

TARS risk assessment example

RISK ASSESSMENT EXAMPLE 1

Serial no 4

Activity/Exercise: Dinghy Sailing

Unit/Formation: TS Something

Assessor:

Relevant Publications/Pamphlets/Procedures:

TIs Chapter 27

SCRs Chapters 8 & 9

TARs Chapters 3 to 9

Authorised Area of Local Operations

Date of Assessment:

Review Date:

Generic Risk Assessment: Yes

Steps relate to the Risk Assessment Process:

Ser	Activity/ Element	Hazards Identified (Step 2)	Existing Controls (Step 3)	Residual Risk Acceptable Yes/No (Step 4)	Additional Controls Required (Step 5)	Residual Risk Acceptable Yes/No (Step 6)
(a) 1	(b) Launching and recovery	(c) (a) Manual handling of equipment (b) Carrying equipment to and from water	(d) (a) Instructors are to ensure that enough people are available to move the craft. If required lifting tackle which has been tested is to be used under adult supervision (b) Instructors to supervise the movement of equipment to and from the boats, and ensure a minimum of two people are carrying heavy or awkward loads	(e) Yes	(f) No	(g) Yes

TS *Royalist* risk assessments

HEALTH AND SAFETY RISK ASSESSMENT

TS ROYALIST

Risk Ratings		Guidance & Supporting Notes
Low	=	Negligible / Minor injuries which the Likelihood is Improbable / Remote / Possible
Medium	=	Moderate Injuries which the Likelihood is Remote / Possible
Medium - High	=	Moderate Injuries which the likelihood is Possible / Probable Major Injuries/Death which the likelihood is Remote
High	=	Major Injuries/Death which the likelihood is Possible/Probable (Any Activity with a High Risk Rating must not be carried out)
Supporting Documents & Information – documents representative of all organisations.		
MCA Code of Practice		Maritime & Coastguard Agency Code of Practice for Small Commercial Sailing Vessels (ISBN 0-11-55184-9)
Royal Yachting Association		RYA = Sailing's governing body (www.rya.org.uk)
Association of Sea Training Organisations		ASTO = UK 's sail training 'umbrella organisation' (www.asto.org.uk)
Captains Standing Orders		Instructions to permanent and relief staff, adults and cadets
Training Manual		Training Manual - internal safety standards & procedures
Crew Handbook		Every Trainee is issued with Crew Handbook to best prepare them for their Voyage
Captains Handover Notes		For Skippers pre-voyage briefing to cover recent safety issues

HEALTH AND SAFETY RISK ASSESSMENT

TS ROYALIST

HAZARD	POSSIBLE CONSEQUENCES	RISK Evaluation		CONTROL MEASURES IN PLACE	FURTHER ACTION
		Low	Medium		
		Medium –High			
		At Sea (Sailing Activities - 2)			
heavy lifting	Back or other injuries	Medium	Trainees supervised by staff/permanent crew when lifting heavy objects and ensuring everyone is clear of dinghy when being launched		
Sea boat falling when hoisted/lowered.	Head or other serious injury		Minimum manning with trained coxswain and evolution briefed prior to activity		
Going aloft	Slipping/falling with resultant injury	Medium	Pre briefing with full supervision during activity Use of harness at all time when above ratlins		
Working aloft	Slipping/falling with resultant injury	Medium	Harness to be always clipped on, supervisor to give clear instructions to cadets on task being undertaken.		

HEALTH AND SAFETY RISK ASSESSMENT

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HAZARD	POSSIBLE CONSEQUENCES	RISK Evaluation		CONTROL MEASURES IN PLACE	FURTHER ACTION
		Low			
		Medium			
		Medium –High			
At Sea (Cooking and Working in Galley)					
Cooker	Burns	Medium/high (increases with sea state) Medium		Only Cook to be in galley, shut down if weather poor. Wearing of appropriate clothing	
Boiling Water	Scalds	Medium		All crew briefed on need to be careful. In high sea states adult staff only to operate urn.	
Knives / cooking implements	Cuts	Medium		Cadets to use only when under supervision	
Food contamination	Food poisoning	Medium		Cook trained in hygiene awareness	
Harmful Cleaning Substances	Stomach or Eye injuries	Medium		Only staff to use, COSH	
Ships Tender					

HEALTH AND SAFETY RISK ASSESSMENT

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HAZARD	POSSIBLE CONSEQUENCES	RISK Evaluation			CONTROL MEASURES IN PLACE	FURTHER ACTION
		Low				
		Medium	Medium –High			
Ships Boat	Collision / Capsizing / Falling in water (resulting in injury or drowning)	Medium			Coxswain deemed competent by CO (min Level 2 RYA) (Aware of max capacity / COLREGS / strong tidal streams / weather / suitable location for landing and loading) Prop guard to be fitted Coxswain trained to operate as a "thruster" for berthing All embarked personnel to wear lifejackets	Coxswain to hold Safety Boat qualification
	Injury from Outboard Engine	Medium / High			Coxswain trained to RYA level 2 as a minima Prop guard fitted and coxswain aware of engine start procedure	

