VIRTUAL PITCH BLACK 2018

AIR BATTLE PLAN

Prepared by:

88SQN EXCON FLT

&

Milskil
ABN 16 084 697 147

For:

AWC Air Force Ranges Directorate

REFERENCES

A. Exercise Pitch Black 18 AIPSUP H52/18 Effective: 201807261600 UTC
B. PBK18 CAOG: To Be Issued
C. PBK18 Airspace Control Plan (ACP): To Be Issued
D. PBK18 OPTASKLINK: **DRAFT** MSGID/OPTASKLINK/MIL-STD-6040(SERIES)/B. 0.01. 10/HQJOCAOC-JICO/-/MAY/INI/-UNCLASSIFIED

TIMINGS

1. All timings utilised within this ABP will be UTC (ZULU).

OVERVIEW

2. Virtual Pitch Black 2018 (VPB18) is a virtual & constructive collective training exercise that provides targeted training scenarios designed and executed to provide a Mission Rehearsal Exercise (MRE) activity for participants preparing for Exercise Pitch Black 2018 (PBK18).

3. The aim of VPB18 is to prepare participants for the large scale, multi-national PBK18 live exercise.

SCENARIO

4. VPB18 is a virtual & constructive training event focused on tactical-level command and control of airpower leading up to PBK18. The Friendly Order of Battle for VPB18 will be representative of the multi-national participants in Pitch Black.

5. The exercise will be conducted over five days with a single high-tempo vulnerability period each day. The scenario for the exercise is not a single, "rolling" scenario, rather each day of the exercise is representative of major phases of an air campaign.

ATO	DATE	PHASE	MISSION PROFILE
G02	Mon 02 Jul 2018	Phase I	Air Superiority
G03	Tue 03 Jul 2018	Phase II	Air Superiority
G04	Wed 04 Jul 2018	Phase III	Strike / SOF
G05	Thu 05 Jul 2018	Phase IV	OAS / SOF / JPRO
G06	Fri 06 Jul 2018	Phase V	DT / TIC / JPRO

AIM

6. The aim of this document is to baseline the execution of Offensive Counter Air (OCA) operations and Counter-Land operations during VPB18 and provides guidance to Command and Control (C2) and Mission Commanders (MC) for planning and execution of each mission. This document is not intended to restrict operations and should provide guidance to carry out Commanders intent.

MISSION

7. The OCA mission is to 'Suppress Offensive and Defensive Military Capability within the AO'. Blueland Forces will achieve the Commander's intent through the use of coordinated air and land assets and adherence to promulgated Rules of Engagement (ROE).

RISK

8. Overall mission risk will vary throughout the campaign and will be mission dependent. With guidance from the Mission Director, VPB18 planners can expect to operate at the following levels of risk:

a. Fighter Aircraft: Up to HIGH RISK

b. High Value Aircraft: Up to MEDIUM RISK

9. Varying risk can be expected throughout the campaign and packages should tailor risk between assets to ensure mission success. Risk between individual mission sets should be considered and applied through mission planning. If an increase of risk is identified through mission planning, requests for an upgrade in risk need to be requested of the Mission Director with justification.

THREAT

10. A summarised list of OPFOR capabilities that will have an effect on Blue assets are listed below, along with a diagram depicting the Red Airfields.

a. **Red Airfields.** Red forces are based at the following airfields, Red aircraft located at each airfield are listed in Table 1:

i. Bullo River (BRV) (S15:28:11 E129:45:56)

ii. Victoria River Downs (VRD) (S16:14:00 E131:00:14)

iii. Killarney (KLE) (S16:15:00 E131:45:00)

Figure 1 – Red Airfield Locations

b. **Red ORBAT.** Red air assets employed during PBK18 are shown in the table below.

TYPE	RANGE (NMI)	MACH	RADAR	LOCATION	NO.	AAR	WEAPONS
MiG-21	400	0.9	Jaybird	Bullo River, Victoria River Downs	16	No	AA-8 Guns
Su-27SK FLANKER B	460	2.3	Slotback II	Victoria River Downs, Killarney AFLD	48	Y	AA-10C/D, AA-11, Guns
Su-30MK2 FLANKER G	500	2.3	Slotback II	Victoria River Downs, Killarney AFLD	32	Y	AA-12A/B, AA-10C/D, AA-11, Guns
Su-25	405	0.8	Phazotron Kopyo-25M	Bullo River	10	Unk	Bombs, Rockets, AA-8, Guns

Table 1 – Red ORBAT

c. **Red SAM.** Red surface to air threats employed during PBK18 are shown in the Table below.

SAM	TYPE	RANGE (NM)	ALTITUDE (FT)	GUIDANCE	NUMBER
ZSU-23	ADA/AAA	3.8	16,700	OPT/Radar	UNK
SA-2d	Strat SAM	23.2	98,000	Command	3
SA-3	Fixed SAM	13	46,000	Command	4
SA-6	Mobile SAM	13.4	46,000	SARH	2
SA-7	MANPADS	1.8	4,921	OPT/IR	UNK
SA-8	Mobile SAM	5.5	16,500	Command	4
SA-14	MANPADS	2.4	9,843	OPT/IR	UNK
SA-15a	Mobile SAM	6.5	19,600	Command	2
HAWK	Mobile SAM	21.6	58,000	SARH	2
SA-16	MANPADS	2.7	11,483	OPT/IR	UNK
SA-10 A/B/C	Strat SAM	24 / 40 / 49	82,000	Command	2
SA-20 A/B	Strat SAM	81 / 108	88,500	Command	1

Table 2 – Red SAM

OPFOR MOST LIKELY COURSE OF ACTION (COA)

11. OPFOR are expected to have a manned Defensive Counter Air (DCA) posture at the commencement of each VUL. This DCA posture could include up to 26 fighter aircraft.

