplishment of surveillance functions and for both training and supervision of all surveillance personnel. The AST will coordinate with the MCC, DQM, and IDT to ensure an accurate display of air surveillance data. The AST will:

7.3.4.1.1. Supervise all functions of the surveillance section: DQM, TT, and ICT.

7.3.4.1.2. Supervise the timely and accurate collection, display and dissemination of air surveillance data.

7.3.4.1.3. Brief the oncoming crew members on current or anticipated operations and equipment and communications operational status.

7.3.4.1.4. Ensure the Air Surveillance section manning is adequate to meet mission requirements.

7.3.4.1.5. Understand system capabilities and limitations, and advise the MCC/T, SD/T, DQM and Network Operations Center of any malfunctions or equipment degradation that has occurred.

7.3.4.1.6. Assign surveillance AORs to each TT and the E-3 when necessary.

7.3.4.1.7. Analyze and report unusual scope presentations (EA, weather, and transient interference) to the appropriate agencies.

7.3.4.1.8. Ensure proper procedures are maintained for lateral and forward tell between all appropriate agencies.

7.3.4.1.9. Ensure completion of all required reports and logs.

7.3.4.2. DQM (1C5). The DQM is responsible to the AST for maintaining the best possible air picture through the aggressive use of radar auxiliaries, EP fixes, and computer capabilities. The DQM must coordinate with the maintenance, radar technicians, computer operators, and communications technicians to ensure a high quality of input data display and output data to lateral agencies and higher headquarters.

7.3.4.3. TT (1C5). The TT is responsible to the AST for track detection, initiation, and telling of all airborne objects within the ICRC AOR. Additionally, the TT will correlate data from adjacent Regions to ensure track continuity. During peacetime, the TT position may be covered by another position provided that person is certified in TT operations.

7.3.4.4. ICT (1C5). The ICT is responsible to the AST for the set-up and operation of the data link equipment. The ICT is responsible for initiating and maintaining data link with all link participants and monitoring the quality of track data received from and sent to the participants.

7.4. Iceland Control and Reporting Center (ICRC) Manning

7.4.1. Minimum Manning. These are the minimum personnel required to man the ICRC during normal peacetime operations. The DO may alter the numbers as needed to accomplish the mission, however positional requirements will never fall below the levels indicated in **table 7.1.**

Table 7.1. ICRC Minimum Manning Requirements - Peacetime Operations.

Position	MIDS	DAYS	SWINGS
MCC	(Note 1)	(Note 1)	(Note 1)
MCCT	1	1	1
SD	(Note 1,2)	(Note 1,2)	(Note 1,2)
SDT	(Note 1,2)	(Note 1,2)	(Note 1,2)
WD	(Note 2)	(Note 2)	(Note 2)
WDT	(Note 2)	(Note 2)	(Note 2)
AST	1 (Note 3)	1 (Note 3)	1 (Note 3)
DQM	(Note 3)	(Note 3)	(Note 3)
TT	(Note 6)	1 (Note 4)	(Note 6)
IDT	1	2 (Note 5)	1
ICT	(Note 1)	1	(Note 1)

NOTES: The ICRC Director of Operations (DO) may determine manning requirements to meet The ICRC's operation workload on all shifts, weekends and holidays, but they will never fall Below the minimum manning set for mids.

1. MCC will be available for notification and recall within 45 min, SD/SDT and ICT within 1 hour.

2. Weapons teams will man the ICRC for all contingencies, exercises, and daily training missions. Number of teams is dictated by mission requirements.

3. When a DQM is not present, the AST will be DQM qualified.

4. If a TT is not available during the day shift, the ICT will be TT qualified.

5. One IDT will be on the operations floor at all times. The second IDT will be in the facility for recall purposes.

6. During peacetime swing or mid-shifts, if the AST, IDT, ICT or MCCT are dual qualified as TT, they may assume tracking responsibility."

7.4.2. Contingency Manning. Table 7.2. indicates the minimum personnel required to man the ICRC during 24 hour contingency/combat operations assuming no augmentation and temporary suspension of standard administrative duties. This does not account for personnel filling unit combat support functions unique to the ICRC (e.g. Unit Control Center, Mission Planning Cell, etc.) or 85 GP augmentation. The 932 ACS/CC or DO may alter the numbers as needed to accomplish the mission.

Table 7.2. ICRC Minimum Manning Requirements – 24 Hour Combat Operations.

Position	MIDS	DAYS	SWINGS
MCC	1	1	1
MCCT	2	2	2
SD	1	1	1
SDT	1	1	1

Position	MIDS	DAYS	SWINGS
WD	2	2	2
WDT	2	2	2
AST	1	1	1
DQM	1	1	1
TT	3	3	3
IDT	3	3	3
ICT	1	1	1

Chapter 8

DOCUMENTATION

8.1.   General. Management and control of publications, records, and required documentation is essential for the effective management of the ADS. This chapter establishes the requirements and provides guidance for the maintenance of required publications and documentation.

8.2.   Operations Instructions (OIs). A set of OIs will be prepared to detail the local operational policy and procedures that may not be fully explained in higher headquarters directives. All crew positional checklists will have an OI as the basis of authority if no higher headquarters direction exists. OIs may cover such diversified subjects as EAM procedures, aircraft emergencies, commander's notifications, and duty crew administrative policy. OIs will be signed by the appropriate level of authority.

8.3.   Operations Information File (OIF). The OIF is required to ensure that information essential to the conduct of operations or emergency conditions is available in the SAOC. Procedures for the OIF are contained in ACCI 13-1ADCOIF/PACAF 10-601. 1 AF/Air Divisions/Sectors submit draft supplements to ACCI 13-1ADOIF to HQ ACC/XOY. HIRAOC/AKRAOC submit draft supplements/changes to HQ PACAF/DOY. OIs are recommended to establish local procedures for maintenance of the OIF.

8.4.   Logbooks:

8.4.1.   Logbooks must be maintained at the MCC, SD, ASO/T/DQM, ICO/T, and any other position as determined by the sector commander. Logbooks are official records of events that occurred during a crew's tour of duty. The purpose is to maintain an accurate and detailed record of all significant events pertaining to operations. At the SAOC Director's option, AF Form 1924 may be used for exercises.

8.4.2.   The following procedures apply for all logbooks:

8.4.2.1.   Logbooks will be maintained in a permanently bound book, such as a ledger or journal. A recommended ledge may be obtained under GSA Stock Number 7530-00-286-8363. Electronic version must be approved by MAJCOM prior to implementation.

8.4.2.2.   Logbooks will be classified SECRET as they will contain information concerning actual or simulated exercise alert warnings, states of preparedness, IFF/SIF modes and codes of the day, air-to-ground frequencies, system capabilities, outages, and so forth. Logbooks will be marked, handled, and stored IAW AFI 31-207.

8.4.2.3.   Entries in logbooks will be made in black or blue ink. Erasures will not be made. Errors will be corrected by lining through incorrect words and will be initialed by the person making the correction.

8.4.2.4.   All logbooks will be opened at 0001 or the beginning of each duty day and closed at 2400Z or the end of each duty day. All entries will be made using ZULU time.

8.4.2.5.   It is not necessary to record information that has already been noted in another authorized document, unless it is deemed appropriate for clarity and understanding.

