



SMS CONTINUOUS IMPROVEMENT PACKAGE 2016:

TANDEM WATER LANDINGS

Introduction

APF has identified tandem water landings and resulting drownings as a potential risk. Inclusion of this risk in SMS is therefore mandatory for all group members conducting tandems in close proximity of water.

The addition of *Continuous Improvement Package: Tandem Water Landings* is to reduce the risk of tandem water landings. This module aims to:

- Reduce the likelihood of tandem water landings through appropriate procedures.
- Reduce the consequences should a tandem water landing happen.
- Discuss and educate TM's, pilots and other staff about the risks involved in tandem water landings.
- Document a procedure to prevent tandem water landings.
- Document a water retrieval plan in case of a tandem water landing.
- Ensure periodic water retrieval exercises and TM water landing training, and documentation thereof.

Implementation

WHEN should this be included in your SMS?

- Completed by 31/12/2016.

WHO will implement this?

- The CI and / or Group Member Safety Manager (or DZSO in the absence of the CI).

HOW to include this in your SMS? (Examples attached as Appendices)

- Add tandem water landings as a risk in your SMS: Discuss and complete the Hazard Identification as well as the Risk Analysis and Assessment at your next Safety Meeting - you may use the attached samples or create your own.
- Treatment/Risk mitigation to be implemented should include:
 - A procedure to reduce the possibility of water landings;
 - A procedure for water retrieval, capable of ensuring egress within 15 minutes of a water landing and retrieving all jumpers in worst case scenario (full load).
 - Water landing training for TM's
 - Annual retraining of TM in these procedures, and annual practical water retrieval exercise
- Document annual water retrieval exercises and annual TM water training
- Monitor and review effectiveness of these procedures and modify/improve where required.



Items for Discussion to assist in creating your procedure.

When discussing this module your Group Member Safety Manager, you may wish to include your Safety Committee, staff and contractors, to prompt discussion and promote a positive Safety Culture. Ideas from this discussion will assist in developing a detailed procedure that will be relevant and useful. Items for discussion are:

- What can be done to reduce the potential of a tandem landing in the water? (Prevailing winds, off-shore winds, cloud, possibility of reducing maximum winds, jump-runs parallel to beach, offsets, multiple passes, improving spotting procedures, etc)
- What type of training have TM's received to handle with water landings? How can this be improved? What equipment should be used?
- Who should conduct the TM water training?
- How will retrieval from the water be done? Does the Group Member have its own water craft? Is a rescue service available? Is the rescue service reliable (i.e. available at all times of skydiving operations, able to respond within 15 minutes, etc).
- If the Group Member has its own water craft, are staff trained to operate it and how?
- How will water retrieval exercises and TM water training be documented?



SMS IMPROVEMENT PACKAGE

SMS COMPONENT 2: SAFETY RISK MANAGEMENT

We have included in this Continuing Improvement Package the below steps, reiterating the process for improving SMS Component 2: Safety Risk Management.

The attached forms may assist with easy access and for use at your Group Member Safety Meetings. Appendix B2 and B3 give examples as guidance and should be modified for Group Member specific circumstances.

1. Group Member Safety Committee Meeting

- Your Group Member should be holding scheduled Safety meetings monthly and have an appointed Group Member Safety Manager who is responsible in holding and maintaining the Group Member Risk Register.

2. Identify the Hazard

- All Members are encouraged to identify hazards at the Safety Meeting

3. Report the Hazard

- The Hazard Report form should be easily accessible to all staff at any given time

4. Risk Register

- Record the Hazard and complete your Risk Register

5. Risk Analysis & Assessment

- Risk Analysis is conducted on all identified Hazards.

6. Gap Analysis Check List

- Please take this opportunity to reassess your Gap Analysis Check List

7. Implement the Changes

- The CI and Group Member Safety Manager ensure controls and mitigation are applied and communicate these to the Safety Committee and all Members.

8. Monitor and Review

- At your next Group Member Safety Meeting review this Risk to ensure validity

Attached: Hazard Identification Template, Risk Analysis and Assessment Template, Gap Analysis Check List, Risk Assessment Matrix.