12. OPFOR are expected to have up to 50 aircraft on varying states of alert at each airfield. OPFOR have been known to operate at ALERT States to include: 3min / 30min / 60 min alert.

13. OPFOR have shown some intent to attack Blue land infrastructure targets. They are most likely to use a dedicated Strike (STK) package to achieve this aim. OPFOR have shown a desire / intent to destroy Blue air heavy wing assets should the opportunity present itself.

FRIENDLY FORCES SUMMARY

14. **Air Assets.** Aircraft that may be assigned to Blue Forces for VPB18 include:

a. **FA-18A.** 23 AUS F/A-18A's based out of RAAF Darwin and RAAF Base Tindal.

b. **F/A-18F.** 10 AUS F/A-18F's based out of RAAF Darwin.

c. **F/A-18D.** 16 AUS F/A-18A's based out of RAAF Darwin.

d. **EA-18G.** 3 AUS E/A-18G's based out of RAAF Darwin.

e. **C-130J.** 2 AUS C-130J's based out of RAAF Darwin.

f. **C-17.** 1 AUS C-17 based out of RAAF Darwin.

g. **KA350.** 1 AUS KA350 based out of RAAF Darwin.

h. **C27J.** 2 AUS C27J based out of Batchelor

i. **E-7A.** 1 AUS E-7A based out of RAAF Tindal.

j. **PC-9.** 2 AUS P-C9 based out of RAAF Darwin.

k. **CCT.** 2 AUS CCT based out of RAAF Darwin.

l. **KC-30.** 1 AUS KC-30 based out of RAAF Darwin.

m. **CC130TT.** 1 CAN CC130TT based out of RAAF Darwin.

n. **RAFALE.** 3 FRA RAFALE based out of RAAF Darwin.

o. **CN-235.** 1 FRA CN-235 based out of RAAF Darwin.

p. **SU30MKI.** 4 IND SU30MKI based out of RAAF Darwin.

q. **C-130J.** 1 IND C-130J based out of RAAF Darwin.

r. **F-16.** 8 IDN F-16 based out of RAAF Darwin.

s. **FA-18D.** 5 MYS F/A-18D based out of RAAF Darwin.

t. **A400M.** 1 MYS A400M based out of RAAF Darwin.

u. **F-16.** 6 SGP F16 based out of RAAF Darwin.

v. **F-15.** 5 SGP F-15 based out of RAAF Darwin.

w. **KC-135.** 1 SGP KC-135 based out of RAAF Darwin.

x. **G550.** 1 SGP G550 based out of RAAF Darwin.

y. **GRIPEN.** 6 THA GRIPEN based out of RAAF Darwin.

z. **F-16CM.** 12 USA F-16CM based out of RAAF Darwin.

aa. **B-52.** 2 USA B-52 based out of Andersen Air Force Base.

bb. **F/A-18C/D.** 10 USA F/A18C/D based out of RAAF Tindal.

cc. **KC-130J.** 2 USA KC-130J based out of RAAF Darwin.

dd. **MV22.** 8 USA MV22 based out of Bradshaw Field Training Area

ee. **A/UH-1.** 6 USA A/UH-1 based out of Bradshaw Field Training Area

15. **Tactical Command and Control Assets.** Tactical Command and Control (TAC C2) for VPB18 will be executed through the following assets:

a. **Mobile Control and Reporting Unit (MCRU).** Joint Air Warfare Battle Lab (JAWBL) located in EASTROC (RAAF Base WLM), simulating ground TAC C2 located at RAAF Darwin utilising a fixed communications facility and Civil ATC radars located in both Darwin and Tindal.

b. **E-7A.** Virtual Wedgetail (VW) located in EASTROC (RAAF Base WLM), simulating Airborne Early Warning and Control (AEW&C) TAC C2 basing out of RAAF Tindal. The E-7A will mission plan to provide the required sensor and communications coverage requirements.

c. **Tactical Air Defence Radar System (TADRS).** Will be located at yellow Drum Hill & Poll Hill to provide early warning radar for the AO. This asset may not be available to friendly forces due to its positioning.

16. TAC C2 duties will be split between ground and air C2 units between missions however MCRC will always be the primary reach back to the Mission Director and TUHQ for strategic guidance and White Force Direction.

AIR BATTLE MANAGEMENT DUTIES

17. TAC C2 agencies will provide control of OCA assets as per the flying program. Mission allocation for TAC C2 will vary between the MCRC and E-7A and we be highlighted through mission planning and briefing. Redundancy will be provided by other TAC C2 agencies, however, the differences in capabilities need to be briefed and understood.

18. **Force Accountability.** Force accountability will be held with TAC C2 through the FM. TAC C2 will pass any dips, slide or LIMFACS to the MC and the TUHQ (EXCON) prior to package push via WORDS.

19. **Contracts.** During mission planning, contracts will be developed to enhance the effectiveness of the package and to ensure success through critical phases of the all missions. These will be added to the MC Co-Ord Card and briefed by the C2 Package Commander (C2PKGCDR) at the Mission brief.