8.4.3.   The following entries are required in all logbooks:

8.4.3.1. Time of each entry (ZULU).

8.4.3.2. Signature of the responsible individual at the beginning and end of the duty day.

8.4.3.3. Call sign of unit to which information is passed or received.

8.4.3.4. Initial of both individual passing and receiving information.

8.4.3.5. Verbal orders or instructions that deviate from standard operating procedures, including name, rank, and organization of the authorizing party. Include any authentication used and if reply was appropriate.

8.4.3.6. Requested reports from other units.

8.4.4. Applicable message traffic may be identified in the logbook and stored in a file in the back of the logbook or in a file adjacent to the logbook.

8.4.5. MCC Logbook. Entries in addition to the above will include, but are not limited to:

8.4.5.1. MCC's signature at the beginning and end of duty tour.

8.4.5.2. All changes in alert warnings and states of preparedness. Indicate whether actual or simulated or exercise.

8.4.5.3. All information concerning aircraft accidents, near misses, and declared emergencies (Operations Report (OPREP) items or other items of significance to the Sector).

8.4.5.4. Tactical action taken (when required) against tracks classified non-friendly.

8.4.5.5. Weather warnings.

8.4.5.6. Mandatory scramble status of assigned air bases, to include reason for mandatory status.

8.4.5.7. Start and stop times of all exercises.

8.4.6. SD Logbook.

8.4.6.1. Flight on duty

8.4.6.2. SD and SDT signatures at the beginning and the end of duty tour.

8.4.6.3. Number and type of authenticators on weapons consoles.

8.4.6.4. Number and type of classified checklists on weapons consoles

8.4.7. ICO/T Logbook

8.4.7.1. Flight on duty

8.4.7.2. ICO signature at the beginning and end of duty tour.

8.4.7.3. Status of Link

8.4.7.4. Signature of person completing OPTASK LINK classified inventory.

8.4.8. ASO/T/DQM Logbook:

8.4.8.1. ASO/T/DQM signature at the beginning and end of the tour of duty.

8.4.8.2. Equipment status reports submitted or received. Also details concerning major equipment outages that affect unit operations.

8.4.8.3. Communications checks.

8.4.8.4. Automatic data link up/down status and link establish information.

8.4.8.5. Changes in local equipment configuration.

8.4.8.6. Real Time Quality Control (RTQC) results.

8.4.8.7. Record all monitor checks, EA missions, operational actions, configuration changes, and other entries as required.

8.4.8.8. The DQM will also log DQM actions, spectrum interference incidents/reports, Electronic Combat Tactical Action Reports (ECTAR), EA missions, FAA case buzzers/EA denials, and other items that may or do affect the management of the SAOC air picture.

8.5. Voice Tape/Disk Recording. Tape/Disk recording of live air sovereignty mission activity is essential to provide necessary information concerning aircraft accidents, declared emergencies, and/or any event resulting in subsequent investigation. Tape/Disk recordings also provide an excellent training tool. The ICRC will additionally use an optical disk system to record and store mission related data.

8.5.1. General**.** The recommended voice circuits requiring recording are as follows:

8.5.1.1. UHF Guard channel.

8.5.1.2. UHF primary and discrete tactical frequencies.

8.5.1.3. AICC.

8.5.1.4. Other air/ground/air frequencies while in use.

8.5.1.5. External point-to-point communications involving aircraft control.

8.5.1.6. C^2 lines.

8.5.2. The AST or designed representative will ensure the recorder is properly prepared. Responsibilities include:

8.5.2.1. Loading and replacing recording Tapes/Disks.

8.5.2.2. Ensuring the Tape/Disk recorder is operational at the beginning of the duty tour.

8.5.2.3. Performing checks to confirm recorder serviceability periodically during duty tour.

8.5.2.4. Logging the following information at the beginning of the duty tour:

8.5.2.4.1. Tape/Disk number.

8.5.2.4.2. Recorded frequencies and channels.

8.5.2.4.3. Start numbers/point.

8.5.2.4.4. Data and ZULU time.

8.5.2.4.5. Name of person changing Tape/Disk.

8.5.2.4.6. Each completed Tape/Disk is marked with the following:

8.5.2.4.7. Tape/Disk number.

8.5.2.4.8. Period covered by the Tape/Disk.

8.5.2.4.9. The completed Tapes/Disks are placed in proper storage.

8.5.2.4.10. Tape/Disk Retention:

8.5.2.4.11. Normal**.** Recording Tapes/Disks containing routine information will be retained for a minimum of 15 days. Routine Tapes/Disks will be reused/recycled in order of their original use.

8.5.2.4.12. Special. Recording Tapes/Disks containing information concerning an accident/incident will be identified, marked and retained in a secure location indefinitely or until the incident is resolved. The MCC or higher authority may direct the Tapes/Disks to be retained for a specific reason. In such a case, the Tape/Disk will be marked appropriately with the requester's name, rank, duty title, organization, and disposition instructions.

8.6. COMSEC Requirements. The MCC will ensure that required COMSEC materials (codes and authentication tables) are available to the duty crew. COMSEC materials will be signed out from the unit custodian. Issue, protection and disposition of COMSEC material will IAW AFI 31-209 and AFKAG-1.

8.7. Operations Checklist:

8.7.1. General**.** Operations checklists are listing of steps that must ordinarily be taken in sequence to respond properly to a particular event. All steps in a checklist must normally be taken before the desired response is complete.

8.7.2. Administrative Requirements**.** Operations checklists will be maintained IAW the following administrative guidelines:

8.7.3. The size of the checklists and binders will be standardized for each section at each unit. Size choice is optional.

8.7.4. The first page of each checklist will contain a sheet showing date reviewed and the initials of the reviewer. Each unit will develop internal review procedures to ensure that only current checklists are in use. All checklists will be reviewed annually at a minimum. Signature of the reviewer signifies checklists are current. Checklists will be marked according to AFI 31-209 security instructions.

8.7.5. The first checklist in any binder/holder will always be the 'Aircraft Emergency' checklist.

8.7.6. If checklists are combined with other types of operational guides or documents such as locally developed operator handbooks, the checklists will be placed to the front and separated from other material.

8.8. Quick Reference Guides (QRG). Quick reference guides are similar to checklists but do not need sequential steps and can contain charts, maps, telephone listings, etc., in any format or arrangement. Both checklists and guides will list the specific reference documents upon which the procedures are based (manuals, regulations, technical orders, operations instructions, etc.). Within the ADS, QRGs will be prepared for all WD duty positions and any other position as deem appropriate. QRGs may contain the following types of information.

8.8.1. Emergency airfield data and emergency procedures.

8.8.2. Aircraft resources.

8.8.3. Air bases and aircraft units.

8.8.4. Radar units.

8.8.5. Safe passage corridors.

8.8.6. ROE.

8.8.7. Identification criteria.

8.8.8. Jettison/bail out areas.

8.8.9. IFF/SIF procedures.

8.8.10. Communications and frequency information.

8.8.11. Search and rescue procedures.

8.8.12. AOR.

8.8.13. Console and communications procedures.

8.9. Disposition of Documentation. All forms completed during the tour of duty will be appropriately marked and filed chronologically by date.

Chapter 9

RADAR DATA MANAGEMENT

9.1. Data Quality Monitoring:

9.1.1. SAOC/JSS. The SAOC will develop Letters of Agreement (LOAs)/Memorandum of Under-standing (MOUs) between the Sector and FAA for FAA/USAF joint-use LRRs. As a minimum, these agreements will address procedures for the management of data controls and equipment malfunction reporting. The provision contained in JRPG minutes Number 73, Policy and Procedures Document, will be used as a basis for all LOAs/MOUs. The following guidelines will be used for determining the point of contact for reporting equipment malfunctions that affect operating parameters.

