BY ORDER OF THE COMMANDER
AIR COMBAT COMMAND

AIR FORCE INSTRUCTION 21-103

AIR COMBAT COMMAND
Supplement

ADDENDUM_KK

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Maintenance

EQUIPMENT INVENTORY, STATUS, AND UTILIZATION REPORTING SYSTEM/ BATTLE CONTROL CENTER MINIMUM ESSENTIAL SUBSYSTEM LIST (MESL)

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

OPR: HQ ACC/A6CC

Certified by: HQ ACC/A6C
(Lt Col John P. Boudreaux)

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Pages: 14

This addendum compliments AFI 21-103*, Equipment Inventory, Status, and Utilization Reporting*, and the Air Combat Command (ACC) supplement. It applies to all Battle Control Centers (previously known as Air Defense Sector) ACC units. It applies to the Air National Guard. It does not apply to the Air Force Reserve Command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims**/. Contact supporting records managers as required. Send recommended changes or comments using AF Form 847, *Recommendation for Change of Publication***,** to HQ ACC/A6C, 180 Benedict Ave, Suite 217, Langley AFB VA 23665-1993; forward information copies to the applicable office of collateral responsibility.

SUMMARY OF CHANGES

This interim change revises AFI21-103_ACCSUP_ADDENDUM-KK by (1) adding a Tier waiver (T-3) reference to the only directive statement in the MESL, (2) adding an adopted form reference to Attachment 1(AF Form 874 / used to recommend publication changes), (3) deleting Table 3 and the line entry for the NORAD Contingency Suite (NCS) C2 processor system in Table 1 since the NCS is no longer in Homeland Air Defense service, (4) updated Table 1 to include new adjunct systems (renumbered Table 1 accordingly), (5) a complete revision of Table 2 for the BCS-F v3.2 C2 processor system, and (6) updated MESL for organizational/personnel changes.

1. General. The minimum essential subsystem list (MESL) is the basis of status reporting in accordance with AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*. MESLs lay the ground work for reporting the status of command and control (C2) system availability. They list the minimum essential systems and subsystems that must work on a national security system for it to perform specifically assigned unit wartime, peacetime, counter drug, training, test or other missions (i.e. Operation Noble Eagle).

1.1. Qualifying notes are used to define system exceptions and help explain complex degraded mission systems such as the playback and recording servers.

1.2. National Security System and Information Technology (NSS-IT) system status for mission accomplishment: The goal is to support missions assigned to the NSS-IT system, recognizing status actually achieved may be less than fully mission capable. A not mission capable (NMC) status of a Battle Control Center's (BCC) NSS-IT systems will require transfer of operational responsibilities whenever the NMC condition exceeds acceptable time limits.

1.3. All Combat Air Force (CAF) units will use this ACC MESL as a guideline for determining mission capability and status reporting (T-3) (*).

2. Reading the MESL. A MESL is read by comparing the systems stated by work unit code (WUC) against the Full Systems List (FSL) and all applicable Basic Systems Lists (BSL) across the page. Each unit's Designed Operational Capability (DOC) statement determines applicability of BSL columns. The weapons system MESLs incorporate all ACC assigned systems and therefore it is important to compare only those columns listed in the MESL, which are applicable to the unit's assigned mission. For example, units with CC (wartime) coded mission would determine and report status using only the FSL and BSL columns directly related to their DOC statement. The BCCs' primary missions are to provide command and control, surveillance, identification, and intercept control in support of strategic air defense missions of the tactical warning/attack assessment and control of access to US sovereign airspace and protection of key US resources. Units with test coded mission systems would determine and report status using only the FSL and training columns.

Table 1. Battle Control Center Full Systems List

ITEM	WUC	Description	FSL	BSL	NOTES	FMC	PMC	NMC
1	AQ000	AN/FYQ-156A (BCS-F)	X	X		1	1[Note 1]	0
2	N/A	FAA NAS AMD Servers	X	X		2	1	0
3	N/A	FAA NAS AMD Flight Data Processor(*)	X	X		2	1	0
4	N/A	RADARS - JSS Perimeter (Only includes base-lined radar systems assigned with sectors area of operations)	X	X	AKRAOC is PMC between 75% and 100% and NMC with less than 75% HIRAOC is PMC with 50% of JSS radars	75% to 100%	50% to 74%	0 to 49%
ITEM	WUC	Description	FSL	BSL	NOTES	FMC	PMC	NMC
5	N/A	RADARS – JSS Interior (Only includes base-lined radar systems assigned)	X	X		80% to 100%	50% to 79%	0 to 49%
6	N/A	RADARS – National Capital Region (NCR)	X	X	Not at AKRAOC or HIRAOC	80% to 100%	50% to 79%	0 to 49%
7	N/A	RADIO Coverage – JSS GATR and Interior RCAG Sites	X	X		80% to 100%	50% to 79%	0 to 49%
8	N/A	RADIO Coverage – NCR	X	X		80% to	50% to	0 to 49%