Child Welfare & Protection (On board)

Internal review of TS *Royalist* safety procedures when aloft

25 May 10

CEO

INTERNAL REVIEW OF TS ROYALIST SAFETY PROCEDURES WHEN ALOFT

INTRODUCTION

Background

1. This initial review of processes onboard TS Royalist has been carried out as directed, by [REDACTED] [REDACTED] (Captain Sea Cadets), [REDACTED] (Offshore Commander), and [REDACTED] (Regular Royalist Captain) none of whom were onboard at the time of the incident of 2 May which resulted in the death of a cadet under training.

Aim

2. The aim was to review and comment on the existing policy and procedures for safety aloft for cadets whilst onboard Royalist. This was not a review of the incident of 2 May.

Guiding Principles and methodology

3. Our guiding principles were:
- The future safety of cadets who may be sent aloft on TS Royalist
 - We took no account of any theories of what may or may not have contributed to the fatality on 2 May.
 - We reviewed documentation held onboard and in the Offshore office and interviewed the Bosun.

FINDINGS

Safety and Inspection Regime

4. The Royalist's safety and inspection regime comprises the following key components:
- External Scrutiny - Lloyds Inspection last completed 1 April 2010
 - Continuous Monitoring - Procedural and safety aspects are assessed on an ongoing basis by the OC, an experienced mariner, together with continuous monitoring by permanent staff onboard.
 - Further independent safety checks are carried out by Bureau Veritas (BV) and Rigmasters (RM) on the rig on a frequent basis, last inspections BV; 27 Feb 08, 19 Mar 09, RM; 13 Nov 09, 23 Mar 10 .

Parent, Guardian and Unit Awareness

5. The practice is for the OC to educate all members of SCC Command Courses (comprising SCC volunteers who are prospective senior Unit managers i.e. Executive and Commanding Officers), on the voyage types on offer and their inherent challenges so that they may be aware of how to choose a vessel to best match individual cadet needs and aspirations. This process is designed to ensure that cadets who attend offshore will be given a good understanding by their Unit staff of the challenges they will face. It is also done so that Unit staff can ensure parents/guardians are well aware of the nature of the training. It is recommended that this part of the process is strengthened by OC in the form of a memorandum outlining the vessel and voyage types and explaining the level of challenge, to be sent to all COs. OC will continue to instruct all Command Courses and at all Area Conferences (attended by Area, District and Unit level volunteers).

6. Currently SCC make available to Units via its Westminster IT system, a kit list and joining instructions for the voyage, prior to the cadet taking up their place with the offshore Fleet. The SCC does not provide parents or guardians with written information to support any information given to them by the Unit staff as above. It is recommended that an advisory leaflet is provided on Westminster for Unit staff to print and give to parents/guardians in order that they have a clear picture of the nature of the voyage and challenges the cadets can expect, to include specifically for Royalist activity aloft. Parents/guardians will be asked to confirm that their cadets are able to meet the expectations of the voyage through completion of the consent form which supports each booking.

Cadet Safety Training Guidance

7. From the moment cadets step onboard Royalist there is a huge emphasis given by ship's staff, (Commanding Officer (CO), Sailing Master (SM), Bosun and Coxswain) on safety, building knowledge in bite sized chunks so that cadets can assimilate the information - given their starting level of knowledge and experience which could be nil. This is conducted through a series of verbal lectures and demonstrations.

8. Cadets join Royalist with a wide range of abilities and experience has indicated that verbal instruction is most appropriate, reinforced by practical demonstration and supervised practice. STI Safety Aloft Guidelines have been taken into consideration where relevant for Royalist.

9. Having considered all of this with the ship's team we are satisfied that the onboard instruction given to the cadets is comprehensive and delivered in an appropriate manner with a combination of telling, showing and doing.

10. Areas covered by SM, Bosun and Coxswain in the verbal instructions prior to going to sea include: shipborne emergencies, muster stations and equipment. Before the first night onboard cadets must demonstrate knowledge of the muster and evacuation procedures in the event of fire.

11. To ensure a receptive and understanding audience the SM balances the training and instruction process taking into account arrival time onboard (target is 1400), and the fact that cadets may have had a long journey prior to arrival.

