SMS CONTINUOUS IMPROVEMENT PACKAGE 1:

SMS COMPONENT 5:

HUMAN FACTORS (FATIGUE AND STRESS)

5.1 Introduction

In considering our policy for human related safety issues, the club accepts that:

- Human performance limitations continue to dominate aviation and parachuting accident statistics.
- The effective management of error remains one of the greatest challenges to the further reduction of accidents and improving safety.
- Effective technical **and** human factors are required for safe and efficient operations.
- The need for improved efficiency and having fit-for-duty personnel highlights the crucial role of effective human factors.

In resolving the hazards and risks related to human activity within the club and to avoid long term prescriptive measures (fixed and inflexible duty periods), we will gradually introduce a Fatigue Risk Management System (FRMS).

The FRMS is a systems based approach to manage human related risk and introduces management practices and procedures to predict, manage and monitor fatigue and stress related risk.

Our eventual aim is to achieve a fully incorporated FRMS where a culture change has occurred leading to all our members contributing to the reduction in fatigue risk.

We recognise that this change will not occur quickly and have designed the change to happen over three phases (outlined below).

5.2 FRMS Policy and Objectives

5.2.1 Management Commitment

The club's safety vision and safety policy objectives remain as outlined in the Safety Policy Statement located at the start of this SMS. In particular, effective communication and an open reporting culture are vital to the reduction of risks related to fatigue and stress.

No one will be penalised for reporting suspected fatigue hazards relating to themselves or others.

5.2.2 Responsibilities

Some symptoms of fatigue and stress may be obvious but not necessarily to the individual. The club encourages members to be on the lookout for fatigue in their peers as part of our 'buddy check' procedures and ask that the member be reminded to check in with the DZSO or CI.

The club encourages members to report to their immediate supervisor (senior pilot, DZSO, club safety manager or CI) if they are not completely fit for their duties. It is recognised that this may involve a

temporary reduction in income for the individual but the results of a failure to make appropriate decisions due to fatigue or stress have far reaching impact.

The responsibilities of the owner, CI, Club Safety Manager, DZSO, Senior Pilot and the Club Safety Committee outlined in Component 1 of this SMS apply also to this Component.

5.2.3 Objectives

During initial introduction of this Component, our objectives are:

1. Raise awareness of human factors safety issues by including discussions at each club meeting.
2. Encourage a culture of open reporting and communication of fatigue and stress concerns by not penalising members who report.
3. Foster an environment based on trust and 'just culture' principles with fatigue related incidents.

5.2.4 Affected Members

Although all members could be affected by stress and fatigue, this instruction applies specifically to Operational Crew Members (OCM) who, if affected by stress or fatigue, could present a hazard to other persons or property. OCM include:

- Tandem masters.
- Pilots.

5.2.5 FRMS Phases

Introduction of the fully integrated FRMS will be conducted over three phases:

1. Phase 1 (1 July 2017 – 30 June 2018). The club will provide sufficient rest opportunities for OCM and those members are responsible for using the rest opportunities provided. Suggested duty/rest periods and limits are outlined below. We will encourage members, especially OCM, to record and report instances where they are fatigued so that alternate strategies can be developed.
2. Phase 2 (1 July 2018 - 30 June 2019). Initial fatigue management introduction. Specific to club risk management assessment, training and education for operational staff, increased and continuous monitoring of staff and risks specific to the club.
3. Phase 3 (1 July 2019 – 30 June 2020). Full compliance with a club based FRMS. This will remove a great deal of the prescriptive limitations but will require increased focus on education and training, formal evaluation and review, improvement recommendations, record keeping and audit.

