

**AUSTRALIAN DEFENCE FORCE  
FLIGHT INFORMATION PUBLICATION**



**FLIGHT INFORMATION HANDBOOK AUSTRALIA**

**AD2 SUPPLEMENT DARWIN (YPDN)**

**(EFB SUITABLE VERSION)**

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Approved By

CO 452SQN

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**CHANGE SUMMARY**

Due to the significant reformat of this document, change bars have not been used. A list of all non-editorial changes is listed below.

SECTION	CHANGES
ALL	Updated phone numbers for ATC
INTRO	Defined amendment notification and request for change process
GEN 4	Clarified requirements for flight planning, addition of standard route templates for aircraft operating in DN RA, and update of email address for sending flying programs
GEN 10.4	Clarified fast jet may only cancel SID speed restrictions above LSALT
GEN	Darwin Traffic Management Plan (TMP) has been relocated to DEP and ARR sections
AIR 3.6	Where possible users should avoid requesting R264 E - K due to impact on major air-routes
DEP 1	Updated expected departure type for MIL aircraft and standard levels for better clarity.
DEP 1.3	Added low level release procedure
ARR 1	Added expected approach type for arriving MIL aircraft
MRF-D	New annex

### **AD2 SUPPLEMENT PRODUCTION**

This AD2 Supplement is not subject to a regular review cycle. All AD2 Supplements will be published IAW AIRAC cycles.

#### **AD2 Supplement amendments**

To make a change to the AD2 Supplement outside of a new issue date an 'AD2 SUPP Amendment' will be issued through AIS-AF and an advisory NOTAM issued under YPDN.

#### **Change submissions**

Change submissions or proposals for the YPDN AD2 Supplement should be submitted NLT than two months prior to an AIRAC cycle via email to [452sqndarfltpcedures@dpe.protected.mil.au](mailto:452sqndarfltpcedures@dpe.protected.mil.au).

## PREFACE

### 1. Introduction

1.1 This FIHA AD2 SUPP YPDN is deemed Electronic Aeronautical Information (EAI) and is made available for Electronic Flight Book (EFB) use via the Defence Aeronautical Information Service Provider (AISP) AIS-AF. FIHA AD2 Supplements are available via the [AIS-AF FIHA AD2 Supplements](#).

1.2 This FIHA AD2 SUPP ensures compliance with Defence Aviation Safety Regulations (DASR) AO.GEN.05 - *Management of Orders, Information and Publication (OIP)* and DASR.SRoA - *Standard Rules of the Air* by providing usable, current, portable and correctly authorised procedures that support flying operations within the specified area of operations.

### 2. Authority

- 2.1 The authority for this FIHA AD2 SUPP is [AC SI \(OPS\) 01-20 Aeronautical Information Management](#).
- 2.2 The approval authority is CO 452 SQN.
- 2.3 The sponsor is the Senior Air Traffic Controller YPDN - [452SQN DAR FLT FLTCDR](#).
- 2.4 Endorsement authority is CO 75 SQN.

### 3. Definitions

3.1 The terms used in this AD2 SUPP are defined in the Defence Aviation Safety Regulations – [Glossary](#) and [Australian Defence Glossary](#) (aviation context). Where terms are specific to this AD2 SUPP only, they are identified within this document.

- 3.2 All levels referred to in this AD2 SUPP are in feet AMSL, unless otherwise specified.

### 4. Applicability

4.1 A pilot of an aircraft that is not locally based at the aerodrome, but who advises being familiar with this AD2 SUPP, is deemed to be a local aircraft. If necessary, transient aircraft may request a local area briefing arranged by the AD2 SUPP Sponsor.

### 5. Content

5.1 This AD2 SUPP applies to the conduct of flying operations and ATC services at YPDN aerodrome and the aerodrome's surrounding airspace. Information contained in this instruction that may have civil application or may enhance overall useability is also provided in the YPDN section of Enroute Supplement Australia (ERSA).

5.2 This AD2 SUPP provides bookmarks and hyperlinks for EFB useability and is broken into the following sections:

- a. [General](#)
- b. [Airspace](#)
- c. [Aerodrome](#)
- d. [Departures](#)
- e. [Arrivals](#)
- f. [Emergencies](#)
- g. [Marine Rotational Force Darwin \(MRF-D\) Operations](#)

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## GENERAL

### 1. ATC frequencies

1.1 Darwin ATC frequencies are:

- a. ACD: 126.8/237.3
- b. SMC: 121.8/265.3
- c. SMCV: 119.55
- d. TWR: 133.1/257.8
- e. DEP: 123.0/325.4
- f. APP West: 134.1/363.8
- g. APP East: 125.2/305.5
- h. ATIS: 128.25
- i. NEMO (if established during exercise periods): 120.5

*Note: VHF communications are preferred, but UHF communications are available if required.*

### 2. Altimetry procedures

2.1 Aircraft operating within DN CTA are to operate on standard pressure settings.

### 3. Bird hazards

3.1 Bird hazards exist within the RWY strip year round. A NOTAM will be issued during periods of increased bird activity.

### 4. Flight planning

4.1 With the exception of circuit operations and aircraft departing under the Low Level Release Procedure (LLRP), aircrew must ensure that flight plans are submitted for all flying operations.

4.2 **Flight planning requirements.** Aircraft departing/arriving YPDN **not** for operations in Darwin/Tindal Restricted Airspace must plan IAW ERSA FPR. For operations within Darwin/Tindal Restricted Airspace aircrew should submit flight plans using the standard route templates below, however, should advise ATC of their requested gate at clearance request.

- a. **R230.** DCT DN021025 DN360140 DN060140 DN056025 DCT;
- b. **R264.** DCT DN280025 DN280165 DN255165 DN260025 DCT;
- c. **R225.** DCT DN155060 DN165275 DN195170 DN190060 DCT; and
- d. **R224/R228.** DCT NICOL DCT DN115040 DN110075 DN120100 DN130075 DN120040 DCT

4.3 **Flying programs.** Visiting SQN's are requested to submit their daily/weekly flying programs to [dar.atc@defence.gov.au](mailto:dar.atc@defence.gov.au) to assist in traffic planning.

### 5. Formation management

5.1 452SQN DAR FLT applies formation procedures IAW [AC SI \(OPS\) 03-16](#) Annex E.