12. The correct use of life jackets is explained by the Bosun and practice given – **Life jackets are not routinely worn unless a command decision is made to wear them – wearing jackets is not the norm during routine training and definitely not when aloft as this impairs safe activity.**

13. We are satisfied that the Bosun's on board safety talk to the cadets covers all aspects of working on deck and aloft. Specifically:

- Do's and Don'ts whilst working onboard from deck level to aloft.
- Working aloft – When and where to clip on. The importance of having three points of contact at all times.
- The rule is that a harness **must be worn at all times** whilst on deck and aloft. **This rule is maintained by staff throughout the week onboard and cadets are encouraged to self or buddy monitor.**
- Cadets are to clip on if they are going to be seasick or at any other time specified by the permanent crew or at any time if they feel the need.
- A demonstration of how harnesses are fitted and used.
- All cadets then fit their harness and are all individually checked to ensure they have fitted them correctly so they are able to use them correctly whilst onboard.

14. All instruction and training of staff is held onboard; training for relief staff is by induction weeks where they shadow permanent staff. The OC sea rides with all captains, both permanent and relief on an annual basis.

15. The Report of Proceedings (ROP) to the OC contains a record of cadet training lectures, completion and of times of sailing thereafter.

16. The completion of safety training instruction completion is reported to the command and it is recommended that in future this is also formally recorded in the ships log.

First Ascent and Descent of the mast for all embarked cadets (ship alongside)

17. The Bosun takes the forward watches (up to 12) to the Foremast and the Sailing Master takes the Aft watches (up to 12) to the Main mast. Each demonstrates:

- How to climb the ratlines (the first stage of the climb from deck level on a rigid lattice framework) – this a free climb
- When and where to clip on before leaving the ratlines and then climbing up the rope ladder onto the first platform. This is a challenging task during which cadets must be clipped on.

- Where to clip on, when on the platform and yards.

18. Two Watch officers or two permanent crew will then go aloft to supervise and assist the training procedure. All the cadets are then invited to climb one at a time, up one side of the mast and then descend down the opposite side. Throughout this whole process they are shown where to clip on to safety lines and at the same time they are reminded of all safety aspects upon which they have been instructed. Some of the cadets may only climb halfway, some may not even attempt to climb. At no time are any of the cadets forced to climb. Those who do not complete the initial practice climb will be instructed later in the week if they feel confident to make an ascent/descent.

19. The instruction is for all, including the watch officers (adult volunteers who attend the week onboard to provide supervisory cadet support to the crew – they are not onboard for their maritime skills).

20. For those cadets comfortable with working at height, following the instruction a practice climb fully supervised to the first platform is conducted - this exercises all of the skills and equipment (including harnesses) for operating aloft in TS Royalist; this provides the ships staff with a first look at the cadets to gauge levels of competence and confidence - for example those who will climb to the upper yards and to the outer reaches of the yards.

21. No one is forced to go aloft under any circumstance. This practice enables the staff to get a view of cadet capability and for the cadets to gain experience and a feeling for their own abilities and confidence. On an average joining day activities complete early evening and the cadets are unlikely to even have touched a sail. Cadets who have climbed will likely be ebullient as a result of meeting a personal challenge and cadets will openly discuss the experience. Generally this completes the first day and an early night and rest is encouraged.

22. Informal discussion takes place after the climb. It is recommended that formal group discussion/feedback on the experience would formalise and establish learning.

Supervision

23. The best position to see and supervise from is deck level - but it is not possible to see if every cadet is clipped on; the supervision encourages cadets to follow procedures and obey orders - mutual support and teamwork on the yard is presented as a key element of the safety process and developing a safety and teamwork culture encourages cadets to watch out for each other. Thus whilst the supervisor may not be able to see absolutely everything, his team of cadets act as his extra eyes and ears aloft and thus support the safety regime. They should report any evidence of safety breaches to the supervisor.

Additional Training Day 2 Prior to Sailing

24. Further building block training is carried out by the SM/Bosun before departure to demonstrate bracing stations and sail setting stations which provide experience in the operation of yards for tacking and practically reinforces positions for sail setting. This is all on deck training.

Sailing and Underway Yard Manning

25. The captain determines the passage plan and the sails to be readied. The sailing master and bosun are informed by the captain on the sail requirement. Prior to sailing either alongside or in a benign anchorage, cadets are told on deck by the SM and Bosun of what is required and sent aloft to release gaskets on the assigned sails. The SM and the Bosun allocate cadets to such tasks based on the previous night's training and the cadets demonstrated confidence and skill. Cadets return to deck and only then Royalist sails, and only in daylight conditions.

26. The captain determines if conditions are suitable for cadet activity aloft based on the weather/swell, if necessary, he/she will send staff aloft instead of cadets to conduct any tasks.

27. When Royalist sails, she initially sets any combination of fore and aft sails and those square sails for which gaskets have been released.

