

## SAFETY ASSESSMENT Eros Changes

Reference Number FYWE01/2015

### TITLE OF PROPOSED PROJECT / CHANGE

Changes at Eros Airport in regard to VFR exit/entry points; procedures and exit/entry Level conditions.

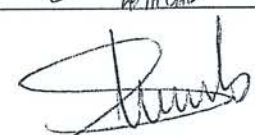

### SUMMARY OF PROPOSED CHANGE

Change from ATZ to CTR; VFR only Inbound and Outbound Routes will be defined. Procedures should be follow quite restrictive.  
The change is not affecting IFR Traffic which is cancelling IFR during arrival.

### AUTHORISATION

**NOTE:-** By signing this Safety Assessment or Safety Case document you acknowledge that:

- You are satisfied that the document has been completed correctly;
- Appropriately experienced and/or qualified staff participated in the process; and
- Sufficient information has been included to justify the outcome.

Name and Position	Signature	Date
<b>Prepared by:</b> Alfred Vlasek Robert Grant		05/05/2015 05.05.2015
<b>Proposed by:</b> Christine Eiman; MATS EROS		07-05-2015
<b>Agreed by:</b> Gordon Nanub ATC Safety Officer  <small>Name(s)/Position(s) of applicable system and/or service authority(ies). Where multiple systems or services are affected, agreement from each is required</small>		11/05/2015
<b>Approved by:</b> Philippine Lundama ACATCO <small>Name(s)/Position(s) of Manager(s) with safety accountability (see note below).</small>		08/05/2015
<b>Endorsed by:</b>  Section Chief, ANSSO <small>(only if a Safety Case has been prepared)</small>		

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<b>Name and Position</b>	<b>Signature</b>	<b>Date</b>
<b>Prepared by:</b> Alfred Vlasek Robert Grant		18/03/2015
<b>Proposed by:</b> Christine Eiman; MATS EROS		18/03/2015
<b>Agreed by:</b> Gordon Namub ATC Safety Officer		
<b>Approved by:</b> Phillipine Lundama ACATCO		
<b>Endorsed by:</b>  <b>Section Chief, ANSSO</b>		

*Note: Where changes have national implications and affect operations under the NAM-CAR Part 172, the manager(s) with the safety accountability for the service delivery is the approval authority. For other changes, the manager(s) who has the safety accountability for the change is the approval authority.*

## **STEP 1. BACKGROUND**

The high rate of incidents in and around Eros required changes to procedures to reduce risk and increase safety. These changes form the first part of the overall changes envisaged. Some of the incidents are attributed to airspace and procedures and some to ATC. The VFR entry / exit points are designed to assist both ATC and pilots. Standards procedures to be introduced will also assist.

## **STEP 2. PURPOSE OF THIS DOCUMENT**

This document prescribes the Safety activity for the proposed change. The document will prove that all Safety Levels will be achieved and the all Hazards are mitigated in a proper manner to keep the risk as low as reasonable practicable.

## **STEP 3. SCOPE OF THE PROPOSED CHANGE**

1. Currently there are no designated VFR entry exit points for aircraft entering or leaving Eros CTR. Aircraft arrive and depart through random sectors.  
The introduction of Entry/Exit VFR points will give predictable paths for ATC and pilots when entering and leaving the CTR.
2. Currently in the AIP Eros is referred to as an ATZ. This has caused much confusion within ATC and pilots. No one is entirely certain as to responsibilities and procedures.  
Current AIP has Eros listed as an ATZ Aerodrome Traffic only. This is an ambiguous term and bears no relationship to ICAO airspace classifications.  
The removal of reference to ATZ in AIP and the reinforcement that Eros is a Class C CTR will give clear direction to ATC and pilots of procedures in use.  
AIP amendment to contain the changes
3. There is currently no Visual Approach Chart available for pilots operating into or out of Eros.  
Production of Eros VFR booklet will assist pilots with navigation around the Eros airspace.  
Available in both paper and electronic formats. The electronic format will be available on the DCA web site for pilots to view download and print to assist with navigation in the Eros area.
4. Retraining of Eros Tower controllers with proficiency checks will ensure all affected staff are proficient with the new procedures.
5. Availability of a Eurocat systems map for APP and TWR controllers depicting the entry/exit waypoints

## **STEP 4. ASSUMPTIONS, CONSTRAINTS AND DEPENDENCIES**

### **4.1 ASSUMPTIONS**

All assumptions made in this document, have been done from the experts involved based on their experience, taking all hazards into account.

### **4.2 CONSTRAINTS**

No constraints have been identified during the Safety Workshop

### **4.3 DEPENDENCIES**

Dependencies are defined as Safety Requirements in the end of the document.

## **STEP 5. RESPONSIBILITIES**

Christine Eiman/Eric Bruys/Mikhail Mannetti; Eros Project Team members  
Robert Grant; ICAO PBN Expert  
Alfred Vlasek; Austro Control Safety Assessment Peer

## **STEP 6. CONSULTATION AND COMMUNICATION**

Phillipine Lundama ACATCO  
Tobias Günzel DDAAN  
Angelina Simana Director DCA  
Air Namibia Safety Division Marco Konings  
Desert Air Safety  
West air Safety Karel  
Widerness Air Elfreida Kirsten  
Scenic Air J Wallis  
All participants of the Safety HAZID Workshop (see attached list)

## **STEP 7. DESIGN PROCESS**

### **7.1 DESIGN INTEGRITY**

Assured by using current points known to Eros users. These points are used for the VFR entry/exit points as well as being turned into GPS waypoints for ease of reference for pilots. The waypoints have been checked using GPS

### **7.2 FUNCTIONAL AND PERFORMANCE REQUIREMENTS**

The Eros project team developed the procedures over a period consisting of meetings, simulation and review. Peer review was given by two ICAO experts with extensive ATC background. The proposed changes were then tested by the project team in the ATC simulator. Suitability of the proposed waypoints was then flight checked using a local operator in a typical training aircraft type. All were found to be suitable.