### 6. Local parachute operations

6.1 Parachute operations are conducted overhead Lee Point (351R/5NM) as wells as Bachelor (146R/40NM). ATC must separate all aircraft with these drop zones when active.

6.2 When aircraft are arriving on RWY 36 concurrently with Lee Point operations, DN APR will advise the aircraft that Lee Point Drop Zone is active. In the event of a go-around, TWR will issue tracking instructions or a requirement to hold South of Casuarina Square Shopping Centre.

6.3 In the event of a radio failure in the above scenario, aircraft are to hold South of Casuarina Square Shopping Centre in right orbits, listen out on the ATIS and/or voice modulated NAVAIDS, and look to the TWR for light signals.



### 7. Meteorology

7.1 ABCP will pass aerodrome warning information to all visiting SQN's (unless ABCP is not available, in this case, DN ATC will pass the relevant information to visiting SQN's). ATC will notify all aircraft inbound to Darwin of the AD Warning.

7.2 The weather balloon release occurs at approximately 1115 and 2315 UTC from the weather observers station with ATC approval. The BOM weather observers office is located adjacent to the FRA. Non-scheduled releases may occur with ATC approval. Balloons ascend at a rate of approximately 1000 FT per minute.

### 8. Noise abatement

8.1 Unless cleared via a SID, all jet and turboprop aircraft above 25 000 kg MTOW are to maintain RWY heading until 2000 FT, and:

- a. RWY 11:
  - (1) 2 DME/3 TAC BTW 2030 and 1230 UTC; or
  - (2) 7 DME/8 TAC BTW 1230 and 2030 UTC; or
- b. RWY 29: 5 DME/3 TAC.

8.2 During hours of night, all jet and turboprop aircraft above 5700 kg MTOW (excluding designated quiet jets) arriving from the west to land RWY 29, or arriving from the east to land RWY 11, can expect radar vectoring north of built up areas or south over water.

- 8.3 Unless cleared via a SID, departing military fighter/strike aircraft must maintain runway heading until:
- a. RWY 11:
    - (1) high level sorties: above 5000 FT, then turn; or
    - (2) low level sorties (below 5000 FT): LAPAR/10 TAC/9 DME and then turn and remain outside 10 TAC/9 DME to intercept outbound track; or
  - b. RWY 29: above 2500 FT and established over water, then turn.

### 9. Reduced Runway Separation Standards (RRSS)

9.1 Refer to [AC SI \(OPS\) 03-16](#) for authorised RRSS distances and procedures. Foreign aircraft may participate in RRSS subject to a Letter of Agreement.

### 10. Speed restrictions

10.1 [AC SI \(OPS\) 03-16](#) Annex G advises speed restrictions do not apply to State aircraft or nominated civil aircraft; however, effective traffic management at YPDN requires speed control to ensure safety and efficiency.

10.2 Aircraft arriving via a cleared STAR must comply with the published speed restrictions.

10.3 Unless a higher speed is operationally required the following speeds apply:

- a. non-fast jet aircraft arriving or departing, not on a SID or STAR (including radar vectors), should not exceed 250 KT IAS when below 10 000 FT; or
- b. arriving fast jet aircraft should not exceed 350 KT IAS when within 40 NM of DN, unless otherwise directed by ATC.

10.4 Departing fast jet aircraft are exempt from speed restrictions.

### 11. Transponder procedures

11.1 452SQN DAR FLT applies transponder procedures IAW [AC SI \(OPS\) 03-16](#).

### 12. Visual tracking points

12.1 Familiarity with the listed visual tracking points will assist traffic management and may expedite low level clearances:

- a. Lee Point (351R/5 NM);
- b. Hope Inlet (046R/8 NM);
- c. Jacko's Junction (035R/12 NM);
- d. Channel Island (192R/8 NM);

- e. Wickham Point (205R/6 NM);
- f. Elizabeth River Bridge (147R/8 NM);
- g. Emkaytee (139R/14 NM);
- h. Delissaville (235R/15 NM); and
- i. East Point (274R/5 NM).

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## AIRSPACE

0.1 This AD2 SUPP provides specific local airspace information that supports the airspace information ERSA FAC, Designated Airspace Handbook (DAH) and relevant aeronautical information charts.

0.2 YPDN is a joint-user aerodrome shared by civilian and military operators. During a planned military operation, there is potential for delays to all aircraft whether participating in the respective operation or not.

0.3 Air traffic services (ATS) are provided HR H24 daily.

### 1. North Eastern Training Area (NETA)

1.1 The NETA is an IFR training area, defined as the area between the 360 - 060 (clockwise) DN VOR radials, 15 - 30 DME. Vertical limits will be specified in the airways clearance.

1.2 The NETA is the preferred airspace to be used for instrument training or post maintenance testing.

1.3 Aircraft may flight plan to the NETA provided they have prior approval from the DN Approach Supervisor (Ph: 08 7929 4817). Pilots are encouraged to specify the requested level and nature of intended operations.

### 2. Circuit Area (CIRA)

2.1 All YPDN CIRA operations and instrument training sorties must be booked by phoning ATC (08 7929 4816) at least one day prior to requested operations. Prior to requesting an airways, SQN operations or the PIC delegate should call ATC to confirm the plan details and traffic levels or expected delays.

#### 2.2 Circuit dimensions

2.2.1 YPDN CIRA is defined as the lateral confines of DN CTR plus DN CTA C1 as defined in DAH.

#### 2.3 Circuit altitudes

2.3.1 Jet or turboprop aircraft above 25 000 kg MTOW and all military jet aircraft shall maintain runway heading until at circuit altitude or, for RWY 29, established over water. Circuit altitudes are as follows:

- a. military jet: 2000 FT;
- b. jet: 1500 FT;
- c. prop: 1000 FT; and
- d. helicopter: 1000 FT.

#### 2.4 Helicopter circuit operations

2.4.1 Helicopters are permitted to operate from sealed or grass surfaces for circuit training operations. Preferences should be advised by the PIC.

2.4.2 **TWY A.** Circuits conducted parallel to, and in the same direction as, the main duty runway from TWY A may occur with simultaneous arrivals and departures on RWY 11/29. ATC maintain separation visually or by assigning the responsibility for separation to a pilot. ATC will provide wake turbulence separation.

### 3. Restricted Airspace

3.1 **Supersonic flight.** This AD2 SUPP fulfills the SADFO requirement of [AC SI \(OPS\) 03-04 Supersonic Flight](#) to promulgate suitable supersonic airspace.