20. **WORDS.** Words are used to pass critical mission information such as rolex, airspace issues, or airfield information. C2 package commanders are to determine what constitutes WORDS during mission planning and brief accordingly. The authority for WORDS will reside with the Mission Director, WORDS will be passed as follows:

a. Pre-first check in: TUHQ

b. After first check in: Lead TAC C2

21. WORDS will increase alphabetically with new events (WORDS A, B, C, etc.). Aircraft checking in will receive the most recent WORDS. It is assumed the aircraft will have all preceding words. If aircraft do not have the preceding WORDS they are to request WORDS from the FM. Formation leads are to acknowledge receipt of WORDS once passed.

22. **LOWDOWN.** LOWDOWN will be passed NLT 5 minutes prior to the first push time on frequencies, planned and briefed by the MC, advising of all active emitters within the AO. Subsequent EOB information will be provided as required in the form of a SITREP. SITREPS will be in the form of SITREP [DAY/LETTER].

23. Aircrew can expect to receive a LOWDOWN as follows: "*LOWDOWN: Two Active Bullseye 1-0-0/50, Three Active Bullseye 2-2-0/60, Eight Reported Awake 1-3-0/75, ZSU Reported Awake 1-6-0/40 Elevation 600*".

24. Mission planning cycles may amend the EOB process as required to meet mission objectives.

25. **Fuel & Weapon States.** Fuel and weapons states will be passed on an opportunity basis and at check-in if the loadout differs from what was planned. Aircrew are to pass the fuel and weapons to TAC C2 in accordance with the colour coding provided in Table 3 below. For example, "*Shogun11 Fuel Yellow, Weapons Red*", TAC C2 will actively monitor this to pass to the TUHQ.

	FUEL	WEAPONS
GREEN	Enough to complete MSN	As Fragged
YELLOW	RTB + 10min	<50 %
RED	Immediate RTB	1 or Less AAM

Table 3 – Colour Coded Fuel & Weapons States

CHECK IN / CHECK OUT Procedures

26. **Ground check-in.** All Darwin based aircraft will check in with the TUHQ, call sign EMPIRE OPS prior to taxi for WORDS.

27. **Airborne check-in.** Once transferred from ATC and entering PBK18 airspace, all assets are to check-in with the Force Marshaller (FM). Aircraft checking in with the FM (Callsign USHER or HOMER) can expect to receive:

a. Alpha/Bullseye Check

b. Airspace and Force QNH

c. Parrot, India and Timber (PIT) Check

d. WORDS /SITREP

e. Tracking instructions

f. LOWDOWN if checking post the initial push

g. Any additional tasking (e.g. DT/TST)

28. **Check out.** Unless directed by TAC C2, all assets are to check-out with USHER or HOMER prior to departures of PBK18 airspace. On departure, aircraft are to pass results in the form of an In-Flight Report (IFREP) and other time critical information via 28.2 (primary), or voice (secondary).

29. **Communications Flow.** Figure 2 contains the communications flow for aircraft operating in the PBK18 airspace, either as Blue or Red air.

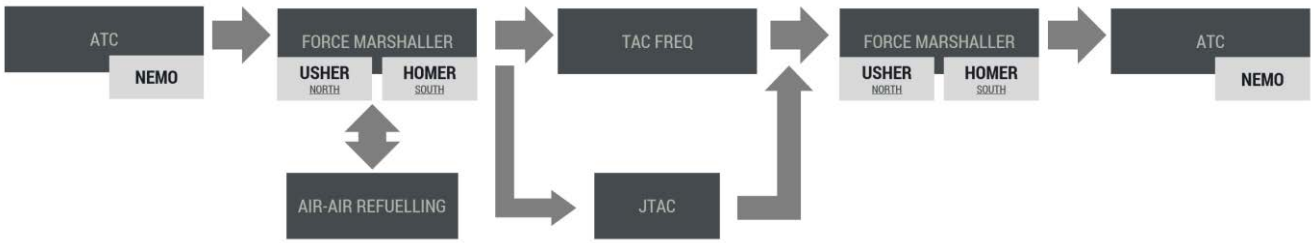

Figure 2 – Communications Flow Chart

RESTRICTED OPERATING ZONES (ROZ)

30. ACMs that affect both OCA and DCA assets (e.g. heli- mustering) will be promulgated within the Daily SPINS. ROZs, or other means of airspace coordination, developed during blue planning that facilitates safe separation between blue and red forces, will be managed by the MD. Blue and Red MCs/C2 leads are to liaise with the MD to confirm separation requirements.

31. Delaware Air Weapons Range (DELAWR) is bounded by airspace R232 (SFC-NOTAM). During PBK18 aircrew can expect that a ROZ of SFC-34K will be in effect for the entirety of R232. Entry to DELAWR will be restricted to Blue aircraft only, with Red aircraft permitted to overfly in appropriate red-air blocks.

MARSHALL PROCEDURES

32. The Blue marshal area is depicted in Figure 3. Three marshal points have been established within the marshal area:

a. **WEST** Marshal is S13:50:30 E130:17:00

b. **CENTRE** Marshal is S13:50:30 E130:48:00

c. **EAST** Marshal S13:50:30 E131:18:00.