Appendix B3: Risk Analysis and Assessment

Risk I.D #	Step 2. Potential Threats and Hazards	Step 3. Description of Risk	Step 4. Current control measures	Step 5. Risk Rating			Step 6. Treatments to be Implemented Measures to be taken to eliminate or reduce impact of the risk		Step 7. Revised Risk Rating after Implementing Treatments (Residual Risk)		
				A Consequence	B Likelihood	C Risk Level	Measures	Responsible person	A Consequence	B Likelihood	C Risk Level
H0#	Drowning	Tandem pair (or multiple tandem pairs) landing in the water	TM and passenger wear PFD's	Severe	Likely	Extreme	-TM and passenger wear PFD's -E.g. having set jumpruns parallel to beach. -Reducing max wind limits from certain directions. -Multiple passes -Create a water retrieval plan (e.g having a boat and trained operator on standby, ensuring a rescue service is available at all operational times) -Test and practice water retrieval plan at least annually -Train all TM's in water landing procedures (e.g. pool)	CI / DZSO / TM	Major	Rare	Medium

Appendix C: Gap Analysis Checklist for Group Members

This APF SMS Gap Analysis Checklist has been developed for use by Group Members. Whether developing and implementing Group Member SMS for the first time, or whether reviewing where an operation sits in relation to an existing SMS, completion of a Gap Analysis will provide a clear picture of which components of an SMS already exist and which need to be further developed.

APF Gap Analysis Checklist for Group Members				
SMS Element	Check Question	Response		
Safety Policy, Objectives and Planning	Management Commitment and Responsibility	Yes	No	Developing
	1 Does the Group Member have a documented Safety Policy, signed by Senior Management?			
	2 Is the Safety Policy appropriate for the size and complexity of the particular Group Member?			
	3 Is the Safety Policy readily visible and accessible to all staff?			
4 Are there clearly established and measurable safety objectives in the Safety Policy, which are reviewed regularly?				
	Safety Accountability of Managers	Yes	No	Developing
5 Are the roles and responsibilities of SMS management documented?				
6 Are the values of all SMS management levels, clearly identified as being safety orientated?				
7 Are management aware of their SMS obligations?				
	Appointment of Key Safety Personnel	Yes	No	Developing
8 Is there a safety manager/officer appointed to lead and champion the SMS? <i>(for smaller Group Members the DZSO and safety manager might be the same person)</i>				
9 Is there a position description outlining the responsibilities of the safety manager/officer? <i>(these responsibilities are different to that of the DZSO)</i>				
10 Does the appointed safety manager/officer have the required knowledge for the job, or is he/she willing to undertake the necessary training? <i>(larger Group Members would need a safety manager/officer with the required knowledge BEFORE assuming responsibilities)</i>				
11 Are there sufficient resources (financial, human, hardware, software) to support the SMS?				
	SMS Implementation Plan	Yes	No	Developing
12 Has the Group Member developed an SMS Implementation Plan?				
13 Has a gap analysis been undertaken to identify existing and missing SMS elements?				
14 Are priorities for SMS implementation based on identified risks?				
	Emergency Response Plan (ERP)	Yes	No	Developing
15 Does the Group Member have an appropriate Emergence Response Plan (ERP)? <i>(if multiple operations/DZ locations there must be an ERP for each one)</i>				
16 Has the Group Member assessed which emergencies are most likely and developed plans for each different type?				