3.2 Over-water supersonic flight is approved in R264 outside of 50 NM DN.

3.3 **Restricted Airspace Bookings.** All restricted airspace (RA) booking requests and enquiries must be emailed to [dar.airspacecell@defence.gov.au](mailto:dar.airspacecell@defence.gov.au) and [dar.atc@defence.gov.au](mailto:dar.atc@defence.gov.au) NLT 72 hours prior to the requested time. Where it is not possible to provide sufficient notice, the email request should be accompanied by a phone call to 08 7929 4817.

#### 3.4 R203A/B Kangaroo Flats

3.4.1 R203A/B are primarily used for military flying and non-flying operations by the Australian Regular Army (ARA). R203A/B is RA2.

3.4.2 R203A is active on weekdays 2000 - 1300 UTC excluding federal public holidays or as amended by NOTAM. The vertical limits are SFC - 4000 FT. Activities in R203A must not exceed 3000 FT to maintain a 1000 FT buffer with the upper limit of R203A.

3.4.3 Typically R203A is released to DAR ATC, but may be released to the Range Control Officer (RCO) at short notice.

3.4.4 R203B is activated via NOTAM. Vertical limits are 4000 FT - NOTAM.

3.4.5 Aircraft are not permitted to enter this airspace without specific approval from DAR ATC or if released to RCO, by specific approval of the RCO.

### **3.5 R230**

3.5.1 R230A/B/C/D/E/F is a large portion of airspace to the north east of Darwin over water and land and is primarily used for military flying and non-flying operations. Airspace is activated by NOTAM.

3.5.2 Portions of R230 are surface to NOTAM or starting at 5000 FT - NOTAM to allow aircraft to under fly the airspace and transit the islands below.

3.5.3 DAR ATC is able to monitor OPS normal times for aircraft operations in R230 airspace if requested.

### **3.6 R264**

3.6.1 R264A/B/C/D/E/F/G/H/I/J/K is a large portion of airspace to the West of Darwin over water and is primarily used for military flying and non-flying operations. Airspace is activated via NOTAM. Partial activations allow greater flexibility of air routes in and out of Darwin. Where possible users should avoid requesting R264E-K due to the impact on major air-routes.

## **4. Danger Areas**

### **4.1 D214 Robertson Barracks**

4.1.1 D214 is a rifle range commonly used by the Army. SFC - 1400 FT H24.

### **4.2 D217 Bladin Point**

4.2.1 D217 is a high velocity exhaust plume danger area established overhead Inpex Liquid Natural Gas Plant, SFC - 3000 FT H24.

4.2.2 D217 may be activated to levels higher than 3000 FT at short notice due to gas flaring. During these times, ATC will tactically separate all aircraft from D217.

### **4.3 D227 Wickham Point**

4.3.1 D227 is a high velocity exhaust plume danger area established overhead Wickham Gas Plant. SFC - 900 FT H24.

4.3.2 D227 may flare to levels higher than 900 FT. During these times, ATC will tactically separate all aircraft from D227.

### **4.4 D228A/B/C Cox Peninsula**

4.4.1 D228A is used for flying training from SFC - 2500 FT and is active during hours of daylight.

4.4.2 D228B/C are used for flying training from SFC - 1000 FT and is activated via NOTAM.

## AERODROME

### 1. General information

1.1 The ERSA FAC provides general aerodrome information.

### 2. Ordnance Loading Area (OLA) complex

2.1 The OLA complex is made up of the Eastern OLA and the Western OLA. The Eastern OLA contains parking areas 1 - 5, and the Western OLA contains parking areas 6 - 10.

2.2 ATC controls all aircraft movements within the OLA complex area. ABCP coordinates aircraft parking allocations and all other access requirements.

2.3 **Taxi direction:** In via TWY R. Out via TWY S and T. Taxi direction within the OLAs is anticlockwise.

2.4 The loading of explosive ordnance is only to take place in correctly authorised and licenced areas. ABCP is to liaise with the Base Armament Manager (BAM) when allocating an area for visiting SQNs, ensuring that explosive ordnance (EO) loading/unloading is only conducted in authorised areas.

2.5 SQNs operating out of RAAF Base Darwin are responsible for ensuring all EO licences within the unit operating area are not breached. If SQNs need clarification on licencing requirements, they are to contact the BAM before proceeding with EO operations.

2.6 Certain EO or NEQ of EO requires the use of an OLA state or Military Hardstand (MHS) area. These states apply to civil aircraft, personnel, Darwin International Airport (DIA) operations, and ATC operations.

2.7 Due to the extensive impact on DIA and ATC, the ABCP requires at least 48 hours notice for non-operational EO flights that require the use of an OLA state or MHS state.

2.8 Aircraft should report their EO loads on first contact with ATC.

### 3. Fighter Replenishment Area (FRA) / Bomber Replenishment Area (BRA)

3.1 The FRA is an apron south of TWY A6. Aircraft wishing to operate on the FRA require ABCP approval.

3.2 The BRA is an apron south of TWY A5. Aircraft wishing to operate on the BRA require ABCP approval.

### 4. Military Hard Stand (MHS)

4.1 The MHS is located south of RWY 11/29 and west of RWY 18/36. Aircraft wishing to operate on the MHS require ABCP approval.

4.2 RWY 11/29 has lit distance to run marker (DTRM) boards for both runways and TORA listed at each intersection.

### 5. Operational Readiness Platform (ORP)

5.1 The ORPs are marked for use by military aircraft with a wingspan of 14 m or less. Larger military strike/fighter aircraft may utilise the ORPs but will space according to their wing tip clearance requirements.

5.2 Aircraft greater than 14 m wingspan shall not occupy the ORP concurrently with those of less than 14 m.

5.3 The ORP position markings afford 40 m to RWY 11/29 centreline. The clearance from the ORP position closest to the TWY A/RWY holding point, to the TWY centreline reduces to approximately 21 m in the turn.