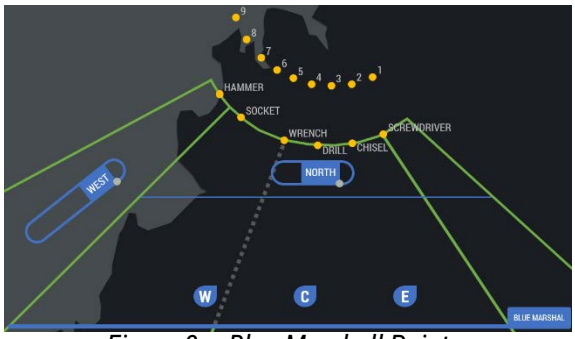

Figure 3 – Blue Marshall Points

33. **Default Marshal Procedures**. The following procedures apply for all aircraft operating within the blue marshal area.

a. Formations will fly marshal flying left hand turns

b. Axis 180/360, 5 – 20nm from marshal point (not up to the Blue Marshal line)

c. Allowed up to the following for deconfliction with adjacent formations:

i. 5nm west of marshal point

ii. 10nm east of marshal point

d. Push time will be reference marshal point

34. **Frequency Management in Marshal.** Whenever aircraft are within the marshal airspace they are to monitor respective tactical frequency unless otherwise directed. Aircraft on tank are to ensure that at least one formation member is monitoring the FM frequency.

BULLSEYE

35. The default bullseye for PBK18 is S15 00 00 E131 00 00.

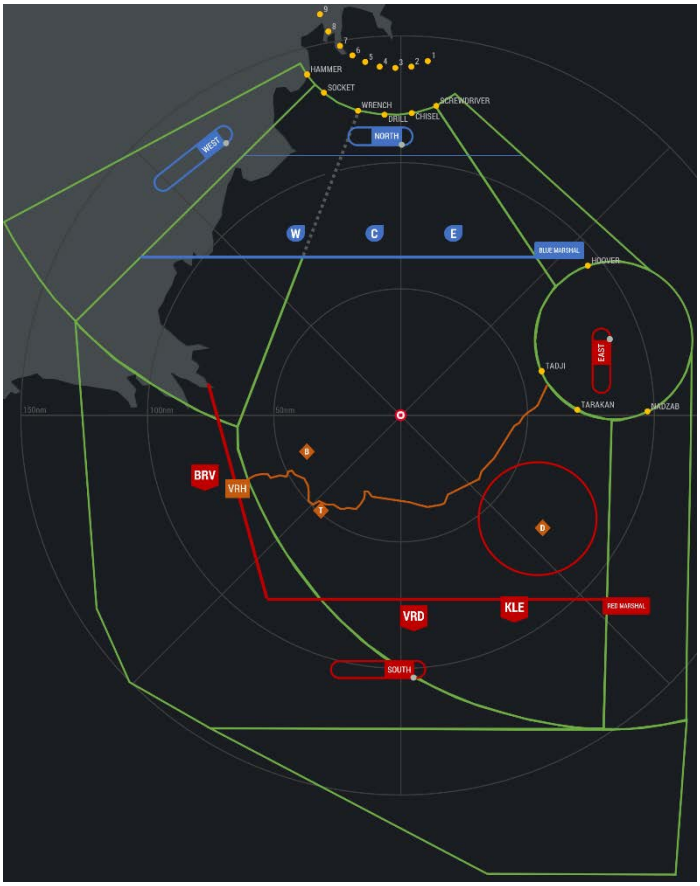

Figure 4 – VPB18 Bullseye Position

IN FLIGHT REPORTING (IFR)

36. On RTB or when requested by TAC C2, assets are to pass mission results in the form of an IFR which will be relayed to the TUHQ through TAC C2. The default IFR template will be as follows:

a. **Line Alpha**: Callsign

b. **Line Bravo**: Mission

c. **Line Charlie**: Mission results including ordinance expended (e.g. 1 x TBM destroyed, 1 x GBU-54 expended)

d. **Line Delta**: Any further information

37. IFR Example: "*Shogun11, mission number 2511. Mission successful. 6x red air kills, 2x GBU31 expended*".

IFF PROCEDURES AND CODE ALLOCATIONS

38. The following IFF Procedures are to be utilised for PBK18:

a. **Domestic**. IAW reference C.

b. **Tactical**. IFF procedures are in accordance with Table 4. Blue are to squawk M1 and M4, and Red to squawk M2 and M3. Kill removers are to squawk In accordance with Table 4. Kill removers will not be transmitted over Tactical Data Links.

BLUE OCA			RED DCA	
ALIVE PLAYER IFF				
Mode 1	11		**Mode 1**	No
Mode 2	No		**Mode 2**	Yes
Mode 3C	No		**Mode 3C**	Yes
Mode 4	Yes		**Mode 4**	No
INTERROGATOR				
Mode 1	Yes		**NIL**	
Mode 2	Yes			
Mode 3C	Yes			
Mode 4	Yes			
KILL REMOVE IFF				
Mode 1	50		**Mode 1**	60
Mode 2	5555		**Mode 3**	6666

Table 4 – IFF Procedures

SENSORS AND COMMUNICATIONS

39. **Ground Primary Radar Coverage**. A diagram of the PBK18 ground primary radar coverage is depicted in Figure 5.