9.1.1.1. Equipment Malfunctions**.** All malfunctions will be reported and coordinated through the AD Sector maintenance operations center.

9.1.1.2. JSS Operating Parameters--Joint Use Radar Sites**.** For joint use radar sites, the DQM is responsible for coordinating with the FAA National Airspace System Operation Manager (NOM) at the appropriate Air Route Traffic Control Center (ARTCC) for any changes to the basis operating parameters.

9.1.2. 1 AF or appropriate Air Defense Sector will develop LOAs/MOUs with Domestic Air Indication Coordination Center (DAICC) to develop local operating procedures for TARS.

9.2. Radar Configuration Changes. The following procedures for configuration changes will apply, unless specifically directed otherwise by the SAOC.

9.2.1. USAF LRRs**.** When the FAA (NOM) requires setting changes to the beacon, search radar or the common digitizer that affect both users, coordination will be accomplished with the respective Sector /DQM.

9.2.2. USAF/FAA Joint Use LRRs**.** All radar changes at FAA/USAF joint use LRRs must be coordinated with FAA IAW established LOAs/MOUs prior to ADE. At ADE, actions taken to obtain data are considered dynamic in nature and are exempt from prior coordination. When immediate or emergency action is required, and prior coordination with ASO/T is not feasible, the DQM will direct and approve all configuration changes requiring immediate or emergency action; however, the ASO/T will be notified of the changes as soon as possible. Procedures will be developed for configuration changes requiring immediate or emergency actions. After the procedures have been coordinated and approved by the unit DO, checklists will be published and used to ensure expediency of configuration changes. When the Sector DQM requires setting changes for live flying exercises, in-flight emergency, execution of CONPLAN 3310 or missions against an unknown target, coordination will be accomplished with the NOM to return the feature/device change to their normal day-to-day setting at the termination of the event.

9.2.3. TARS. Procedures for TARS radar setting changes will be set forth in LOAs/MOUs and will include coordination with the appropriate C^3I facility prior to implement.

9.3. Monitor Checks. Each Sector will develop data quality monitor check procedures IAW ACCI 13-DQM-Volume 3.

9.3.1. Equipment Status Reports (ESR). Sector will report equipment status and malfunctions IAW NI 10-19. Specific procedures for reporting equipment outages for subordinate units will be established to ensure that the maintenance operations center is notified of all equipment malfunctions.

9.3.2. Spectrum interference and ECTAR reporting will be IAW applicable directives. Sectors will ensure that all real-world spectrum interference reports include 1 AF/DO as an information addressee. Assistance required to locate the source or resolve frequency conflicts will be requested IAW AFI 10-701. Spectrum interference reports, including drawings, will be kept on file. Spectrum interference reports and ECTARs will be logged in the Station Log. Drawings of spectrum interference incidents will not be reconstructed in the AST/DQM Log.

9.3.3. DQM reports will be IAW ACCI 13-DQM Volume 3.

9.4. Equipment Status Display. The SAOC will establish a means of displaying their LRRs and TARS current search, common digitizer parameters, equipment outages, and other items as determined by the SAOC. The DQM on duty is responsible for keeping the information current.

Chapter 10

SAOC COMPUTER SOFTWARE SUPPORT

10.1. General. Computer software support is provided by the SAOC Program Support Office (PSO).

10.2. Mission:

10.2.1. Support the SAOC operations staff in resolving computer software issues.

10.2.2. Support the NORAD Software Support Facility (NSSF) software releases and ensure that NSSF software releases meet the operational requirements of their particular SAOC.

10.3. Specific PSO Responsibilities:

10.3.1. Document, research, verify, and report suspected software problems.

10.3.2. Prepare new software versions for operational use by the SAOC.

    10.3.2.1. Apply adaptation/geography.

    10.3.2.2. Assist staff in testing changes and updating documentation.

    10.3.2.3. Provide information to operations staff on impact of software modifications.

10.3.3. Advise staff on system capabilities and limitations.

10.3.4. Assist staff in analyzing, documenting, validating, and submitting computer software change proposals.

10.3.5. Maintain internal training programs for PSO personnel.

10.3.6. Maintain local and expansion media assigned to SAOC and ensure procedures are in place to support software updates and implementation.

10.3.7. Modify and test versions/sub-versions by:

    10.3.7.1. Providing and verifying an operational media for each new version/sub-version, adapted with all site unique environmental data and unique changes.

    10.3.7.2. Modifying system exercise and data reduction media with local adaptation listings to the NSSF after the version/sub-version operational date.

    10.3.7.3. Participating in Sector and multi-Sector version verification tests as required.

    10.3.7.4. Preparing local version descriptions.

10.3.8. Maintain versions/sub-versions by:

    10.3.8.1. Documenting and reporting program problems.

    10.3.8.2. Loading Sector local and expansion media adaptation changes, unique changes and approved corrections on master media.

10.3.9. Provide programming support.

    10.3.9.1. Validate load decks.

    10.3.9.2. Coordinate with other Sector PSOs.

10.3.9.3. Coordinate with NSSF and headquarters agencies on software issues.

10.3.9.4. Discuss and provide software expertise to Sector staff.

10.3.10. Respond to questions from operations and computer maintenance personnel regarding the computer software program.

10.3.11. Provide software support to NSSF for testing, as required.

10.3.12. Publish and maintain the Sector unique TM(NORAD)820/02X, if applicable.

10.3.13. Attend Configuration Review Boards and Sub-Boards, as required.

10.3.14. Maintain lateral and forward tell test procedures.

10.3.15. Support external agency testing (i.e., CONUS RAOC, NSSF, NORAD, etc.) as required.

10.3.16. Provide data reductions to be used for radar evaluations, and analysis of system problems and operational situations.

10.3.17. System management of the following: AICU, RADIL, ADSI, GCCS, NGCCS, ADNET, CTAPS, FMS, CIS, CI-13, and classified LAN.

10.3.17.1. Document, research, verify and report suspected software and hardware problems.

10.3.17.2. Load, test and verify new software releases.

10.3.17.3. Maintain connectivity between all systems managed.

Chapter 11

PUERTO RICO OPERATIONS CENTER (PROC)

11.1. Organization. The PROC has unique operations equipment. This equipment creates unique operational situations and procedures that set it aside from other RAOCS and SAOCS. The PROC is the primary control and surveillance facility, which integrates multiple radar sites to form a correlated recognizable air picture of the Puerto Rico (PR) area of operations. This facility is collocated with the Drug Interdiction Operations Center (DIOC). During day to day operations, PROC personnel works in coordination with the DIOC personnel, and performs Air Defense functions, only when fully manned by guardsmen during Unit Training Assemblies (UTA), Annual Field Training (AFT), or when specially tasked. The operations are divided into two functional areas: Battle Staff (BS) and the PROC, which is comprised of the MCC/MCCT, Weapons, Air Surveillance, and Identification sections. The PROC operational procedures outlined below can be supplemented, and amplified as required, by Director of Operations Operating Instructions (DOOIs).

11.2. Chain of Command:

11.2.1. Operationally: The MCC is responsible to USACOM/Puerto Rico Air National Guard (PRANG)-CC for the PROC operations. USACOM/(PRANG)-CC is responsible for employment of forces during peacetime and through all phases of conflict. In the event the Battle Staff Support Center (BSSC) is evacuated, BS personnel will relocate to an alternate location.