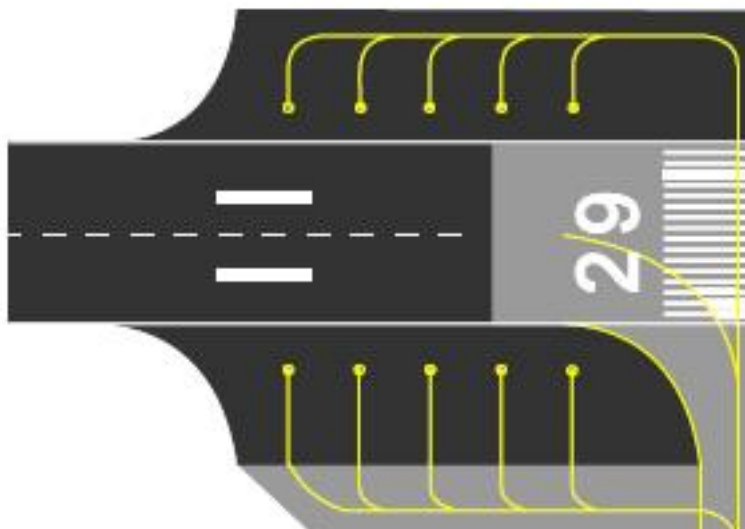
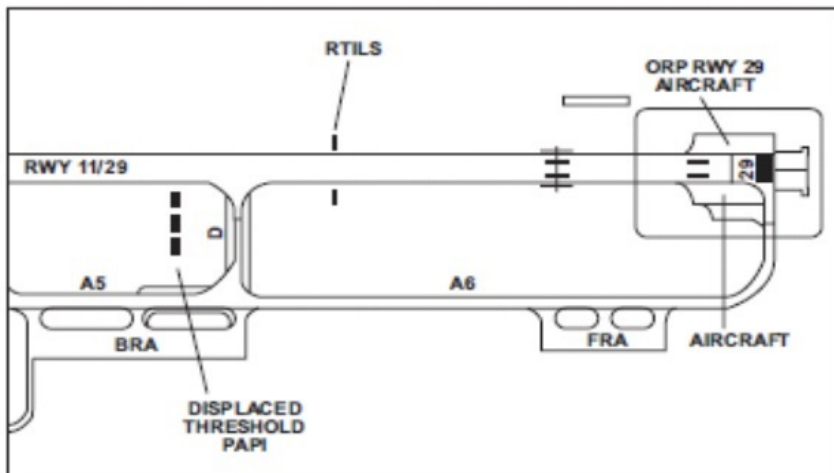


Figure 1 - ORP RWY 29

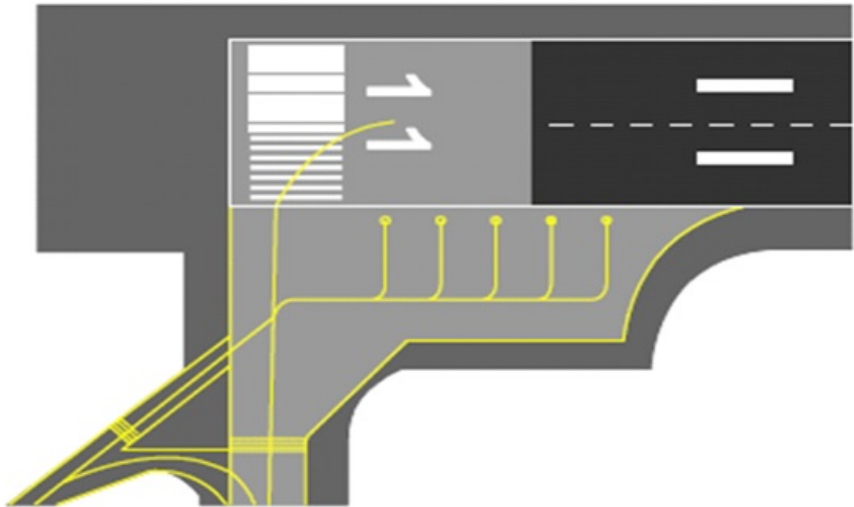
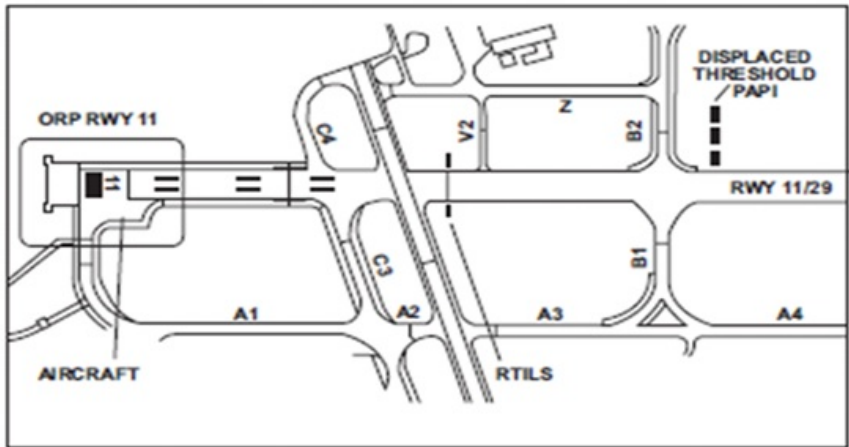


Figure 2 - ORP RWY 11



#### 5.4 Military arrivals/departures

5.4.1 The following restrictions apply to military aircraft:

- a. full length operations are available to military aircraft up to 30 m wingspan;
- b. military strike/fighter aircraft with wingspan 20 m or less may taxi from TWY A onto the RWY with any or all ORP positions occupied;
- c. if the ORP position closest to the TWY A holding point is occupied then military aircraft larger than 20 m wingspan shall not be permitted beyond the holding point; and
- d. if the ORP position closest to the TWY A holding point is not occupied then military aircraft with a wingspan of 30 m or less may be permitted beyond the holding point.

#### 5.5 Civilian arrivals/departures

5.5.1 A non-standard marked displaced threshold is used to accommodate civilian aircraft operations when military aircraft are occupying the ORPs.

5.5.2 The ORP operations are subject to the following requirements:

- a. the maximum crosswind component does not exceed 20 KT;
- b. the visibility is equal to or greater than 5000 m and the ceiling is equal to or greater than 1000 FT;
- c. ATC shall ensure that aircraft crossing the runway to the Northern ORP are established in the ORP prior to the arriving aircraft reaching 5 NM from touchdown. Vehicles crossing to the Northern ORP are subject to normal RWY separation standards;
- d. ORP operations may be conducted by day only; and
- e. an arriving aircraft shall not be cleared to land while another aircraft, vehicle or personnel is on the main RWY within the displaced THR.