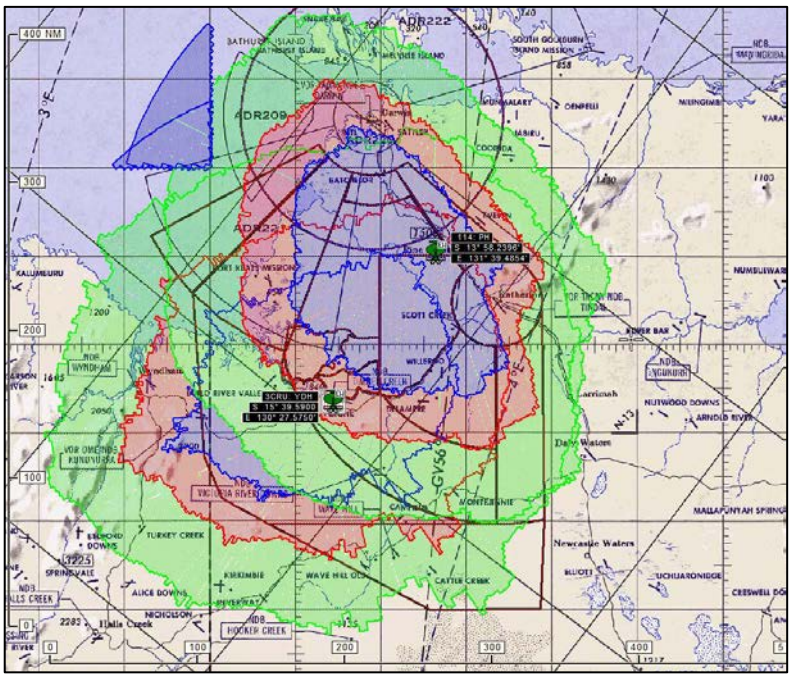

Figure 5 – Ground Primary RADAR Coverage

40. **Ground Communications and Link-16 Coverage**. Link 16 will be the primary tactical data link for PBK18. The two ground L16 terminals are located at within 114MCRU, RAAF Darwin and NROC, RAAF Tindal. Ground based link coverage will also be complemented by any link capable airborne AEW&C asset with the primary NTR being designated as per the PBK18 OPTASKLINK. A diagram of the PBK18 ground communications and Link 16 coverage is depicted in Figure 6.

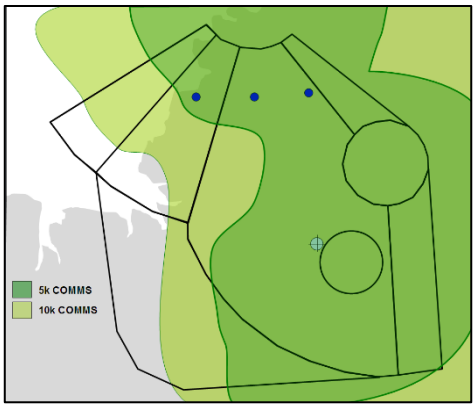

Figure 6 – Ground Communications & Link-16 Coverage

EXECUTION

41. **Chain of Command (CoC).** CoC will be executed through CFACCs delegate (EXCON Chief) callsign CHARIOT. CHARIOT will further delegate to mission directors (MD) callsign MAESTRO for individual PBK18 missions.

42. **Rules of Engagement (ROE).** ROE for PBK18 can be found within reference X. All PBK18 aircrew should be familiar with the significant differences between air to air and air to surface ROE restrictions.

43. **Missions.** The following missions are expected to be executed throughout the duration of PBK18. All assets are to be prepared to conduct or provide support to the following missions:

a. **Offensive Counter Air.** Missions mounted to degrade / destroy OPFOR airborne DCA posture that is not linked to a strike package.

b. **Force Protection (FP)**.

i. **Sweep**. Missions mounted to degrade / destroy OPFOR airborne DCA posture in direct support of a strike package. Assets apportioned to FP sweep will nominally push 10 minutes ahead of screen, escort and strike.

ii. **Screen**. Missions mounted to destroy OPFOR DCA aircraft left untargeted by sweep.

iii. **Escort**. Missions that provide A/A support to STK assets WVR.

c. **Strike**.

i. **AI**. A/S fires that are directed to affect OPFOR beyond the Fire Support Coordination Line (FSCL), such that deconfliction with friendly ground forces is not required.

ii. **CAS**. A/S fires that directed at OPFOR in close proximity to friendly forces. The nature of CAS implies it is behind the FSCL, requiring deconfliction with friendly forces.

iii. **SCAR**. A/S fires conducted beyond the FSCL, whereby suitably qualified aircrew are allocated a “killbox” to allow autonomous target generation.

iv. **AR**. Missions that are allocated to support SCAR aircraft with addition sensors and weapons.

44. **Dynamic Targeting (DT).** DTs will be promulgated through the CAOC in the form of a Joint Targeting Message (JTM) in the form of a 10 line and will be passed through TAC C2. DTs need to be prosecuted in line with the Mission Directors intent and mission objectives. Detailed DT procedures are provided on pages 20-21.

45. **Time Sensitive Targeting (TST).** TST missions are expected to prosecute targets that are of a time sensitive nature such as HVIs. TST’s will be generated through the CAOC in the form of a JTM and passed through TAC C2. Priority for TST prosecution needs to be assessed against mission objectives and Mission Directors intent.

46. Joint personnel Recovery (JPR) and Combat Search and Rescue (CSAR). PBK18 has dedicated JPR assets of up to 2 USMC MV-22’s. All other assets may be tasked ISO a combat recovery effort.

TACTICAL COMMAND and CONTROL

47. **OCA and STRIKE CMN Frequency Use**. The OCA CMN Controller is to provide a picture building and early warning function using a one-minute cadence (or as briefed). OCA and STRIKE CMN may be used to provide tactical direction as required in the absence of assigned tactical frequencies. Formations and controllers using OCA or STRIKE CMN are to limit their use of the frequency to passing information that is relevant to the entire package or which requires a response from either a formation or the OCA CMN controller.