All affected ATC personnel will be trained in theory and practical aspects of the change then assessed prior to implementation. The changes are authorised by the ACATCO.

### **7.3 DESIGN CONFIRMATION**

The VFR points have been flight checked by a local operator using a typical training type aircraft for suitability. All have been found suitable.

The design of the Eros VAC has been reviewed by several Eros operators and all have found it acceptable.

### **7.4 DESIGN PROCEDURES AND STANDARDS**

The use of 500FT segregation for inbound and outbound VFR traffic through the entry / exit points will greatly reduce risk of collision for opposite direction traffic. A contributing factor to incidents has been ATC not providing any form of segregation for aircraft, only traffic information with aircraft opposite direction at the same level.

## **7.5 DESIGN LIMITATIONS AND SHORTCOMINGS**

A system limitation currently is the non-availability of Eurocat data in the Eros Tower. This would greatly assist and enhance the TWR controller's situation awareness of aircraft. Plans are to have Eros TWR controllers Eurocat rated in the near future.

## **7.6 DESIGN AUTHORITIES**

Eros Project Team members: Christine Eiman, Eric Bruys, Mikhail Mannetti  
ICAO ANS Expert: Anders Ellestrand  
ICAO PBN Expert: Robert Grant

## 7.7 DESIGN SAFETY MANAGEMENT ACTIVITIES

The Hazards and Mitigations have been identified and defined in a common Workshop held on the 18/03/2015 at Namibian DCA.

Experts from several domains have been present and they give their expertise to the proposed changes. All mitigations are defined to keep the risk as low as reasonable practicable.

## 7.8 DESIGN HAZARDS, CONTROLS AND SAFETY REQUIREMENTS

### **HAZARDS:**

HZ1: New RWY at Heja Lodge (approved from DCA?) need to be clarified

HZ2: 8 NM final approaches Eros, will be outside the 5 NM CTR at Eros.

HZ3: Communication in approach from the south on VFR altitudes (17 NM to 6 NM no communication possible) Reason for that is the mountain range in the south. Windhoek APP also facing the same problem.

HZ4: Foreign pilots might not be aware about the points in detail

HZ5: Uncontrolled Acft will come close to controlled Acft due to the proximity of uncontrolled airspace;

HZ6: There is no entry point for VFR via the southeast into the CTR;

### **SAFETY Requirements:**

SR1: Redesign of the Airspace around FYWE as soon as possible planned for Q4/2015

SR2: Clearly identify in the VAC the altitude requirements for arrivals and departing VFR to/from FYWE (need to be done prior implementation)

SR3: Clarify with DDAN about new/updated communication facilities around Eros Airport and at Windhoek APP.

SR4: Information booklet shall be distributed and published prior to implementation;

SR5: Define GPS Data additionally to the points to make it for pilots easier to find those points.

SR6: Mandatory Communication even outside of CTR e.g. 5 NM circle additionally to the CTR.

SR7: Review and validate the necessity of a reporting point for VFR in this area (SE of Eros airport), work needs to be done from the Eros project.



SR8: keep the current proposal on the VFR points and review the points after 4 month in operation

SR9: To reduce the risk of being on the wrong frequency in the wrong airspace during the redesign of the airspace it shall be reviewed if a cancellation of FRQ 124,8 do make sense and if a single FRQ for single class of airspace would be of a benefit

SR10: Handover from APP to TWR Eros need to be reviewed to avoid communication problems.

## 7.9 DESIGN RISK MANAGEMENT

New Frequency switches might be necessary of being implemented

Safety Monitoring shall be done via the Investigation/Safety office at NDCA

Information booklet shall be released and made public available prior implementation.

Inform and communicate the change to flying colleges/schools which are flying in and out to Eros

Strictly follow the entry exit points as published

Publish all necessary information on the DCA website to make it public available

SE part of the CTR is being identified as a problem due to mountains

The mandatory Project implementation review shall be done !

Test flight has been conducted and the result shows that the VFR entry/exit points are fine to fly and to comply with.

Training requirements need to pay attention to the necessity of a quick descent if the acft is coming via "Kupferberg" (acting CATCO)

SR9: Review and if necessary adapt the current SSI between APP Windhoek and Eros TWR as well as the SSI in regard to Windhoek International Airport.

## **STEP 8. CONCLUSION**

After finalizing all Safety Requirements, the target level of Safety will be reached in a proper manner to implement the changes with a minimum level of risk.

## **STEP 9. DOCUMENT REVIEW**

### **9.1 Service Delivery Line/Business Branch or Unit/Safety Services**

The process has been executed in line with ANSSO requirements.  
Content in the change is relevant and valid after review of incidents around Eros. This content goes to delivering increased safety at Eros.  
Peer review of Eros project members achieved through consultation with ICAO experts with extensive ANS experience. Further local/peer review by consultation/review with local operators.  
Feedback received will be reviewed and incorporated in required changes to procedures after PIR

### **9.2 Service Integrity**

**STEP 10. APPENDICES**

**STEP 11. RELATED DOCUMENTS**

ICAO Doc 9613  
Namibian AIP, relevant Parts  
FYWE AD  
Namibian ATS Manual  
Namibian SSI  
Eros VAC (draft)  
ANSSO-Safety-03  
Presentation on Safety and Procedures at Eros used as a background information for the participants  
HAZID attendance register

EROS HAZID ATTENDANCE 18 March 2015

Name	Organisation	Position	Experience	email	Years of Experience
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