28. Whilst at sea, if and when the captain determines that there is a requirement for additional sails, having considered conditions (wind, sea and swell), he will direct the SM to select cadets to go aloft to remove further gaskets to enable additional square sail to be utilised. Cadets then return to deck level. This is the only occasion when any cadets are aloft at sea.

29. The number of times cadets need to go aloft at sea under sail is fairly limited during a typical cadet training week - cadets are generally not sent aloft at sea to stow sail. If the captain considers weather conditions require sea stow of sail, for example because it is imperative to reduce windage and prevent damage to sail, ship's staff will conduct this evolution.

30. During the week's training, cadets get plenty of experience of their stations and duties for managing/controlling sails under the direction and supervision of the SM and Bosun.

31. Weather conditions. The first paragraph of the Ship's ROP provides an outline plan with anticipated weather conditions - weather support is provided by the Royal Navy's Fleet Forecasting centre at Northwood, whose forecasts are based on Met Office data.

Enhancing Safety Aloft

Training

32. The training method of “tell, show, practice in bite sized chunks” over a period of time works well and can be adjusted to match the ability of the group and individuals and to take account of factors such as cadet arrival time, level of experience, confidence and ability. No one is forced to do anything he or she does not comprehend or feel comfortable with.

33. In the event that a cadet gets into difficulty or loses confidence when aloft, staff will, depending on the circumstances, take charge and manage the situation – cadets are always instructed to follow staff instructions.

34. In the event that a cadet is observed by other cadets to be contravening the rules and safety procedures either on deck or aloft, the observing cadet is required to raise the issue with staff and also to tell the contravening cadet to observe correct procedure. This will be stressed and encouraged through instruction; taking personal responsibility in this way is a crucial element in ensuring safety for all.

35. Fatigue either at the briefing stages or during aloft evolutions could undermine safety. This is monitored by the captain and staff based on judgement and experience. The week's activities are carefully planned by the captain to take account of the level of cadet expertise, length of the operating day and prevailing conditions and time of year (length of daylight). This practice, the flexibility of which depends on it not being subject to prescriptive rules, is considered to be sufficiently robust.

Procedures

36. The procedures for going aloft are intentionally simple. When moving from the ratlines to the platform and thence yards, **the rule is that cadets are to be clipped on to appropriate safety lines at all times.** Cadets are supervised when aloft at all times. Staff are physically aloft with cadets during their initial training but not once the cadets have gained requisite knowledge and skills unless conditions or cadet ability dictate. It is not practical for physical supervision by staff either on the platforms or yards with the cadets because the job of the SM and Bosun are both to supervise cadets aloft and on deck. A further constraint is space both on the platforms and on the yards.

Equipment

37. The issue of alternative harnesses has been under consideration for some time by the OC and his team. However, the challenge has been to find a harness compatible with the current rig which not only provides unimpeded access whilst working the yards but which is better than the existing arrangement, given the need to wear a harness at all times when on deck and aloft. Options include a full body harness, climbing harness and the current system of a waist belt. Some of these harnesses allow for two safety strops

(one long and one short stay). Practical evaluation of three harness types has been conducted over recent months. The trade-off with each of them is between mobility and the ability of these alternative configurations to spread the load induced in the event of a fall and in the case of a double strop arrangement the ability to be clipped on at all times. The downside of a double harness is additional equipment and greater complexity. The SCC approach which has resulted in thousands of cadets safely carrying out evolutions aloft over 39 years, gives primacy to safety, simplicity and mobility over complexity. And none of these systems existing or potential can mitigate against incorrect procedure by a cadet.

RECOMMENDATIONS AND CONCLUSION

Recommendations

38. It is recommended that:

- OC should write to all Unit Commanding Officers outlining the vessel and voyage types and detailing the levels of challenge.
- An advisory leaflet should be provided on Westminster for Unit staff to print and give to parents/guardians for cadets who have expressed an interest in a voyage onboard Royalist in order that they have a clear understanding of the nature of the voyage and challenges the cadets can expect, to include specifically for Royalist activity aloft.
- Parents/guardians will be asked to confirm that their children are able to meet the expectations of the voyage and re-confirm any relevant medical or physical information.
- Completion of training lectures should be formally recorded in the ships log by the senior officer present.
- Formal group discussion/feedback on the experience of going aloft should be implemented to test and reinforce learning.
- The process to be taken by cadets in the event of a fellow cadet seen to be breaking the rules should be reinforced and encouraged through instruction, emphasising that to take personal responsibility in this way is a crucial element in ensuring safety for all.

Conclusion

39. The Safety Policy and safety processes onboard TS Royalist relating to going aloft are sound and normal training operations can be resumed. Whilst we urge prompt decision upon and implementation of the recommendations we have proposed, our conclusion is not subject to such implementation.