48. **Controller use of OCA CMN**. When all threat aircraft are outside factor range of friendly fighters, the following priorities are to be observed by controllers:

a. Describe number of packages

b. Apply package labels

c. Describe number of groups

d. Provide Bullseye positions

e. Provide ROE and fill ins.

49. When any threat aircraft are inside targeting range, the following priorities are to be observed by controllers:

a. Listen to build own SA

b. Assess targeting

c. Answer directed questions

d. Ensure surveillance picture is accurate

e. Provide factor and threat calls at the briefed range

f. Maintain SA on all groups.

50. **Pilot use of OCA common**. Formations are to limit their use of OCA common to passing information that is relevant to the entire package or which requires a response from the OCA common controller. Information that is SA building for their formation only should be passed on their tactical frequency/formation frequency. Examples include:

a. Formation targeting rather than individual targeting. Once a formation has called targeted on a group they should only then call status once the adversary is dead or needs to be handed off.

b. Uncorrelated A-A spikes only. Correlated A-A and spikes called for formation SA should be left to formation frequencies.

c. Mission specific codewords should be acknowledged. If not relayed from C2 then package commanders should relay.

51. **OCA CMN Priorities**. With guidance from para 35-39, the following should be considered the priority of communications on OCA CMN:

a. Threat / Trespass calls

b. A-G Spikes / Mudspikes

c. ROE Building

d. Factor / Oilfield calls

e. Untargeted / Leakers

f. Targeting

g. Inability to Target / Handoff.

52. **Tactical Frequency Use**. If the OCA CMN controller has assigned labels to groups, then the tactical controllers are to use those labels until a 'NEW PICTURE' call is given. Tactical frequencies when utilised, will be the primary method of providing tactical direction by TAC C2.

53. **OAS /STK CMN**. OAS / STK CMN may be used by formations conducting CAS, SCAR, KI or those formations prosecuting or supporting a TIC, DT or TST. This frequency should be monitored by a minimum of one aircraft in the formation. By monitoring OAS CMN aircraft are able to maintain SA on other OAS missions and air threats within the AO (provided by the OAS CMN controller). If the air threat requires OAS formations/elements to drop the ground task and re-prioritise, the formation/element should return to OCA CMN until the threat has been removed. As necessary the formation/element may then return to OAS tasking.

54. Control positions may be employed in different configurations and there is no single solution for which positions the MC/TD/SSCO may choose to utilise for a specific mission. C2 Package commanders will develop the appropriate control allocation based on role based, geographical or time-based split.

55. Some examples of options available are:

a. OCA CMN only (No TAC C2)

b. OCA CMN and 1 x TAC Ctrl (No Form)

c. OCA CMN and STK CMN

d. OCA CMN and OAS CMN

e. OCA CMN and Multi Lane Tac C2 (i.e. 2 Lane war = 2 Lanes & 2 STK requiring 4 Controllers).

TAC C2 CHAT Procedures

56. **Chat Use**. A VPB18 chat page will be created for use to coordinate mission critical information via a secure means to all DSN capable C2 agencies. The following information will be provided via the blue chat page:

a. VPB18 airspace releases and Force QNH

b. C2 system serviceability issues

c. Known aircraft ROLEX via the TUHQ

d. Active WORDS from the TUHQ

e. EOB via INTEL

f. Aircraft check-in with C2 and system limitations

g. Formation push timings

h. Requests for changes to Time-on-Target (TOT)

i. Strike ingress and egress timings and preliminary results

j. TIC, DT and TST requirements

k. Combat Search and Rescue (CSAR) requirements

l. IFRs.

EMERGENCY MANAGEMENT

57. In the event of an emergency that occurs during execution, C2 agencies are to operate IAW SOP's to resolve the emergency. In the event that the emergency impacts the conduct of the exercise (ejection, runway black requiring diverts or other major incidents) the MD will provide direction to the MCC through the C2 Director to facilitate the safe recovery of all players. The MD will conduct liaison with the TUHQ as required and will act as the conduit between C2 and the TUHQ.

HELPFUL RESOURCES

Extracted from Pitch Black 18 references and products developed by 88SQN EXCON FLT, the following data is provided to the VPB18 Training Audience for MSN planning purposes. All data is: **UNCLASSIFIED**.

COMMS CARD

DESIG	FREQ	AGENCY	ROLE	CALLSIGN	SELECTABLE
STUD 1	237.3 (126.8)	DAR ATC	Clearance Delivery		
STUD 2	265.3 (121.8)	DAR ATC	SMC	GROUND	
STUD 3	257.8 (133.1)	DAR ATC	TOWER		
STUD 4	325.4 (123.0)	DAR ATC	DEPARTURES		
STUD 5	305.5 (125.2)	DAR ATC	APP/E-DEP		
STUD 6	363.8 (134.1)	DAR ATC	APP/W-DEP		
STUD 1	128.1 (241.2)	TDL ATC	Clearance Delivery		
STUD 2	135.85 (264.3)	TDL ATC	SMC	GROUND	
STUD 3	119.7 (257.3)	TDL ATC	TOWER		
STUD 4	120.95 (261.4)	TDL ATC	APPROACH		
STUD 6	254.7 (125.8)	TDL ATC	TDL TRAFFIC		
	133.6	TUHQ VHF	OPS	EMPIRE	
SALMON	370.4	TUHQ	OPS	EMPIRE	Y
PINK	120.5	DAR ATC	DAR Recovery	NEMO	Y
WHITE	234.9	C2	FM NORTH	USHER	Y
GREY	238.2	C2	FM SOUTH	HOMER	Y
GOLD	253.3	C2	FM CO-ORD	TAIPAN OD	Y
QA	273.8	C2	C2 DCN PRI		Y
QZ	307.4	C2	C2 DCN SEC		Y
YELLOW 1	301.5	AAR	TANKING 1		
YELLOW 2	311.1	AAR	TANKING 2		
YELLOW 3	358.3	AAR	TANKING 3		
YELLOW 4	136.7	AAR	TANKING 4 VHF		
ORANGE 1	260.0	RSO	DELAMERE RSO		
ORANGE 2	263.9	RSO	DELAMERE RSO		
ORANGE 3	119.3	RSO	DELAMERE RSO		
PEACH 1	296.8	RSO	BRADSHAW RSO		
PEACH 2	126.05	RSO	BRADSHAW RSO		