### 6. Explosive ordnance operations

6.1 **Aircraft Safety Point (ASP).** There are four ASPs:

- a. Aircraft Safety Point 1 (ASP 1) is located on the eastern threshold of RWY 29 and encompasses both the north and south sides of the ORP and the area of runway separating these two areas. ASP 1 is inclusive of a 100 m countermeasure projection hazard zone extending out from the ASP. The safe forward firing direction is 286 MAG and is indicated on ASP 1 by a white arrow;
- b. Aircraft Safety Point 2 (ASP 2) is located on the western threshold of RWY 11 and the adjacent ORP. ASP 2 is inclusive of a 100 m countermeasure projection hazard zone extending out from the ASP. The safe forward firing direction is 106 MAG and is indicated on ASP 2 by a white arrow;
- c. OLA/ASP 11 is located near the western end of RWY 11/29 and makes up part of the Quick Reaction Alert Facility (QRAF). If ASP operations are to be conducted, no concurrent OLA activities are to be carried out. The safe forward firing direction is towards the forward revetment and is to be confirmed by the BAM; and
- d. OLA/ASP 12 is located near the western end of RWY 11/29 and makes up part of the QRAF. If ASP operations are to be conducted, no concurrent OLA activities are to be carried out. The safe forward firing direction is towards the revetment and is to be confirmed by the BAM.

6.2 **Arming and de-arming.** Normal arming and de-arming of ordnance should be performed on an OLA. Depending on the ordnance type and net explosive quantity (NEQ), the arming/de-arming may cause the activation of an OLA state.

6.3 **Forward firing ordnance arm/de-arm.** All aircraft being loaded/unloaded with ammunition, rockets or missiles are to be parked on an OLA with an approved 'safe direction' for forward-firing ordnance. Contact the BAM for aircraft type safe direction requirements.

6.4 **OLA states.** OLA states A through L apply to civil aircraft and personnel when explosive ordnance requirements are conducted within OLAs 1 to 10 or the bomber replenishment area.

6.5 **MHS states.** EO operations on the MHS bays 1 to 3 affect adjacent taxiways and require activation of either MHS state Alpha or Bravo depending on the hazard division and NEQ of EO loaded to an aircraft.

### 7. Hung or uncoupled HE

7.1 The pilot in command should notify ATC as soon as they become aware of Hung Ordnance. This allows ATC to prepare the response as well as delay other aircraft if required.

7.2 ASP 1 is the primary ASP for EO emergencies where EEDs are involved.

7.3 Rotary Wing aircraft experiencing Hung Ordnance should avoid flying over built up areas whilst tracking inbound on arrival (i.e. fly over water where practicable).

### 8. Aircraft Arrestor Systems (AAS)

8.1 [AC SI \(OPS\) 03-16](#) Annex C provides detailed AAS information.

8.2 YPDN has two BAK 12/14 hook cables installed on RWY11/29, located 410 m (1345 FT) from the threshold RWY 11 and 465 m (1525 FT) from the threshold RWY 29. The normal departure end cable position during hook cable equipped fast jet operations is up.

8.3 Position of the cable will not be passed to aircraft when it is in the standard position for the aircraft type.

### 9. RWY18/36 operations

9.1 RWY 18/36 is unlit and is only available for use by military aircraft or aircraft subject to an emergency during hours of night.

### 10. Helicopter Landing Site (HLS) locations

10.1 The Eastern Helipad (EHP) is a HLS located south of TWY U1.

10.2 The EHP is less than 760 m from RWY 11/29 and, as such, wake turbulence separation will be applied.

10.3 Military helicopters may request to land on TWY A or TWY C.

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## DEPARTURES

### 1. Airways clearance

1.1 **Departure Type.** Aircraft can expect to be cleared via a:

- a. RNAV SID where available;
- b. radar SID for aircraft with a MTOW of 25 000 kg or more;
- c. visual departure or Radar SID (weather depending) for aircraft with a MTOW of less than 25 000 kg; or
- d. LIZARD (RWY 11) or TURTL (RWY 29) SID for ACG aircraft operating within DN/TN restricted airspace.

1.2 **Level.** Aircraft can expect to be issued the following levels (or planned level if lower):

- a. FL180 for aircraft cleared via an RNAV SID, jet aircraft and aircraft with a MTOW of 25 000 kg or more;
- b. 3000 FT to IFR aircraft with a MTOW of less than 25 000 kg; or
- c. 2000 FT to VFR aircraft.

1.3 **Low Level Release Procedures (LLRP).** VFR Helicopters departing Darwin not above 1000 FT should contact Darwin Ground for airways clearance.

### 2. Take-off

2.1 Rolling take-offs are preferred. Aircraft are to minimise the use of afterburner.

### 3. Fast-jet departures

3.1 When cleared on a radar SID or visual departure, fast-jet aircraft must comply with the noise abatement requirements.

### 4. Gates for operations within DN/TN Restricted Airspace

4.1 The following gates are available for transiting to/from DN/TN Restricted Airspace and are based on the DN-VOR.

**a. R230:**

- (1) GATE A (360R/25 NM);
- (2) GATE B (021R/25 NM);
- (3) GATE C (034R/25 NM);
- (4) GATE D (056R/25 NM); or
- (5) GATE E (070R/25 NM).

**b. R225/R264:** Under review, to be advised via local briefing.

**c. R224/R228:** NICOL

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## ARRIVALS

### 1. General

1.1 Aircraft arriving Darwin should expect the following tracking:

a. **Following operations within DN/TN Restricted Airspace.**

(1) ACG aircraft: DISCO (RWY 11) or PESEA (RWY 29) STAR; or

(2) Non-ACG aircraft: Via the airspace gate then direct DN. Approach will issue further instructions for a visual/instrument approach as necessary.

b. **Arrivals at 10 000 FT or above.** Aircraft should expect tracking (or to be re-cleared) via a STAR applicable to their planned route; or

c. **Arrivals below 10 000 FT.** Expect clearance on planned route.

1.2 **Approach Type.** Unless otherwise requested by the pilot, in VMC aircraft can expect a straight in visual approach. During IMC, or when requested for training, aircraft should advise DN APP of their preferred approach type on first contact.