11.2.2. Administratively:

11.2.2.1. The 140ADS/CC (13B). The 140ADS/CC is responsible to the PRANG-CC. All personnel in the 140ADS are responsible to the 140ADS/CC. The 140ADS/CC becomes the site Command Post (CP) Commander during times of increased readiness.

11.2.2.2. The 140ADS/DO (13B). The 140ADS/DO is responsible to the 140ADS/CC for PROC personnel compliance with Operations, Training and Stan/Eval directives. During periods of increased readiness the 140ADS/DO will act as the Deputy CP Commander and fulfill those duties as directed by the 140ADS/CC.

11.2.2.3. Additional Duty Intelligence Officer (ADIO). ADIO duties include but are not limited to:

11.2.2.3.1. Advising the CC on the threat.

11.2.2.3.2. Planning and conducting training of operations personnel regarding intelligence matters.

11.2.2.3.3. Reviewing intelligence data including technical reports of equipment and estimating

probable courses of actions, force structures, and characteristics and capabilities of potential threats.

11.2.2.3.4. Maintains current situation maps, warning displays, and intelligence library.

11.2.2.3.5. Coordinates and integrates intelligence data from all sources available to unit.

11.2.2.3.6. Conducting studies of enemy forces and preparing intelligence reports and scenarios which realistically represent those forces.

11.2.2.4. Operations Superintendent (OS). The senior NCO (1C591/1C571) is normally designated as the OS, and is directly responsible to the unit Operations Officer for all administrative functions and the overall efficiency and discipline of assigned 1C5X1 personnel. The Operations Superintendent will:

11.2.2.4.1. Be familiar with equipment and weapons systems capabilities used in the PROC, the 140

ADS/OL-A, and in other service/allied command and control systems.

11.2.2.4.2. Employ 1C5X1 personnel to accomplish the assigned mission.

11.2.2.4.3. Maintain a current OIF in the radar operations room.

11.2.2.4.4. Ensure adequate administrative supplies and operations support equipment are available.

11.2.2.4.5. Ensure 1C5X1 personnel are aware of all operational policies and procedures.

11.2.2.4.6. Review operational reports to determine training needs and/or procedural deficiencies.

11.2.2.4.7. Determine operational problem areas and take appropriate action to ensure these problems are resolved.

11.3. PROC Operational Procedures:

11.3.1. MCC/MCCT. The MCC/MCCT will provide direct support to USACOM/PRANG-CC in command and control operations. The MCC is responsible for the conduct of all air sovereignty operations and training within the region during the duty shift. The MCC is normally in standby status and takes position during UTA, annual field training, contingencies, and as needed. The MCC will communicate directly with USACOM/PRANG-CC designated representative regarding air sovereignty operations IAW PROC directives. The MCC will exercise sound judgment insuring the safe and expeditious handling of all air sovereignty related events and up-channel reporting procedures within the region. Coordinates and directs activities of assigned radar units and/or other agencies and services. Relays instructions and information from higher headquarters elements to lateral units. The MCCT is responsible to the MCC and assists the MCC in supervising unit weapons, surveillance and identification sections. The MCCT is responsible for the administrative and operational conduct of enlisted personnel of the crew.

11.3.2. Weapons Section. The weapons section provides the control necessary for employment/positioning of air defense resources IAW governing regulations. The mission conducted within the PROC AOR could include air defense, air sovereignty, assistance to aircraft in distress, flight follow, and air refueling. Weapons control procedures and techniques are contained in MCM 3-1, AFI 11-214 as supplemented, and local governing directives. Weapons positions are SD, SDT, WD, and WDT.

11.3.2.1. Senior Director (SD) (13B). The SD is responsible to the MCC for all Weapons Directors (WD)/Weapons Director Technicians (WDT) assigned to the weapons section and manages interceptor scrambles target selection, and weapons assignment. The SD will be a fully qualified WD and be highly proficient in the operation of the console and associated communications

equipment. The SD must also be capable of rapidly evaluating the air defense threat situation and making timely defensive countermeasures. The SD will supervise the allocation of weapons and management of the weapons function at subordinate units. The SD will:

11.3.2.1.1. Conduct the weapons portion of the crew briefing prior to going on duty.

11.3.2.1.2. Understand system capabilities and limitations of unit, subordinate, lateral and other service/allied command and control systems within the PROC AOR.

11.3.2.1.3. Commit air defense weapons to counter the threat.

11.3.2.1.4. Coordinate interceptor scrambles and airborne orders.

11.3.2.1.5. Assign radio frequencies to specific consoles commensurate with mission require-ments.

11.3.2.1.6. Assign control of missions to WDs and coordinate aircraft handovers with other control agencies.

11.3.2.1.7. Monitor assigned missions to ensure effective mission accomplishments and flight safety.

11.3.2.1.8. Execute ROE.

11.3.2.1.9. Assign aircraft control to WD and provide mission status briefing.

11.3.2.1.10. Coordinate with the Operations Training Officer (OTO) to allocate training sorties to meet Minimum Training Requirements (MTR). Ensure all missions are briefed/debriefed. Coordinate with the MCC for Large Screen Display (LSD) presentation required by the weapons section.

11.3.2.1.11. Ensure all WDs are aware of existing and forecast weather conditions for their AOR and recovery bases.

11.3.2.1.12. Coordinate with the AST before initiating drop track switch actions. Provide a thorough position briefing to the relieving SD.

11.3.2.2. Senior Director Technician (SDT) (1C5X1). The SDT is operationally responsible to the SD and will assist the SD as directed. The SDT will be a qualified WDT and thoroughly familiar with WDT duties. The SDT will:

11.3.2.2.1. Understand systems capabilities and limitations of PROC equipment and equip-ment used in the 140ADS/OL-A, and in other service/allied command and control systems.

11.3.2.2.2. Be familiar with publications/procedures pertaining to weapons control, employ-ment, and ordnance jettison.

11.3.2.2.3. Coordinate with the WDT positions and other control agencies for the smooth transfer of tactical mission aircraft.

11.3.2.2.4. Be thoroughly familiar with authentication procedures.

11.3.2.2.5. Ensure usable voice transmission recordings from the Tape/Disk recorder are being accomplished IAW local directives.

11.3.2.2.6. Complete all forms and records required by the SD. Review all forms prepared by the weapons section for accuracy and content.

11.3.2.2.7. Be thoroughly familiar with Air Tasking Order (ATO) mission information.

11.3.2.2.8. Ensure WDTs are available for applicable missions.

11.3.2.2.9. Provide a thorough positional briefing to the relieving SDT.

11.3.2.3. Weapons Director (WD) (13B). The WD is responsible to the SD for the control of assigned missions. The WD will:

11.3.2.3.1. Understand system capabilities and limitations of unit equipment and equipment used in the 140ADS/OL-A, and other services or allied command and control systems.

11.3.2.3.2. Be thoroughly familiar with the performance and ordnance characteristics of all assigned weapons systems.

11.3.2.3.3. Ensure expeditious fighter positioning for interception and/or engagement of assigned airborne targets.

11.3.2.3.4. Ensure an orderly flow of aircraft for hand-off and recovery to other control agencies.

11.3.2.3.5. Inform the SD of conditions or situations that may seriously affect successful mission completion or aircraft safety.