COMMS CARD cont.

DESIG	FREQ	AGENCY	ROLE	CALLSIGN	SELECTABLE
BLUE OCA					
AQUA 1	240.8	C²	OCA CMN Pri		Y
AQUA 2	296.2	C²	OCA CMN Sec		Y
TEAL 1	282.7	C²	STRIKE CMN Pri		Y
TEAL 2	365.8	C²	STRIKE CMN Sec		Y
INDIGO 1	295.7	C²	OAS CMN Pri		Y
INDIGO 2	287.2	C²	OAS CMN Sec		Y
LIME 1	319.5	C²	TAC 1		Y
LIME 2	378.5	C²	TAC 2		Y
LIME 3	126.25	C²	TAC 3 (VHF)		Y
LIME 4	371.6	C²	TAC 4		Y
HAZEL 1	345.4	HVAA	HVAA TAC 1		
HAZEL 2	5395.5	HVAA	HVAA TAC 2 HF		
HAZEL 3	6975	HVAA	HVAA TAC 3 HF		
HAZEL 4	7810	HVAA	HVAA TAC 4 HF		
HAZEL 5	7836.5	HVAA	HVAA TAC 5 HF		
PURPLE 1	360.6	C²	C2 TAC CO-ORD		Y
PURPLE 2	375.5	C²	C2 SURV CO-ORD		Y
BRASS 1	135.625	C²	C2 TAC VHF		Y
RED DCA					
RUBY 1	266.15	C²	DCA CMN Pri		Y
RUBY 2	270.8	C²	DCA CMN Sec		Y
SCARLET 1	259.4	C²	RED TAC 1		Y
SCARLET 2	351.1	C²	RED TAC 2		Y
SCARLET 3	135.925	C²	RED TAC 3 VHF		
SCARLET 4	135.75	C²	RED TAC 4 VHF		
PURPLE 3	376.5	C²	RED C2 CO-ORD		Y
WHITE FORCE					
BEIGE 1	315.0	WF	EXCON CO-ORD		Y
BEIGE 2	359.2	WF	TECHNICAL CO-ORD		Y
BEIGE 3	320.5	WF	C2 SYS CO-ORD		Y

TANKER / RECEIVER MATRIX – Rules of Thumb (ROT)

			A400M	KC30A	KC135	KC130J	KC130J		
			BENZENE11	WINDSOR21	TWISTER31	SUMO41	SUMO42		
PLATFORM	CALLSIGN	COUNTRY	RMAF	RAAF	RSAF	USMC	USMC	TYPE	PER PAIR
EA18G	BRUTAL11	RAAF		Y	Y	Y	Y	Drogue	22k / 10m
F15SG	SHIKRA31	RSAF			Y			Boom	30k / 10m
F16	PHOENIX31	RSAF		Poss	Y			Boom	4k / 5m
F16	WOODY51	USAF		Y	Y			Boom	4k / 5m
F16	RYDER61	TNI-AU						Boom	4k / 5m
F18A	SN11 / WK21 / VG21	RAAF		Y	Y	Y	Y	Drogue	8k / 7.5m
F18D	GHOSTRIDER61	RMAF	Y	Y		Y	Y	Drogue	8k / 7.5m
F18F	CANNON11	RAAF		Y	Y	Y	Y	Drogue	22k / 10m
JAS39	SHARK41	RTAF			Y			Drogue	14k / 5m
Rafale	TAZER51	FAF		Y				Drogue	4k / 5m
SU30	TRISONIC41	IAF		Poss				Drogue	22k / 10m
F18A	CR11 / BZ21	RAAF		Y	Y	Y	Y	Drogue	8k / 7.5m
F18D	IVAN31	USMC		Y	Y	Y	Y	Drogue	8k / 7.5m
F16	YANKEE41	USAF		Y				Boom	4k / 5m
F16	FALCON51	RSAF		Y				Boom	4k / 5m
F16	VIPER61	TNI-AU						Boom	4k / 5m
F18F	CARBINE71	RAAF		Y	Y	Y	Y	Drogue	22k / 10m
		TYPE	Drogue	Both	Both	Drogue	Drogue		
		USAGE /HOUR	8000	15000	14000	6000	6000		
		TOTAL	110000	240000	200000	60000	60000		
		MAX OFFLOAD	65000	100000	125000	30000	30000		

DYNAMIC TARGETING PROCEDURES

1. **Task Tracking.** DT serials will be tracked numerically for each distinct VUL and will be referred to as DT 1/2/3 etc. TAC C2 on behalf of White Force will track the progress and results of all DT tasks for PBK18.