1.3 **Arrivals from Class G Airspace.** VFR aircraft arriving from class G airspace should contact Darwin Delivery for SSR code, and advise inbound details including estimate for Darwin. VFR helicopters arriving not above 1000 FT should contact Darwin Tower directly for airways clearance.

### 2. Military Stream Landing Pattern (MSLP)

2.1 MSLP operations require prior approval from the SADFO.

2.2 **Straight Initial.** 10 TAC aligned with the runway centreline.

2.3 **Initial Point (IP).** The IP is 5TAC (4.4 NM from the RWY 29 threshold, 3.8 NM from the RWY 11 threshold) aligned with RWY 11/29. Aircraft will arrive at the IP via Straight Initial.

2.4 IAW [AC SI\(OPS\)03-16 - Air Traffic Control Procedure Variations](#) an automatic flight category change to VFR occurs at the initial point.

2.5 **Lateral requirements.** For separation with arriving aircraft to RWY 18/36, aircraft required to run in no further north of the main RWY than the ATC tower and pitch south. Aircraft are required to remain over land for the downwind leg unless otherwise directed by ATC.

2.6 **Speed.** Aircraft shall not fly above 350 KT throughout the MSLP manoeuvre.

2.7 **Vertical.** The following vertical requirements apply:

a. aircraft shall not descend below 4000 FT until arriving at Straight Initial. ATC clearance for the visual approach does not authorise descent below this level. Should additional descent be required, ATC shall specifically authorise a nominated level;

b. from Straight Initial, aircraft shall descend to reach 2000 FT by the IP; and

c. from the IP, aircraft shall maintain 2000 FT until commencing the base turn.

### 3. Go-around procedure

3.1 Aircraft are to climb to 1500 FT and maintain RWY heading, tracking between the ATC tower and RWY 11/29 (unless otherwise directed by ATC). On receipt of onwards clearance, aircraft shall climb to 2000 FT before turning.

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## EMERGENCIES

### 1. Diversion aerodromes

1.1 The primary diversion aerodrome for Darwin is Tindal. Should Darwin and Tindal not be available, the following are available as emergency diversion aerodromes (in reducing order of suitability):

Aerodrome	RWY	Dimensions (m)	Surface	Position
Bathurst Island (YBTI)	15/33	1470x30	Bitumen	335R/42 NM
Bachelor (YBCR)	13/31	1670x30	Bitumen	164R/40 NM
Tipperary (YTPA)	11/29	2500x30	Bitumen	170R/80 NM
Snake Bay (YSNB)	13/31	1443x30	Bitumen	344R/61 NM

### 2. Designated fuel jettison area

2.1 Other than in an emergency, the designated fuel jettison area is:

- a. over water in the Beagle Gulf,
- b. between the 320 and 060 TAC radials,
- c. 15 to 40 NM; and
- d. 6000 FT or above.

### 3. Premeditated ejection area

3.1 The premeditated ejection area is:

- a. waypoint MABAM (110R/015 from the TACAN),
- b. at 5000 FT; and
- c. from MABAM, fly heading 350 degrees and initiate ejection.

### 4. ARFF fire commander

4.1 Upon notifying SMC, emergency aircraft may contact the Fire Commander directly on 131.0.

### 5. Radio failure procedures in DN CTA or RA

5.1 In the event of a radio failure, squawk 7600 and proceed IAW previous instructions.

5.2 Aircraft returning from Restricted Airspace should track inbound to DN via a Military STAR (PESEA for RWY 29 or DISCO for RWY 11), then should arrival via a Straight-in Visual Approach (**not** Initial and Pitch)

5.3 Maintain terrain clearance throughout all procedures. 25 NM MSA is 3000 FT.

5.4 Listen out on ATIS (128.25).

5.5 Follow radio failure procedures outlined in ERSA EMERG.

5.6 ATC will raise both the approach and departure end cables.

5.7 If practicable, make contact with a Supervisor at DAR ATC. Tower Supervisor 08 7929 4816, Approach Supervisor 08 7929 4817.

### 6. Hot brake procedures

6.1 When advised that an aircraft may have hot brakes, ATC will dispatch Aerodrome Rescue and Fire Fighting (ARFF).

6.2 On receipt of notification of hot brakes, aircraft will be instructed to taxi to either the BRA, FRA or TWY D (RWY 11) or TWY G (RWY 29). Pilots are to park the aircraft pointing north or south. TWY D may be used should the BRA and FRA be unavailable.



### 7. Hydrazine procedures

7.1 Following an engine restart, and on return to base, the remaining volume of hydrazine in the tanks is to be purged. This allows the safe and controlled re-filling of the hydrazine stores for subsequent missions.

7.2 TWY G is promulgated as the hydrazine venting response parking area.

7.3 The alternate hydrazine parking area is the mid-point on TWY A1. If this location is used ATC are to arrange a temporary displaced threshold for RWY 11 with no aircraft, vehicles or personnel not involved in the Hydrazine incident permitted west of TWY C.

7.4 The Base Aviation Safety Officer (BASO)/delegate will coordinate with the Hydrazine Response Team (HRT) upon deployment of F-16 aircraft to RAAF Darwin, in order to confirm deployed capability and confirm each parties SOPs.

7.5 Affected aircraft can expect to roll through and hold at TWY A1 (RWY 29 arrival) or TWY D (RWY 11 arrival) until the ground crew has arrived and TWY G has been cleared, pending the arrival of the aircraft ground crew and the clearing of TWY G.

7.6 If the aircraft is on the flight line, the parent unit is responsible for contacting the ABCP and moving the aircraft to TWY G under ATC taxi instruction.

7.7 No purging is to commence until TWY G is clear of parked aircraft and/or equipment, the aircraft is parked on TWY G, and the incident Site Commander (ISC) has the cordon established.

### 8. TWY Alpha emergency landings

8.1 If both RWY 11/29 and RWY 18/36 are unavailable or unsuitable, TWY A may be used for emergency landings at the discretion of the Pilot In Command (PIC). When TWY A is used for an emergency landing, the following requirements are to be implemented:

- a. ATC will request 13SQN position radio equipped vehicles to prevent access to TWY A from (in priority order):
  - (1) adjacent the intersection TWY C;
  - (2) adjacent the intersection western BRA invert;
  - (3) adjacent the intersection western FRA invert; and
  - (4) adjacent the intersection TWY R (this vehicles is to control TWY S also).
- b. ATC may delay the landing aircraft until radio equipped vehicles are in position. ATC will inform the PIC of the extent of access control imposed on TWY A prior to commencing the approach to land. Given this information, the decision to continue and long on TWY A rests with the PIC.