						100%	**79%**	
9	**N/A**	**UHF Secure Voice**	**X**	**X**	Only at HIRAOC	**80% to 100%**	**50% to 79%**	**0 to 49%**
10	**N/A**	**Air Defense System Integrator (ADSI)**	**X**	**X**	Not at AKRAOC	**2**	**0**[Note 1]	**N/A**
11	**N/A**	**Mission Voice Platform (MVP)**	**X**	**X**	**Note 2**	**75% to 100%**	**50% to 74%**	**0 to 49%**
12	**N/A**	**Air Defense Communication System (ADCS)**	**X**	**X**		**1**	**0**	**0**
13	**N/A**	**Air Force Tactical Receive System (AFTRS-V3) (*)**	**X**	**X**		**1**	**N/A**	**N/A**
14	**N/A**	**Air and Marine Operations Surveillance System(*)**	**X**	**X**		**1**	**N/A**	**N/A**
15	**N/A**	**Automatic Detection and Processing Terminal(*)**	**X**	**X**		**1**	**N/A**	**N/A**
16	**N/A**	**CI-33 Remote Rekey System (*)**	**X**	**X**		**1**	**N/A**	**N/A**
17	**N/A**	**CONR Forensic Suite(*)**	**X**	**X**		**1**	**N/A**	**N/A**
18	**N/A**	**Defense Red Switch Network**	**X**	**X**	**HIRAOC** FMC=1 PMC=N/A	**2**	**1**	**N/A**
ITEM	**WUC**	**Description**	**FSL**	**BSL**	**NOTES**	**FMC**	**PMC**	**NMC**
	N/A	**Multifunctional Digital Adapter (MDA) / Digital Phone Multiplexers (DPM)**	**X**	**X**		**2**	**1**	**N/A**
	N/A	**Inter-Switch-Trunk (IST)**	**X**	**X**	**HIRAOC** FMC=2 PMC=1	**3-5**	**2**	**N/A**
	N/A	**KIV-7**	**X**	**X**	**HIRAOC** FMC=1 PMC=N/A	**2**	**1**	**N/A**
19	**N/A**	**LINK 11A**						

	N/A	DTS (AN/USQ-125)	X	X	AKRAOC HIRAOC FMC=1 PMC=0	2	0	N/A
	N/A	KG-40	X	X	AKRAOC HIRAOC FMC=1 PMC=0	2	1	N/A
20	N/A	GCCS-J (NOFORN)	X	X	Not at AKRAOC			
	N/A	GCCS-J Agile Client / COP	X	X		1	N/A	N/A
	N/A	GCCS-J TMS	X	X		2	1	N/A
21	N/A	GCCS-N	X	X	HIRAOC, FMC=2 PMC=N/A			
	N/A	GCCS-N Agile Client / COP	X	X		1	N/A	N/A
	N/A	GCCS-N TMS	X	X		2	1	N/A
22	N/A	HF – VOICE	X	X		2	1 Note 1	N/A
	N/A	HF – Secure Voice	X	X		2	1	N/A
23	N/A	HF – DATA	X	X	AKRAOC FMC=1 PMC=0	3	1 Note 1	N/A
	N/A	HF Data Radio Controller	X	X		2	0	N/A
24	N/A	UHF SATCOM Voice (PRC-117 and PSC-5)	X	X	AKRAOC FMC=1 PMC=0 Not at HIRAOC	5	1 Note 1	N/A
25	N/A	JTEP	X	X	Not at HIRAOC	1	0	N/A
	N/A	JRE	X	X	Not at HIRAOC	2	0	N/A
	N/A	TMPG	X	X	Not at HIRAOC	1	0	N/A
	N/A	SADL A-EPLRS RADIO	X	X	Not at HIRAOC	1	0	N/A
ITEM	WUC	Description	FSL	BSL	NOTES	FMC	PMC	NMC
	N/A	PRC-117 SATCOM RADIO	X	X	Not at HIRAOC	1	0	N/A
	N/A	Link 16 Terminal (MIDS LVT II Radio)	X	X		1	0	N/A
26	N/A	JWICS	X		Not at HIRAOC	1	0	N/A
	N/A	Integrated Broadcast Service (IBS)	X			1	0	N/A
27	N/A	NIPRNET(*)	X			1	0	N/A