17	Is there documentation of all major risks in operational areas?			
18	Are there sufficient notices in operational areas advising people of what to do in an emergency?			
	Documentation	Yes	No	Developing
19	As part of SMS documentation, has the Group Member developed a Safety Management Manual, appropriate to their Group Members particular size and complexity?			
20	Are there written policies, procedures and instructions covering all the SMS standards?			
21	Are these written policies, procedures and documents authorised, current and available to all relevant personnel?			
Safety Risk Management	Risk Identification	Yes	No	Developing
22	Is there an effective ongoing risk identification program?			
23	Does the risk identification program include a confidential reporting system? (this should include an internal Group Member reporting system, different to APF incident reporting)			
24	Does the Group Member use the APF Incident Reporting System properly by ensuring participants report all incidents, occurrences, near misses?			
	Risk Assessment and Mitigation	Yes	No	Developing
25	Is the APF's standardised Risk Assessment and Management methodology utilised by those responsible for safety management?			
26	Does this include a continuous assessment of risks for their risk potential (likelihood and severity)?			
27	Does the Group Member have a process for managing risks to a tolerable level i.e. as low as reasonably practicable (ALARP)?			
Safety Assurance	Safety Performance Monitoring and Measurement	Yes	No	Developing
28	Are there key safety performance indicators to measure safety performance?			
29	Are the safety performance indicators monitored for achievement?			
	Safety Investigation	Yes	No	Developing
30	Does the Group Member encourage the use of an Internal Group Member Reporting System?			
31	Does the Group Member support the APF's system for reporting safety occurrences, and for investigating incidents/accidents?			
	Management of Change	Yes	No	Developing
32	Does the Group Member manage 'change' in a formal manner?			
33	Are changes carefully planned and staggered?			
34	Does this include identification of, and consultation with, all stakeholders?			
35	Are appropriate strategies used to reduce risks associated with proposed changes?			
	Continuous Improvement	Yes	No	Developing
36	Are there regular internal reviews to check if the SMS is working as intended?			
37	Does the Group Member have a written procedure specifying how regularly the effectiveness of the SMS is to be evaluated?			

Safety Promotion	Training and Education	Yes	No	Developin g
38	Has the Group Member conducted a review of their training needs and clearly defined competencies necessary for their particular Group Member (either formally via a Training Needs Analysis, or informally through review, involving all stakeholders)?			
39	Is a supply of safety-related information (magazines, books, pamphlets, brochures, APF Instructors New Sheet, posters, DVD's etc.) readily available to all staff/employees/stakeholders who have safety responsibilities? (and also visible to all other participants)			
40	Are staff/employees encouraged and assisted to attend safety-related training courses and seminars? (APF/council/Group Member assistance)			
41	Are new employees given sufficient training and checking (induction training), prior to being permitted to commence work?			
42	Is this training documented, including having the signatures of the new employee and the trainer?			
43	Is refresher training conducted including checking all employees' proficiency, and is the training adequate?			
44	When new procedures are introduced, are employees given sufficient training?			
45	Are trainers adequately trained and checked, both for competence and standardisation?			
46	Are all employees trained in the procedures and policies of the Group Members SMS?			
47	Does the Group Member maintain a training records register?			
48	Are training initiatives evaluated to determine their effectiveness?			
	Safety Communication	Yes	No	Developin g
49	Are regular staff meetings held and are they used to communicate current safety and training issues?			
50	Are there set standards for safety communication, including the method for communicating specific safety messages?			
51	Does the Group Member share safety-related information freely with all employees?			
Results	Total number of yes responses _____ Total number of No responses _____ Number of check questions completed _____			Assessment Result (% of yes responses) _____ %

Consequence

		1	2	3	4	5	
		Negligible	Minor	Moderate	Major	Severe	
Likelihood	5	Almost Certain	6	7	8	9	10
	4	Likely	5	6	7	8	9
	3	Possible	4	5	6	7	8
	2	Unlikely	3	4	5	6	7
	1	Rare	2	3	4	5	6

>8	Extreme Risk	Detailed treatment plan and constant monitoring required
6-7	High Risk	Requires high level treatment and monitoring
4-5	Medium Risk	Requires moderate planning and monitoring as appropriate
<3	Low Risk	Managed by normal operational procedures

Value	Consequence	Meaning
5	Severe	Multiple fatalities, equipment destroyed
4	Major	Large reduction in safety margins, serious injury, major equipment damage
3	Moderate	Significant reduction in safety margins, serious incident, injury to persons
2	Minor	Nuisance, operating limitations, use of emergency procedures, minor incident
1	Negligible	Few consequences

Value	Likelihood	Meaning
5	Almost Certain	Imminent - expected to occur in most circumstances
4	Likely	Once in the next month - will occur in most circumstances
3	Possible	Once in the next 12 months
2	Unlikely	Once in the next 1-5 years - could occur at some time
1	Rare	Once in the next 10 years - only in exceptional circumstances