## MARINE ROTATIONAL FORCE DARWIN (MRF-D) OPERATIONS

### 1. Introduction

1.1 The United States Marine Core (USMC) deploy a mixed force of rotary wing assets to YPDN as part of the Marine Rotational Force–Darwin (MRF-D) for approximately 8 months each year (March through to October).

1.2 MV-22 and large rotary wing such as CH-53 are located at the FRA, which can cater for 6-8 aircraft comfortably and 10-12 aircraft if required through utilising the ability for aircraft to fold wings and rotor blades.

1.3 **Flight planning.** IFR and VFR flight planning will need to be submitted through NAIPS or Brisbane Military Briefing. ATC is unable to file flight plans for aircraft.

### 2. Robertson Barracks

2.1 Robertson Barracks (YRBK) is located approximately 5 NM east of YPDN and is home to the 1st Aviation Regiment (1AVN) which operates ARH Tiger helicopters.

2.2 Aircraft wishing to operate into Robertson Barracks are to ensure they have prior approval from the Army.

2.3 MV22 aircraft may transit to Robertson Barracks remaining with TWR, not above 1000 FT. The process for departure will be in the same manner as that of the AH/UH operations, listed below.

2.4 The CTAF at Robertson Barracks is 126.6 and the lowest level of controlled airspace above the Robertson Barracks is 500 FT.

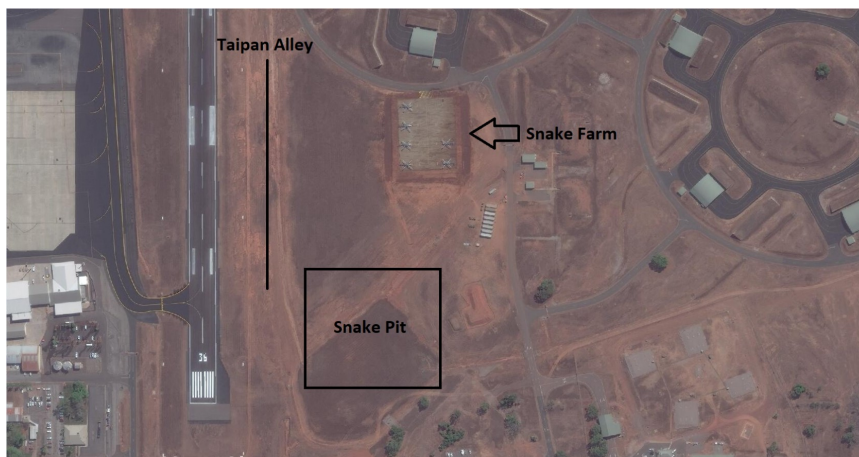
2.5 A brief on Robertson Barracks operations can be obtained by contacting 1AVN.

### 3. AH/UH operations

3.1 **Parking.** The small rotary wing assets, a combination of UH-1Y Venom and AH-1Z Viper aircraft, are located at the Snake Farm (see below). The Snake Farm is a hardstand located south of OLA 6-10 and East of RWY 18/36. It can cater up to eight aircraft of AH-1Z/UH-1Y size.

3.2 The Snake Pit is a grass/dirt area located south of the Snake Farm and utilised solely for low level hover operations.

3.3 Taipan Alley is a drainage ditch that runs north/south outside the RWY 18/36 runway strip. It is used as a holding point for aircraft taxiing out from the Snake Farm/Pit.



3.4 **OLA.** Aircraft are required to load forward firing ordnance in the OLA complex to ensure compliance with safety protocols. Loading is to occur in OLA 8. Aircraft are to request to transit to OLA 8 via RWY 18/36 and TWY November.

3.5 **FRA.** Due to the unique refueling situation at the Snake Farm, aircraft may require transit to/from the FRA. This is to be conducted by requesting to 'Air Transit' between the two locations which shall be done not above 200 FT AGL and remain on Ground frequency. Wake Turbulence Separation will not be applied between aircraft air transiting and other arriving/departing aircraft.

### 3.6 Departures

3.6.1 Aircraft shall establish communications with SMC by using the phrase "DN Ground, Linebacker XX with outbound details" and await a response.

3.6.2 Aircraft are to request airways clearance for tracking to either Elizabeth River Bridge (ERB), Channel Island (CHI) or Talc Head (TCH) not above 1000 FT. Notification of fuel endurance/playtime is not required.

3.6.3 A departure coastal northbound to Hope Inlet (HPI) is also available for VIP flights but may result in increased delays due to higher priority traffic and is the least preferred routing. Prior notification via telephone is required for this tracking due to potential the impact on civilian traffic.

3.6.4 Once an airways clearance is received, aircraft shall request taxi to depart RWY 18 (or TWY Alpha if required from OLAs/FRA). RWY 36 can also be used for departures if the aircraft is unable to accept the tailwind component on RWY 18. If departing from RWY 36 the aircraft will depart into wind to become airborne and then execute a hard turn onto track for ERB, CHI, TCH etc whilst remaining South of RWY 11/29.

3.6.5 When established holding at Taipan Alley and ready for departure, aircraft should contact TWR.

3.6.6 Once cleared for take-off, aircraft should establish over water as soon as practical to minimise noise complaints.

3.6.7 At the CTR boundary TWR will state 'Control Service Terminated, Frequency Change Approved'. Aircraft should then switch to the relevant CTAF/Multicom frequency for Class G broadcasts as required and change SSR code to 6000.

3.6.8 TWR may alter tracking instructions as required for separation with other aircraft.

### 3.7 Arrivals

3.7.1 At approximately 15 TAC from YPDN, aircraft should contact TWR – 'DN TWR, Callsign, inbound details'.

3.7.2 TWR will respond with an instruction to Squawk 0100 or IDENT and send details.

3.7.3 Aircraft are to provide a readback of the code issued as well as their position, altitude, ATIS information received, persons on board (POB) and their intentions (such as for RWY 36 and the Snake Farm or for TWY Alpha and the FRA etc).