5.2.6 Phase 1

(a) Phase 1 Prescriptive Guidelines

- No authority within the club will require an OCM to perform operational duties if that authority has reason to believe the OCM is suffering from fatigue which may impair the safety of the operation.
- A duty cycle will consist of any 168 hours (7 days) period.
- Off Duty. Following a period of duty, an OCM will have an off-duty period of at least 10 hours. An OCM will be required to be free of all duty for at least 24 hours in any duty cycle (7-day period).
- Duty Period. The maximum duty period is 11 hours.
- Meals. If a duty period exceeds 5 hours, an OCM must have an opportunity to access a meal and a minimum of 30 minutes rest away from the operational area.
- Extensions. The duty period may be extended for up to 1 hour for unforeseen operational circumstances and the OCM considers him/her self, fit for the time extension after consultation with the DZSO.

- Limit on Cumulative Duty Periods. Due to the significant fluctuations on operations imposed by weather and other factors, putting limits on cumulative duty periods is not considered necessary at this time. The Chief Instructor will monitor operational levels and, if considered necessary, may impose mandatory rest periods for OCM who exhibit fatigue symptoms.

(b) Phase 1 Data Collection

Ideally, the club would like to collect data on individual's fatigue level over time. However, it is recognised that this would be extremely difficult to manage in a meaningful way and create additional load on members and management.

Members, in particular OCM, are encouraged to record unusual fatigue levels in their log books and raise these incidents either with the CI or in club meetings so that all members can benefit from the experience and changes can be made to operations to make them safer.

5.2.7 Phases 2 and 3

Details on the introduction of Phases 2 and 3 will be advised following assessment on the results achieved during Phase 1.

5.3 FRMS Risk Management

5.3.1 FRMS Overview

FRMS risk management uses the same principles as the general risk management process outlined in Component 2 of this document. Its approach is to be proactive in identifying fatigue hazards and depends on honest communication between OCM and club management. As with all risk management, the main steps are:

- Identify fatigue hazards and assessing the risk to operations and personnel.
- Treating the risk using control measures to eliminate or mitigate the risk.
- Monitoring, reporting and, if necessary, improving the control measures.

5.3.2 Common Causes of Fatigue

Common work-related causes
Restricted sleep due to short rest periods or long commutes to the DZ
Multiple high workload periods
Long duty days
Hot weather during duty periods
High cumulative duty times (hours/month or year)
Changes to operations or procedures
Tasks required to be done before or after duty periods (administration, training, cleaning)
Common non-work-related causes
Having a second job
Long commutes to and from work
Changes in domestic arrangements
New baby
Family commitments
Social life
Moving house
Sleep disorders or sickness affecting quality/quantity of sleep

5.3.3 FRMS Process

The FRMS process is similar to the standard SMS risk assessment detailed in Component 2 of this document. In summary:

1. Communicate and consult with members either individually or in meetings.
2. Identify fatigue hazards – all members are encouraged to speak up about perceived fatigue hazards (rest facilities, insufficient education, lack of clear policies or difficulty in following policies and procedures).
3. Assess the severity of fatigue hazards by the club safety committee, safety manager or CI using the likelihood/consequence risk assessment matrix.
4. Evaluate and mitigate the risks by calculated control measures. This will be done by the club management and may involve changes to rosters, operational procedures or other measures to preferably eliminate the risk completely.
5. The club will record the results of the risk management plan and share that with all staff.
6. The club will monitor any changes and formally review them on a regular basis to ensure any changes are effective. Members are encouraged to participate in this review at any time.

5.4 FRMS Promotion

5.4.1 Training

It is anticipated that the APF will gradually introduce assessment on SMS and FRMS matters on rating and reval examinations including instructors, pilots and packers. Details will be provided by the APF when finalised.

OCM are encouraged to complete the eLearning modules provided on the CASA web site to gain an understanding of the subject. These modules are specifically designed for sports aviation participants. Each module takes about 10 to 15 minutes to complete. The modules can be accessed at: https://www.casa.gov.au/education/landing-page/elearning-catalogue (scroll down to 'Human Factors in Sport, Recreation and General Aviation').

5.4.2 Communication

It is essential that all staff and members participate in communicating issues relating to safety so we can build a more robust fatigue safety culture within the club.

The risks to our clients are considerable if we do not maintain high levels of professionalism. Complacency, lack of awareness and bad decision making cannot be tolerated in our business and sport.