28	N/A	Radio Net Controller(*)	X	X		1	0	N/A
29	N/A	RELCAN SIPRNET	X	X		1	Note 1	N/A
30	N/A	TBMCS	X	X	Not at HIRAOC	1	0	N/A
31	N/A	US Only SIPRNET	X			1	0Note 1	N/A
32	N/A	FAA TSD	X	X		1	0	N/A
33	N/A	Secure VOIP	X	X	AKRAOC FMC=7 PMC=4 Not at HIRAOC	20	10	N/A
34	N/A	UHF SATCOM Data	X	X	Not at AKRAOC or HIRAOC	2	1Note 1	N/A
35	N/A	STEs or OMNIs for LINK 11B/Serial J	X		HIRAOC FMC=4 PMC=2 AKRAOC, FMC= 3 PMC= 1	30	10	N/A
36	N/A	JOINT ANALYSIS and DISPLAY ENVIROMENT (JADE)	X		Not at HIRAOC	1	N/A	N/A
37	N/A	POCKET J Fixed Element			Not at HIRAOC or			
	N/A	JRE	X	X		2	1	N/A
	N/A	Red Remote Monitoring and Control System (REMOCS)	X	X		1	0	N/A
	N/A	Black REMOCS	X	X		1	0	N/A
	N/A	KG-250	X	X		1	0	N/A
	N/A	VOIP	X	X		1	0	N/A
38	N/A	Interim JICO Support System	X	X	Not at HIRAOC	1	0	N/A
39	N/A	Automatic Voice Recorder	X	X		1	0	N/A
ITEM	WUC	Description	FSL	BSL	NOTES	FMC	PMC	NMC
40	N/A	BCC Voice over IP (NEN)	X	X	Not at HIRAOC	10	0	N/A
41	N/A	Distributed Mission Operations Equipment	X		Only required for training/curren	1	N/A	N/A
42	N/A	Ku Band Satellite (CNN, Fox News, etc.)	X		Not at AKRAOC or HIRAOC	1	0	N/A

43	**N/A**	**C Band Satellite (ANG Warrior Network) (Only required for training)**	**X**		**Not at AKRAOC**	**1**	**0**	**N/A**
44	**N/A**	**Radar Data Quality Measurement Device**	**X**		**Currently includes DRAMS and RS4**	**1**	**N/A**	**N/A**
45	**N/A**	**Weather Data (via NIPR or SATCOM)**	**X**	**X**		**1**	**0**	**N/A**
46	**N/A**	**VHF Voice**	**X**		**Note 1**	**1**	**0**	**N/A**
47	**N/A**	**Video Matrix (Ops Floor) (*)**	**X**	**X**		**1**	**N/A**	**N/A**
48	**N/A**	**ERSA Workstation(*)**	**X**	**X**		**1**	**N/A**	**N/A**
49	**N/A**	**Link 16 Alaska (LAK) (*)**	**X**	**X**	**Only at AKRAOC**	**1**	**0**	**N/A**
50	**N/A**	**LOS Microwave System**	**X**	**X**	**Only at HIRAOC**	**1**	**0**	**0**

QUALIFYING NOTES:

1. Declaration of PMC or NMC on this item is dependent on the mission requirements as determined by the BCC MCC, at the time of the failure. The extent and specific nature of the systems failure when combined with the geographical locations effected by the failure, estimated time of return to operation (ETRO) of the system that failed, time of day, and number of missions being actively accomplished at the time of the failure, will all influence the MCCs decision on declaring PMC or NMC and the subsequent decision for a full or partial expansion.