3.7.4 TWR will then provide an airways clearance if available, or will advise to remain outside controller airspace.

3.7.5 When approaching the landing site, TWR will issue a landing clearance as appropriate. For RWY 36, this may be in the form of a 'spot landing' to allow simultaneous operations on RWY 11/29. e.g. "Linebacker, spot land abeam threshold, RWY 36, cleared to land".

### 3.8 Night operations.

3.8.1 In order to best facilitate night operations, aircraft are to specify that they are NVG-equipped by appending 'NVG' to the requested level. This will allow ATC to issue a level below the LSALT and enable a low level departure. This will also enable the use of RWY 18/36 at night.

## 4. MV22 Operations

### 4.1 Departures

4.1.1 Aircraft are to call ACD ('Darwin Delivery') for an airways clearance to their requested destination. MV22s can expect to be cleared direct to their requested destination.

4.1.2 When ready for taxi, aircraft are to call Ground notifying receipt of the current ATIS, the number of persons on board and requested intersection for departure.

4.1.3 When ready for departure and approaching the holding point, aircraft shall automatically contact TWR.

4.1.4 To ensure compliance with noise abatement procedures, MV22 aircraft can expect to maintain RWY HDG until directed by ATC.

### 4.2 Arrivals

4.2.1 Aircraft are to call ACD approximately 20 NM from the CTA boundary for inbound processing where possible.

4.2.2 ACD will require the following information:

- a. number of aircraft in the formation and formation type or 'single MV22';
- b. position reference DN;
- c. level information;
- d. ATIS information received; and
- e. POB. Where multiple aircraft in the formation, POB can be stated as '8 plus 5 plus 17' for example.

4.2.3 ACD will then issue a squawk code and once identified, they will switch the aircraft to APP E/W as required.

4.2.4 APR will then give an airways clearance. If an airways clearance is not received, aircraft are to remain outside controlled airspace.

4.2.5 Once the aircraft have vacated the runway after landing, they may automatically switch to ground for taxi instructions.

### 4.3 General

4.4 **Noise abatement.** For normal operations, MV22 will be restricted to utilising RWY 11/29 for departure to enable compliance with noise abatement procedures. Aircraft are to maintain runway heading until passing A020 and then comply with ATC instructions, unless transiting to Robertson Barracks as outlined in para 6.

4.5 **Runway 36.** RWY 36 may be used for arriving MV-22 aircraft to avoid delays to the main duty RWY. Aircraft landing on RWY 36 are to minimise the time they are hovering over the asphalt to reduce the risk of pavement damage. Regular inspections will be carried out by the BAEO and DIA Safety Officer to check for pavement damage. The use of RWY 36 may be removed should pavement damage increase to an unacceptable level.

4.6 **TWY Alpha.** TWY Alpha is not available for use by MV22s as a landing or take off point due to the risk of damage to the taxiway from exhaust gases, the increased potential for FOD on the taxiway as well as wake turbulence effects on RWY 11/29. This may be reviewed by the BAEO and 452SQN DAR FLT OPSCDR for future MRF-D deployments.

4.7 **Spot Landing.** In order to enable simultaneous operations on RYWY 11/29, aircraft landing on RWY 36 will be instructed to 'spot land abeam TWY Alpha'. This ensures that the landing can be treated like a helicopter and consequently the required landing area does not infringe on RWY 11/29. Traffic information may/may not be passed regarding aircraft operating to the other RWY, depending on controller workload. Aircraft that require a rolling landing are to notify TWR on first contact.

4.8 **Night Operations.** In order to best facilitate night operations, aircraft are to specify that they are NVIS-equipped by appending 'NVIS' to the requested level. This will allow ATC to issue a level below the LSALT and enable a low level departure. This will also enable the use of RWY 18/36 at night. During night operations, a turn direction may be issued on departure however the MV22 must maintain runway heading until passing 2000 FT before commencing the turn to ensure compliance with noise abatement procedures.

#### 4.9 Hover operations

4.10 Hover Operations lasting longer than 60 seconds are only to be completed on concrete surfaces to minimise the risk of heat damage to the maneuvering area. Suitable locations include: THR RWY 11, THR RWY 29, BRA or BRA Extension.

4.11 Requests are to be sent to the ABCP for approval. Aircrew are also to call the TWR via TEL to discuss the operations with the supervisor. Aircrew are to notify Ground that they have BCP approval for hover operations with their taxi call.

4.12 Wake Turbulence separation will not be provided between aircraft conducting hover operations and other arriving/departing aircraft.

### 5. Hazardous weather

5.1 During the Wet Season (October-April), it is typical for large tropical storms to affect both the aerodrome and the wider Northern Territory.

5.2 Depending on ATC workload requirements, the ABCP may not be advised of incoming storm activity. Therefore, MRF-D will be responsible for managing their own recall of aircraft due to severe weather.

### 6. Emergency procedures

6.1 Aircrew stating that they are returning for a 'maintenance defect' will not be afforded priority and may be vectored/held dependent on the traffic situation at the time. The Aerodrome Emergency Plan (AEP) will not be activated in this scenario.

6.2 In order to obtain priority landing, aircrew will need to declare a PAN or MAYDAY as appropriate to their emergency situation.

6.3 Upon receipt of PAN/MAYDAY notification, the AEP will be activated to the appropriate level.

6.4 ATC will provide airborne priority IAW the emergency situation and will also notify the MILSARO (time permitting).

6.5 The Emergency Landing Site (ELS) is located on TWY Hotel. Mattresses will be pre-positioned by USMC personnel on TWY Hotel for the duration of each MRF-D deployment.

### 7. Gear issues

7.1 In the event an aircraft has a gear issues:

- a. aircraft will declare to TWR that they have a gear issue;
- b. TWR will instruct the aircraft to go around and then issue holding instructions to the aircraft. MV22 can expect to hold over water in the harbour to conduct trouble shooting and reduce noise over built up areas;
- c. TWR will activate the AEP;
- d. USMC ground personnel will position to TWY Hotel and notify the MV22 crew through their OPS frequency once they are in position;
- e. the MV22 will notify TWR that USMC and emergency personnel are in position and that they are ready to return;
- f. TWR will clear the aircraft for a visual approach to TWY Hotel. When the aircraft is on final, TWR will clear the MV22 to land;
- g. once the aircraft is deemed safe, USMC personnel are to notify the Fire Commander who will notify ATC over the radio that the emergency can be cancelled; and
- h. USMC will be responsible for ensuring that the BASO and ARFF are briefed on the ELS procedure.