2. **Tasking Passage.** TAC C2 will pass a Link-16 land track (J3.5) and 10-Line for all DT tasking. The J3.5 land track will get the airborne asset within approximately 30ft of the target and the airborne asset needs to use the coordinates from the 10-Line to generate their own target point from passed co-ordinates.

3. For all INV/TGT tasking, accuracy down to an 6-figure read-back is acceptable. For all SMACK tasking, all co-ordinates will be transmitted with the requirement for a complete read-back.

4. LAT/LONG is the primary means for all DT/TST co-ordinates.

5. **DT Debrief data.** TAC C2 is allocated the role and responsibility of tracking the state of all DT tasks. The following data is to be recorded for recreation during mission debriefs:

6. Time and medium for receipt of tasking

7. Time initial tasking data received by assets

8. Time asset received full message

9. Time asset overhead

10. Time target prosecuted

11. Time and medium for results passed

Agency	Actions
WHITEFORCE	▪ Pass tasking to primary TAC C2 asset IAW 10-line template, through the C2 Duty Officer. ▪ Primary medium for passing this data to TAC C2 will be via chat. ▪ If chat is unavailable, the 10-line will be passed via voice on the C2 TAC Co-Ord Net.
TACTICAL C2 **(MCRC/E-7A)**	▪ Analyse tasking message to assess validity of: ▪ Tasked assets ▪ Co-ordinates provided ▪ OCA CMN Controller is to transmit the DT name and bullseye over the OCA common frequency e.g. *"DT 1 B/E 1-8-5"*.

	▪ TAC C2 will then compile and send a J28.2 to Link16 capable assets. ▪ TAC C2 will Input a Link-16 J3.5 land track with following parameters: ▪ DT No → ID: DT1, PST: TBA
Assigned Asset(s)	▪ Acknowledge DT message on OCA CMN → respond with ETA to DT and PLAYTIME ▪ If J28.2 capable and received 10-line pass, then respond on OCA CMN with DT number and that 28.2 data was received ▪ e.g. *"DT1, Data Received"* ▪ If not J28.2 capable or no 10-line received, switch to dedicated DT frequency. ▪ If required TAC C2 will pass the entire 10-line on the dedicated DT frequency. ▪ Read back lines *1/2/3/5/10* ▪ Once tasking received switch back to OCA CMN frequency. ▪ Follow tracking instructions per TAC C2 to DT location ▪ For INVESTIGATE tasking, switch to DT frequency to pass findings then back to OCA CMN
TAC C2	▪ Forward tasking status (i.e passed/acknowledged) to White Force (via C2 Duty Officer) ▪ Forward ETA/PLAYTIME to White Force (via C2 Duty Officer) ▪ Relay INVESTIGATE data to White Force (via C2 Duty Officer)
Assigned Assets(s)	▪ When tasking complete, come up DT frequency and pass: ▪ Result of tasking and weapons utilised (if any)
TAC C2	▪ Relay results to White Force (via C2 Duty Officer)

12. **Limitations.** Some common asset limitation that need to be assessed through mission planning and execution include:

(1) **J3.5 co-ordinate truncation.** Under MILSTD6016B the precision of J3.5 is approximately 31FT. This means FTRs are not able to strike J3.5 tracks promulgated for SMACK tasking – they must generate their own target point from passed co-ordinates.

10-LINE TEMPLATE

DATE: TARGET:

1. Mission Callsign
2. Investigate Target Smack
3. DPI Description
4. DPI Location Lat/Long Elev (MSL/HAE) Accuracy
5. QTY/Weapon/Fuze/CDE
6. Controlling Agency
7. Friend Location
8. Threat Situation
9. Package Information
10. Remarks Restriction

CALLSIGN LIST

CALLSIGN	ROLE	ABBREV
CAOC		
CHARIOT	Combined Force Air Component Commander	CFACC
EXXON	AAR Management	Tanker LNO
FIREBRAND	CAS Management (DT)	SODO
EXTREME	Air Support Operations Centre	ASOC
KMART	Counter Air Management	SADO
ANGEL	JPR Management	JPRC
NEMO	Airspace Management	JACC
JUICE	Joint Interface Control Cell	JICC
ZOMBIE	Non-Kinetic Effects Duty Officer	NKDO
CROW	Non-Kinetic Commander (Airborne)	NKO
RHINO	C2 Duty Officer	C2DO
BISHOP	Senior Intelligence Duty Officer	SIDO
BLUE FORCE		
<as briefed>	Blue Mission Commander	BLUE MC
<as briefed>	Package Commander	PKG CDR
RED FORCE		
CHAIRMAN	Adversary Integration Lead	
MIG-1	Red Mission Commander	RED MC
SAM-1	Red IADS Commander	RED IADS
VADER-1	Red Space Commander	RED SPC
VIRUS-1	Red Information Commander	RED IO
JTAC		
DAGGER	Joint Terminal Airspace Controller	JTAC
WHITE FORCE		
GODFATHER	Event Director	EVENTDIR
ORION	AWC AFRD LVC SME	AWC DIR
REAPER	EXCON Chief	EXCON
HITMAN	C2 Systems	C2SYS
HANGMAN	Range Training Officer	RTO
ANVIL	ADSTC LNO	ADSTC
HAMMER	DSTG LNO	DSTG
<as briefed>	Simulation Platform Tech Lead	SIM-xx