2. Mission Voice Platform (MVP) system is replacing the legacy AVTEC comm console system.
Estimated Completion Date: Oct 15

Table 2. AN/FYQ-156A Full Systems List (*)

ITEM	WUC	Description	FSL	BSL		NOTES	FMC	PMC	NMC
				ASA	TNG				
1	AQAA0	Real Time Server	X	X[Note 1]	X		2	1	0
ITEM	WUC	Description	FSL	BSL		NOTES	FMC	PMC	NMC
				ASA	TNG				
2	AQFA0 AQFB0 AQFC0	RID/SCID PROCONs	X	X[Note 2]	X		6	2	0
3	AQBB0	RRDL PROCONs	X	X	X	Not at AKRAOC or HIRAOC	2	0	N/A
4	AQEA0	Forward Tell Interface Processor (FIP)	X	X	X	Not at HIRAOC in Increment 3	1	0	N/A
5	AQRH0	Network Time Server (GPS Timing)	X	X	X		1	0	N/A
6	AQEC0	GATEWAY MANAGER #1	X	X[Note 3]	X		1	0	N/A
		Link 11 A	X						
		Link 16	X						
		Socket J	X						
		Serial J Sat J	X						
			X						
7	AQEC0	GATEWAY MANAGER #2	X	X[Note 3]			1	0	N/A
		Link 11A	X						
		Link 16	X						
		Socket J	X						
		Serial J Sat J	X						
			X						
8	AQDDD	XD Network Switch	X	X	X		2	1	0
9	AQDDE	XP Network Switch	X	X	X		2	1	0
10	AQDDF	LG Network Switch	X	X	X		2	1	0

11	AQDDG	LP Network Switch	X	X	X		2	1	0
12	N/A	EG Network Switch	X	X	X		2	1	0
13	AQAJA	Core LAN Switch OPS1/OPS2	X	X	X		2	1	0
14	AQAJB	Core LAN Switch C2A/C2B	X	X	X		2	1	0
15	AQAJC	Core LAN Switch C3A/C3A	X	X	X		2	1	0
ITEM	WUC	Description	FSL	BSL		NOTES	FMC	PMC	NMC
				ASA	TNG				
16	AQDDA	Security Firewall (DMZ)	X	X	X		2	1	0
17	AQDDB	Security Firewall (Low)	X	X	X		2	1	0
18	AQDDC	Security Firewall (High)	X	X	X		2	1	0
19	AQDDH	Security Gateway (DMZ)	X	X	X		2	1	0
20	AQDDJ	Security Gateway (Low)	X	X	X		2	1	0
21	AQDDK	Security Gateway (High)	X	X	X		2	1	0
22	AQDDL	Security Management Appliance (Low)	X	X	X		2	1	0
23	AQDDM	Security Management Appliance (High)	X	X	X		2	1	0
24	AQGA0	Firewall Management Workstation (Low)	X	X	X		1	0	N/A
25	AQHA0	Firewall Management Workstation (High)	X	X	X		1	0	N/A
26	AQDA0 AQDB0 AQDC0	Radiant Mercury	X	X[Note 2]	X		3	2	1
27	AQC00	Operator Workstations	X	X	X	Note 5 Note 6	75% to 100	50% to 74%	0 to 49%
28	AQAB0	Record And Playback Server	X	X	X		1	0	N/A
29	AQAC0	RAID	X	X	X		1	0	N/A

30	AQAD0	RAID Expansion Unit	X	X	X		1	0	N/A
31	AQAE0	Tape Drive	X	X	X		1	0	N/A
32	AQBA0	Remote Tactical Air Picture (RTAP) Server	X	X	X	Not at HIRAOC	2	0	N/A
33	AQBC0	Secure Router	X	X	X	Not at HIRAOC	2	1	0
ITEM	WUC	Description	FSL	BSL		NOTES	FMC	PMC	NMC
				ASA	TNG				
34	AQAK0	Virtual Network Router	X	X	X		1	N/A	N/A
35	AQAG0	Network Centric Portal	X	X	X		1	N/A	N/A
36	AQJA0	HP Printer	X	X	X		1	N/A	N/A
37	AQSE0	Matrix Ethernet Switch	X	X[Note 7]	X		3	2	1

QUALIFYING NOTES:

1. PMC if one is inoperative, NMC if both are inoperative.

2. Mission Capability: The decision lies with MCC due to mixture of radars and types on Radiant Mercury and PROCONS. Increment 3 has 3 pairs of PROCONS

3. PMC if Gateway Manager is processing some but not all data links, NMC if not processing required mission data links. Link requirements are mission dependent. Mission Status may be discretion of Mission Crew Commander.

4. Declaration of PMC or NMC on this item is dependent on the mission requirements as determined by the BCC MCC, at the time of the failure. The extent and specific nature of the systems failure when combined with the geographical locations effected by the failure, estimated time of return to operation (ETRO) of the system that failed, time of day, and number of missions being actively accomplished at the time of the failure, will all influence the MCCs declaration of PMC or NMC and the subsequent decision for a full or partial expansion.