11.3.2.3.6. Inform other WDs of any actions being taken that may affect their control actions.

11.3.2.3.7. Keep aircrew advised of tactical information that may affect mission accomplishment.

11.3.2.3.8. Pass controls instructions to aircrews and receives aircrew reports as required.

11.3.2.3.9. Obtain pilot weather reports from aircraft under control and relay them to SD/SDT.

11.3.2.3.10. Ensure maximum flight safety consistent with overall mission requirements.

11.3.2.3.11. Provide navigational and emergency assistance as required.

11.3.2.3.12. Ensure completion of all appropriate forms.

11.3.2.3.13. Maintain track continuity of assigned aircraft.

11.3.2.3.14. Be proficient in the use of authentication tables.

11.3.2.3.15. Thoroughly brief the relieving WD on the current operational situation.

11.3.2.4. Weapons Director Technician (WDT) (1C5X1). The WDT assists the WD in the performance of his duties, monitors mission progress, handles all internal and external telephone coordination, and all logkeeping duties. The WDT will:

11.3.2.4.1. Understand system capabilities and limitations of unit equipment and equipment used in the 140ADS/OL-A, and other services or allied command and control systems.

11.3.2.4.2. Be thoroughly familiar with performance/ordnance of weapons systems.

11.3.2.4.3. Report equipment outages or malfunctions to the MCCT.

11.3.2.4.4. Be proficient in the use of authentication tables.

11.3.2.4.5. Report mission results/in-flight to the SDT.

11.3.2.4.6. Know how to extract ATO mission information, characteristics of all assigned weapons.

11.3.2.4.7. Relay all in-flight reports to the ADIO.

11.3.2.4.8. Thoroughly brief the relieving WDT on the current operational situation.

11.3.3. Air Surveillance Section. The air surveillance section provides detection, collection, and reporting of air surveillance. This section maintains the air picture and displays tactical data of operational significance within the AOR. This section also directs the optimum configuration of sensors for effective radar coverage.

11.3.3.1. Air Surveillance Technician (AST) (1C5X1). The AST is responsible to the MCC for the accomplishment of surveillance functions and for both, training and the supervision of all surveillance personnel. The AST will coordinate with the SD, DQM, and IDT to ensure an accurate display of air surveillance data, including interface data from other resources. The AST will:

11.3.3.1.1. Supervise all functions of the surveillance section: DQM, TT.

11.3.3.1.2. Supervise the timely and accurate collection, display and dissemination of air surveillance data.

11.3.3.1.3. Brief oncoming crewmembers on current or anticipated operations, equipment and communication operational status.

11.3.3.1.4. Ensure the Air Surveillance section manning is adequate to meet mission requirements.

11.3.3.1.5. Understand PROC system capabilities and limitations, and advise the MCC/ MCCT, DQM and maintenance operations center of any malfunctions or equipment degradation that has occurred.

11.3.3.1.6. Advise the MCC of system capabilities and limitations as they occur.

11.3.3.1.7. Assign Surveillance AORs to each TT.

11.3.3.1.8. Analyze and report unusual scope presentations (Electronic Attack (EA), weather, and transient interference) to the appropriate agencies.

11.3.3.1.9. Coordinate with other command and control elements to establish track filter criteria.

11.3.3.1.10. Thoroughly brief the relieving AST on the current operational situation and air picture.

11.3.3.1.11. Ensure completion of all required reports and logs.

11.3.3.2. Data Quality Monitor (DQM) (1C5X1). The DQM is responsible to the AST for maintaining the best possible air picture through the use of radar auxiliaries, adjustment of consoles and local blanking filters. The DQM must coordinate with the maintenance operations center, radar technicians, computer operators, and communications technicians to ensure a high quality of input data display and output data to lateral agencies and higher headquarters. The DQM will:

11.3.3.2.1. Monitor and update all link status.

11.3.3.2.2. Monitor radar messages counts.

11.3.3.2.3. Set up, display and update radar filters as required.

11.3.3.2.4. Monitor and update radar status.

11.3.3.2.5. Brief the reliving DQM on the current situation and any pertinent information.

11.3.3.3. Tracking Technician (TT) (1C5X1). The TT is responsible to the AST for track detection, initiation, and telling of all airborne objects within the PROC AOR.

11.3.3.3.1. Responsible of initiating as tracks all radar plots observed within assigned AOR.

11.3.3.3.2. Maintain all computer tracks correlated to its corresponding object and drop tracks as required within AOR.

11.3.3.3.3. Have knowledge and understanding of radar equipment capabilities and limitations.

11.3.3.3.4. Report all unusual console presentations and any equipment malfunctions to the AST.

11.3.3.3.5. Perform height checks.

11.3.3.3.6. Perform manual track telling duties as assigned.

11.3.3.3.7. Notify the AST of any unusual flight behaviors.

11.3.3.3.8. Brief the relieving TT on the actual air picture and any pertinent information.

11.3.3.4. Interface Control Coordinator (ICC) (1C5X1). The ICC is responsible to the AST for the configuration and operation of the link, and other interface equipment with this section. The ICT will:

11.3.3.4.1. Initiate communication with data link participants.

11.3.3.4.2. Monitor the quality and quantity of track data received from and sent to the participants.

11.3.3.4.3. Coordinate equipment turn in/out and report malfunctions to the MCC/MCCT.

11.3.3.4.4. Coordinate the designation and use of frequencies and/or channels assigned to interface data links and voice nets as required.

11.3.3.4.5. Coordinate and direct DLRP, daily cryptographic mode(s), and key change for all communications links.

11.3.3.4.6. Brief the relieving ICC on the current operational situation.

11.3.4. Identification Section. Provides a prompt and accurate identification of all air activity detected within assigned AOR.

11.3.4.1. Identification Technician (IDT) (1C5X1). The IDT is responsible to the MCC/T for proper identification of air traffic IAW applicable regulations. The IDT monitors all tracks of special interest to ensure they conform to the approved route/altitude of flight, or reports deviations to the MCC for appropriate action. The IDT coordinates as necessary with the appropriate air traffic control facility regarding the identification of aircraft within the PROC AOR. The IDT will:

11.3.4.1.1. Ensure all tracks are properly identified IAW applicable directives.

11.3.4.1.2. Notify the MCC/MCCT of all tracks that cannot be identified IAW established criteria and pursue all means available to obtain an identity.

11.3.4.1.3. Notify the MCC/MCCT of all identification incidents in the identification section.

11.3.4.1.4. Adhere to identification criteria in accordance with ROE and other air defense procedures.

11.3.4.1.5. Thoroughly brief the relieving IDT on the current situation.

11.4. Puerto Rico Operations Center (PROC) Manning

11.4.1. Minimum Manning. These are the minimum personnel required to man the PROC during normal peacetime operations. The DO may alter the numbers as needed to accomplish the mission, however positional requirements will never fall below the levels indicated in **table 11.1.**

Table 11.1. PROC Minimum Manning Requirements—Peacetime Operations.

POSITION	DAY TO DAY OPERATIONS	AIR DEFENSE OPERATIONS
MCC	(NOTE 1)	1 (NOTE 2)
MCCT	(NOTE 1)	1 (NOTE 2)
SD	1	1 (NOTE 2)
SDT	(NOTE 1)	1 (NOTE 2)
WD	1	1 (NOTE 2)
WDT	1	1 (NOTE 2)
AST	(NOTE 1)	1 (NOTE 2)
DQM	(NOTE 1)	1 (NOTE 2)
TT	(NOTE 1)	2 (NOTE 2)
ICC	(NOTE 1)	1 (NOTE 2)
IDT	(NOTE 1)	2 (NOTE 2)

Notes:

1. During day to day operations, the technician force runs PROC operations. These positions needs not to be covered, although, the technicians will cover this duties as well as their own.