5. HIRAOC FMC= 86%to100% PMC= 55%to85% NMC= 0%to54%

6. Declaration of PMC or NMC on this item will also have to be assessed if the number of workstations assigned to an Auxiliary suite running a different software build and configurator has exceeded the mission requirements as determined by the BCC MCC. The extent and estimated time of return to operation (ETRO) of the workstations that were switchover, time of day, and number of missions being actively accomplished at the time of the switchover, will all influence the MCCs declaration of PMC or NMC.
7. PMC and NMC if the number of failed Matrix Switches does not meet the operator workstation requirements.

RICHARD L. FOLKS II, Colonel, USAF
Deputy Director of Communications

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*, 26 January 2012

AFMAN 33-363, *Management of Records*, 1 March 2008

***Prescribed Forms* (*)**

This addendum does not require prescribed forms.

***Adopted Forms* (*)**

AF Form 847, *Recommendation for change of Publication,* 22 September 2009

Abbreviations and Acronyms

ACC—Air Combat Command

ADS—Air Defense Sectors

ADSI—Air Defense Systems Integrator (AN/TSQ-214(V))

AEWS—Atmospheric Early Warning System

AFNORTH—Air Forces North (formerly First Air Force)

AFRC—Air Force Reserve Command

AKRAOC—Alaska Region Air Operations Center

ANG—Air National Guard

A Sub O (Ao)—Operational Availability

ASA—Air Sovereignty Alert

AVTEC—An integrated voice communication system

BCC—Battle Control Center

BCS—F—Battle Control System-Fixed

BSL—Basic Systems Lists

C2PC—Command and Control Personal Computer

CAF—Combat Air Forces

CI33/RRK—Cryptographic Controlled Interface-33 / Remote Re-key System

CONUS—Continental United States

DOC—Designed Operational Capability

DPM—Digital Phone Multiplexers

DRSN—Defense Red Switch Network

DTS—Data Terminal Set (AN/USQ-125)

EADS—Eastern Air Defense Sector

ETMS—Enhanced Traffic Management System

FAA—Federal Aviation Administration

FSL—Full Systems List

GCCS—Global Command and Control System

GCCS—J—Global Command & Control System - Joint

GWM—Gateway Manager

HIRAOC—Hawaii Region Air Operations Center

HP—Hewlett Packard

HW—Hardware

IMDS—Integrated Maintenance Data System (successor to CAMS)

IBS—Integrated Broadcast Service

IST—Inter-Switch Trunk

JRE—Joint Range Extension (Beyond Line-Of Sight BLOS TADIL J without relays)

JTEP—Joint Range Extension TMPG Equipment Package

JWICS—Joint Worldwide Intelligence Communications System

JSS—Joint Surveillance System

KIV—7—Cryptographic Device

LAN—Local Area Network

MAJCOM—Major Command

MDA—Multifunction Digital Adapter

MESL—Minimum Essential Subsystem List

MTBCF—Mean Time between Critical Failures

MVP—Mission Voice Platform

NAS AMD—National Airspace System Aircraft Movement Data (Flight plan data from the FAA)

NAT—Network Address Translation

NDHQ—National Defence Headquarters (Canadian Forces)

NIPRNET—Non-secure Internet Protocol Router Network

NMC—Not Mission Capable

NORAD—North American Aerospace Defense Command

NSS—National Security System

OWS—Operator Work Station

PACAF—Pacific Air Force

PACOM—Pacific Command

PMC—Partial Mission Capable

PMI—Preventive Maintenance Inspection

RELCAN—Releasable to Canada

RID—Radar Interface Device

RM—Radiant Mercury

ROTHR—Re-locatable Over-The-Horizon Radar

RTS—Real Time Server

SADL—Situational Awareness Data Link

SAT—Satellite

SCID—Serial Communications Interface Device

SENTRY—Core software from TRS which runs the BCS-F

SIPRNET—Secret Internet Protocol Router Network

SW—Software

TADIL—Tactical Data Information Link

TBMCS—Theater Battle Management Core System

TDLID—Tactical Data Link Interface Device

TPMG—Transparent Multi-Platform Gateway

TSD—Traffic Situational Display

VOIP—Voice over Internet Protocol

WADS—Western Air Defense Sector

WUC—Work Unit Code (used to track and enter failure data into IMDS)

Terms

Socket—An end-point in the IP networking protocol