2. PROC runs with a full crew only during unit Training Assemblies, Annual Field Training, or when specially tasked.

11.5. Documentation. The PROC will adhere to the provisions described in Chapter 8 of this instruction except as noted:

11.5.1. Operations Information File (OIF). The OIF will be maintained as per ACCI 13-SAOCOIF, Volume 3. The PROC will not maintain a deployable OIF.

11.5.2. Logbooks. Logbooks will be maintained at the MCC, SD, AST and ICC positions. The AST logbook will also include those entries required by Chap 8 at the DQM position. ICC logbook requirements will be as specified in an OOI.

11.5.3. Operations Checklist. The Weapons and Surveillance checklists may be integrated with operations checklists and quick reference guides in one binder.   The 140ADS/DO will publish an OOI standardizing the binder.

11.6. Radar Data Management. The PROC will manage radar data IAW chapter 9 of this instruction except as indicated below:

11.6.1. Data Quality Monitoring.

11.6.1.1. The PROC will develop LOAs/MOAs between the FAA, US Navy (USN), United Forces for Rapid Action (FURA), US Customs Service (USCS) and any other agency requesting to share the radar data. LOAs/MOAs will establish equipment malfunction reporting and procedures for data control.

11.6.1.2. Equipment Malfunctions. All malfunctions will be reported and coordinated through the 140ADS Maintenance Control Section (LGKM) and will be logged in the AST logbook.

11.6.1.3. Sensor Sites. The PROC DQM will coordinate with site manager or designated representative for any requests that might affect joint use.

11.6.1.4. PROC Display. The MCC is responsible for coordinating with the USCS representative any changes to the PROC system that might affect joint use.

Chapter 12

HAWAII REGION AIR OPERATIONS CENTER (HIRAOC)

12.1. Organization. The HIRAOC is divided into two functional areas: Battle Staff (BS) and the Operation Control Center (OCC). The BS is responsible for management of the air battle. The OCC is responsible for Command and Control (C2) Weapons, Air Surveillance, and Identification Sections.

12.2. Battle Staff. When formed, the BS directs Sector/Region air defense/air sovereignty activities. Additionally, it directs and coordinates activities of subordinate radar units, relays instructions from senior PACOM/CINCPAC/PACAF elements to subordinate and lateral units, and coordinates allocation and employment of air defense resources. The BS is assigned or allocated air defense resources, e.g., interceptor, early warning aircraft, etc., that are necessary to defend the Hawaiian Air Defense Region (HADR). These resources are used by the ADC via the Mission Crew Commander (MCC) for the conduct of assigned responsibilities. The BS is comprised of, but not limited to, the following positions that will be manned at the discretion of the ADC to accomplish the assigned mission.

12.2.1. Air Defense Commander (ADC). The ADC shall be the senior ranking officer not lower than the rank of Lieutenant Colonel. The ADC is responsible for implementing air defense/air sovereignty through employment of the forces assigned or made available.

12.2.2. Director of Director (DO). The DO is responsible to the ADC for the supervision of all region operations. The DO will:

12.2.2.1. Implement PACOM/CINCPAC/PACAF policy and formulate methods and procedures for Sector operations.

12.2.2.2. Maintain and analyze operational records that are required by higher headquarters.

12.2.2.3. Identify personnel requirements to accomplish the assigned mission.

12.2.2.4. Be fully conversant with OPLANs/OPORDs/SOPs pertinent to the Region mission.

12.2.2.5. Be knowledgeable of the duties of the MCC.

12.2.3. Aircraft Control and Warning Officer (ACWO) (13B). The ACWO is responsible to the ADC through the DO. The ACWO will advise the ADC on assigned sensor assets and function as the Sector's Ground Environment Resources Manager. The ACWO ensures the Sector's operations and contingency plans are carried out by ground environment units and provides the BS E-3 employment recommendations.

12.2.4. Intelligence Noncommissioned Officer (INCO). The INCO duties on the BS include, but are not limited to:

12.2.4.1. Advising the ADC on the threat.

12.2.4.2. Planning and conducting training of operations personnel regarding intelligence matters.

12.2.4.3. Reviewing intelligence data including technical reports of equipment and estimating probable courses of actions, force structures, and characteristics and capabilities of potential threats.

12.2.4.4. Maintaining current situation maps, warning displays, local data base, and the intelligence library.

12.2.4.5. Coordinating and integrating intelligence data from all sources available to the HIRAOC. This includes tasking intelligence collection organizations.

12.2.4.6. Conducting studies of enemy forces and preparing intelligence reports and scenarios which realistically represent those forces.

12.2.4.7. Receiving and relaying all reports and other intelligence items to higher headquarters as required.

12.2.5. Fighter Officer (FO). The FO is responsible to the ADC through the DO for direction and recommendations for the use of assigned fighter/tanker resources, using applicable OPLANs and ADC direction to ensure appropriate fighter/tanker employment. The FO ensures applicable operations and contingency plans are carried out by fighter/tanker units and tracks the combat readiness of assigned fighter units.

12.2.6. E-3 Coordinator (13B). The E-3 Coordinator is responsible through the ACWO to the ADC for coordinating all aspects of E-3 participation in the AOR.

12.3. Operations Control Center (OCC). The OCC is the focal point for the conduct of weapons, surveillance, and identification functions. It is tasked to support the PACOM/CINCPAC/PACAF mission on a continuous basis and is supervised by the MCC. The OCC is manned by the following duty positions:

12.3.1. MCC/Mission Crew Command Technician (MCCT) (13B/1C5X1). The MCC is the on-duty representative for the Air Defense Commander and is responsible for the conduct of all air sovereignty/air defense operations, training and emergency actions within the Region during the duty shift. The MCC will exercise sound judgment, ensuring the safe and expeditious handling of all air sovereignty/air defense related events within the Region. The MCC works for the HIRAOC Director of Operations administratively and is operationally responsive to the Air Defense Commander/DO. The MCCT assists the MCC in supervising the conduct of air sovereignty/air defense operations and training.

12.3.2. The Emergency Action Coordinator (EAC) (13B/1C5X1). Focal point for all information into and out of the BS. Responsible to the ADC for drafting and dissemination of changes in air defense status. Responsible for LERTCON and SROE checklist implementation. Supervision of Battle Staff Control Technician team and administrative support. Responsible for dissemination of message traffic and up channel and lateral reports. The EAC is responsible for encrypting, and decrypting all Emergency Action Message (EAM) and providing emergency action guidance to battle staff IAW applicable AFI. The EAC will be familiar with emergency action team procedures and shall be fully conversant with all regulations and procedures that apply. The EAC works for the ADC during increased alert status or exercises.

12.3.3. Weapons:

12.3.3.1. Senior Director (SD)/Senior Director Technician (SD/T) (13B/1C5X1). The SD is responsible to the MCC for battle management and the use of the fighter forces in the assigned AOR. The SD will supervise the Weapons Directors (WD) employment of resources during both daily training and wartime/peacetime missions. The SD will coordinate with the MCC to ensure effective battle management. The SD/T assists the SD with the supervision of the weapons teams.

12.3.3.2. WD/Weapons Director Technician (WDT) (1C5X1D). The WD is responsible to the SD for effective utilization of assigned forces during either wartime/peacetime operations or training. The WD and Aircrew are responsible for defending their AOR. The WDT, as the controller's assistant, handles all internal and external telephone coordination, all log keeping duties, and enters, as directed, computer instructions for the mission.

12.3.4. Identification (1C5X1). The Identification Technician (IDT) is responsible to the MCC for the identification of all traffic IAW governing regulations. The IDT monitors all tracks of special interest to ensure they conform to the approved route/altitude of flight or reports deviations to the MCC for appropriate action. The IDT coordinates as necessary with the appropriate air traffic control facility regarding the identification of aircraft with the AOR.

12.3.5. Surveillance. The Air Surveillance section is responsible for detecting, tracking and reporting of air surveillance data and interfacing of other source data into one complete air picture. This section also directs the optimum configuration of sensors for effective radar coverage.

12.3.5.1. Air Surveillance Technician (AST) (1C5X1). The AST is responsible to the MCC for the maintenance of an optimal air picture within the AOR. The AST is responsible for the management of all air surveillance functions and personnel within their section.

12.3.5.2. Data Quality Monitor (DQM) (1C5X1). The DQM is responsible to the AST for maintaining the best air picture possible through judicious use of available electronic protection (EP) fixes and HIRAOC computer capabilities. The DQM is responsible for coordinating this activity with the JSS/FAA supervisors.

12.3.5.3. Tracking Technician (TT) (1C5X1). The TT is responsible to the AST for performing tracking (active and passive), height checks, if required; and manual track telling duties as assigned. The TT is responsible for an assigned AOR.

12.3.5.4. Interface Control Technician (ICT) (1C5X1). The ICT is responsible for the configuration and operation of the data link, interface equipment within this section. The ICT is responsible for initiating communications with data link participants, and monitoring the quality and quantity of track data received from and sent to external sources other than Sector radar sites.

12.3.6. Simulation. During exercises and crew training periods, an additional section is formed to simulate external participants. All duty positions within the simulation section are unit certified.

12.4. HIRAOC Minimum Manning Requirements. The HIRAOC requires the necessary manning to adequately conduct the assigned mission continuously. Manning requirements will be determined by the HIRAOC Director of Operations. It will cover day-to-day operations, periods of increased readiness, and exercises; however, manning shall not be less than that shown in **table 12.1.**

Table 12.1. HIRAOC Minimum Manning Requirements.

POSITION	**MINIMUM/MIDS**
MCC	1
MCCT	1
EAC	1 (Note 1)
SD	1

POSITION	**MINIMUM/MIDS**
SDT	1
WD	1
WDT	1
AST	1
TT	2
IDT	2
MIT	Optional
ICC	1(Note 1)
DQM	1 (Note 2)

NOTES: The HIRAOC Director of Operations may determine manning requirements to meet the operation workload on all shifts, weekends and holidays, but they will never fall below the minimum manning set for mids.

1. A qualified person in this position may be manned against another position requiring equal qualification.

2. AST performs DQM functions if qualified. (Night Shifts only)

12.5. Degraded Control Environment. There are three basic types of degradation to the control ability. In ascending order of severity of impact, they are: loss of radar, loss of computer, and loss of communications. The type of degradation affects both the transfer of surveillance and control to other agencies and the delegation of command authorities. Specific procedures are outlined in Standard Operating Procedures for Hawaiian Air Defense Region and local directives.

12.5.1. Degraded Radar Procedures:

12.5.1.1. Surveillance. When the loss of a radar picture prevents the HIRAOC from detecting aircraft:

12.5.1.1.1. If an AWACS is on station with ADIZ coverage, its surveillance AOR will be expanded within the ADIZ without an orbit change. TADIL-A link or voice tell from an AWACS will be displayed in the HIRAOC computer and identified using standard operating procedures. The AST will take immediate action to establish the tell required, determining priority areas of voice tell to ensure mission requirements are met. The AST, through the MCC, will recommend to the BD an AWACS orbit change and/or other means to reconfigure to support the active air defense mission as necessary.

12.5.1.1.2. If available, GTACS can be used in-garrison to provide surveillance capability.

12.5.1.2. Weapons. Command would be retained at the HIRAOC. Airborne fighters would be informed of the situation by the HIRAOC WD and directed to implement autonomous control procedures IAW the SOP for HADR Air Defense as appropriate.

12.5.1.3. HIRAOC Computer Non-Mission Capable (NMC) Procedures. Loss of the computer prevents the HIRAOC from detecting, identifying or controlling aircraft anywhere in the AOR. Any TADIL-A link to the RADIL would be maintained to facilitate rapid reconstruction of the

HIRAOC air picture and to provide key BS personnel a visual reference to any critical air situation. All communications links would be maintained. Airborne fighters would informed of the situation and directed to implement the proper level of autonomous control procedures IAW the SOP for HADR Air Defense as appropriate. Once restored to at least PMC, the HIRAOC will resume operations at the appropriate level.

12.5.1.4. HIRAOC Communications Out Procedures. Loss of most or all of the HIRAOC's communications would probably dictate a change in the C^2 identifiers. Airborne fighters would have to recognize the communications loss and implement autonomous operations. Peacetime constraints require employment of specific procedures and the use of HIRAOC safety monitors when practicing autonomous operations during exercises.

MARVIN R. ESMOND,   Lt General, USAF
DCS/Air and Space Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

JCS Pub 3.56, *Tactical C2 Planning Guidance and Procedures for Joint Operations*

AFPD 13-1, *Theater Air Control System*

AFTTP 3-1, *Air Force Tactics, Techniques, and Procedures*

AFI 10-707, *Spectrum Interference Resolution Program*

AFI 11-2E-3/TC-18 Volume 3, *E-3/TC-18 Operations Procedures*

AFI 11-214, *Aircrew, Weapons Director, and Terminal Attack Controller Procedures for Air Operations*

AFI 31-207, *Arming and Use of Force By Air Force Personnel*

AFI 33-211, *Communications Security (COMSEC) Requirements*

AFMAN 37-139, *Records Disposition Schedule*

NORAD Instruction (NI) 10-4, *NORAD Emergency Action Procedures*

NI 10-8, (S) *NORAD E-3 Operating Procedures (U)*

NI 10-15, *Identification of Air Traffic*

NI 10-18, *NORAD Region Ground Environment System Configurations*

NI 10-41, (S) *Wartime Safe Passage of Friendly Aircraft (U)*

NR 55-68, (S) *NORAD Identification Friend or Foe Identification Feature (SIF) Instructions (U)*

ACCIADOIF, *Air Defense Operations Information File*

ACCR 55-74, *CONUS SOCC Data Quality*

PACAF Instruction 10-601, *Command and Control Operations Procedures*

Abbreviations and Acronyms

AAMDS—Automated Air Movement Data System

ACC—Air Combat Command

ACC/OAC—Area Control Center/Oceanic Area Control

ACCI—Air Combat Command Instruction

ACWO—Aircraft Control and Warning Officer

ADC—Air Defense Center

ADCCP—Advanced Communications Protocol

ADCF—Air Defense Control Facility

ADD—Air Defense Director

ADE—Air Defense Emergency

ADIZ—Air Defense Identification Zone

ADNET—Anti-Drug Network

ADS—Air Defense Squadron; Air Defense System

ADT—Air Defense Technician

AETACS—Airborne Elements of the Theater Air Control System

AEW—Airborne Early Warning

AICC—Air Intercept Control Common

AICU—Advanced Interface Control Unit

AMD—Air Movement Data

AMIS—Air Movement Information System

ANGB—Air National Guard Base

AOCAICU—Air Operations Center AICU

AOC—Air Operations Center

AOR—Area of Responsibility

ARTCC—Air Route Traffic Control Center

ASO—Air Surveillance Officer

AST—Air Surveillance Technician

ATDL—Army Tactical Data Link

ATDS—Airborne Tactical Data System

MTS—Advanced Tracking System

AWACS—Airborne Warning and Control System

AWO—Air Weapons Officer

BC—Battle Commander

BRL—Bomb Release Line

BS—Battle Staff

C2—Command and Control

C3—Command, Control, and Communications

C3I—Command, Control, Communications, and Intelligence

CAF—Combined Air Forces

CANR—Canadian ROCC

CAP—Combat Air Patrol

CARIBROC—Caribbean Region Operations Center

CBRN—Caribbean Basin Radar Network

CC—Central Computer

CCO—Communications-Computer Operations

CCTV—Closed Circuit Television

CDS—Combat Director System

CEO—Communications and Electronics Officer

CF—Canadian Forces

CINC—Commander in Chief

CINCUSACOM—Commander-in-Chief, Atlantic

CINCNORAD—Commander-in-Chief, North American Aerospace Defense Command

CMAFS—Cheyenne Mountain Air Force Station

CMC—Cheyenne Mountain Complex

COMICEDEFOR—Commander, Iceland Defense Forces

COMSEC—Communications Security

CONPLAN—Contingency Plan

CONR—CONUS NORAD Region

CONUS—Continental United States

CONUS RAOC—CONUS Region Air Operations Center

CP—Command Post

CRC—Control and Reporting Center

CRE—Control and Reporting Element

CSO—Communication System Operator

CW—Continuous Wave

DAICC—Domestic Air Indication Coordination Center

DE—Defense Emergency

DEFCON—Defense Condition

DLRP—Data Link Reference Point

DO—Director of Operations

DOD—Department of Defense

DOOI—Director of Operations Operating Instruction

DQM—Data Quality Monitor

DRPCADigital Remote Programmable Conference Arranger

DSN—Defense Switched Network

DTS—Data Terminal Set

EA—Electronic Attack

EAC—Emergency Action Coordinator

EAM—Emergency Action Message

EBS—Extended Battle Staff

ECRS—East Coast Radar System

ECTAR—Electronic Combat Tactical Action Reports

EP—Electronic Protection

EPM—Electronic Protection Measures

ESR—Equipment Status Report

ETRO—Estimated Time to Return to Operation

FAA—Federal Aviation Administration

FS—Fighter Squadron

FM—Frequency Modulated

FMC—Fully Mission Capable

FO—Fighter Officer

FOSIC—Fleet Oceanic Surveillance and Intelligence Center

FPS—Flight Path Simulator

G/A/G—Ground/Air/Ground

GDSO—General, Deployment and Sustainment Officer

GTACS—Ground Theater Air Control System

HF—High Frequency

I&W—Indications and Warning

IAW—In accordance with

ICT—Interface Control Technician

ICRC—Iceland Region Operations Control Center

ICO—Interface Control Officer

IDF/ICAA—Iceland Defense Force/Iceland Civil Aviation Administration.

IDT—Identification Technician

IFF/SIF—Identification Friend or Foe/Selective Identification Feature

IJMS—Interim JTIDS Message Specification

IO—Intelligence Officer

IPS—Interceptor Pilot Simulator

ITW&A—Integrated Tactical Warning and Attach Assessment

JCS—Joint Chiefs of Staff

JCP—Joint Command Post

JOTS—Joint Operational Tactical System

JSS—Joint Surveillance System

JTAO—Joint Tactical Air Operations

JTIDS—Joint Tactical Information Distribution System

JVIDS—Joint Visual Information Display System

LEA—Law Enforcement Agency

LERTCON—Alert Condition

LMS—Link Monitoring System

LOA—Letter of Agreement

LOS—Line-of-Sight

LRR—Long Range Radar

LSVD—Large Screen Visual Display

MACCS—Marine Air Command and Control System

MADIZ—Military Air Defense Identification Zone

MCC—Mission Crew Commander

MCCT—Mission Crew Commander Technician

MCE—Modular Control Equipment

MCS—Modular Control System

MIG—MCE Interface Group

MIT—Manual Inputs Technician

MOU—Memorandum of Understanding

MOC—Maintenance Operations Center

MRL—Missile Release Line

MTR—Minimum Training Requirements

NABS—NORAD Airborne Battle Staff

NAS—NORAD Alert System

NCA—National Command Authorities

NCC—NORAD Command Center

NCS—Net Control System

NM—Nautical mile

NMC—Non-Mission Capable

NOM—National Airspace System Operation Manager

NORAD—North American Aerospace Defense Command

NOTAM—Notices to Airmen

NSSF—NORAD Software Support Facility

NTDS—Naval Tactical Data Systems

NWS—North Warning System

ODC—Operations Display Console

OG—Operations Group

OI—Operating Instructions

OIF—Operations Information File

OM—Operations Module

OPCON—Operational Control

OPDAT—Operations Data

OPLAN—Operations Plan

OPORD—Operations Order

OPREP—Operations Report

OTH-B—Over-the-Horizon Backscatter

OTO—Operations Training Officer

P/NMC—Partially/Non-Mission Capable

PRIS—Puerto Rican Radar Integration Site

PROC—Puerto Rican Operations Center

PSO—Program Support Office

PU—Participating Unit

QRG—Quick Reference Guide

RADIL—RAOC/AWACS Digital Information Link

RAOC—Region Air Operations Center

RAT—Remote Access Terminal

RDU—Radar Display Unit

ROE—Rules of Engagement

ROTHR—Relocatable Over-the-Horizon Radar

RTQC—Real Time Quality Control

SATCOM—Satellite Communications

SCAT—Security Control of Air Traffic

SD—Senior Director

SDT—Senior Director Technician

MCC—Mission Crew Commander

MCCT—Mission Crew Commander Technician

SE—Southeast; System Engineer

SHF—Super High Frequency

SHORAD—Short Range Air Defense

SAOC—Sector Air Operations Center

SPACC—Space Command

SROC—Southern Region Operations Center

SRR—Short Range Radar

STE—System Training Exercise

STOP—Strategic Orbit Point

TACON—Tactical Control

TACS—Theater Air Control System

TADIL—Tactical Digital Information Link

TARS—Tethered Aerostat Radar System

TDC—Track Data Coordinator

TFA—Temporary Free Area

TgM—Target Monitor

TgMC—Target Monitor Chief

TgMCT—Target Monitor Chief Technician

TgMT—Target Monitor Technician

TT—Tracking Technician

TW/AA—Threat Warning/Attack Assessment

UAR—Unattended Radar

UHF—Ultra High Frequency

USAF—US Air Force

USELMNORAD—US Element NORAD

USACOM—US Atlantic Command

USMC—United States Marine Corps

USMTF—United States Message Text Format

USN—US Navy

USSOUTHCOM—US Southern Command

VHF—Very High Frequency

WCRS—West Coast Radar System

WD—Weapons Director

WDT—Weapons Director Technician

WO—Weather Officer