

Risk Assessment Working aloft



ROOD BOVEN
GROEN | FOR ALL
MARITIME AFFAIRS



Sail Training International

Introduction:

- **Anousch Vallaeys**
 - STI Youth Council / STA Belgium
 - Graduate Maritime Academy / Crew tall ships
- **Stephan Kramer**
 - Captain / Sail Trainer
 - DPA / Consultant / STCW trainer

Fatal Accidents:

Germania Nova – 15 March 2017

18 year old girl fell from mast, when rope came undone.

Investigation is still in progress

Appledore II – January 2012

25 years old Mate fell from mast when a line came loose.

Gorch Fock – August 2011

25 year old woman fell from mast

T/S Royalist – May 2010

14 year old boy fell when ignoring safety rules from briefing to help other trainee.

Star of India - July 2010

68 years old volunteer fell off the mast during training.

Alabama – July 2006

Constitution – July 2004

TS Albatross (Dutch) – August 2004

USCG Eagle – June 1998.

Master Thesis Anousch Vallaeys

'Safety aloft on a sailing vessel'

- Background
- Approach
- Result

Approach Research

- Mails to captains, organisations,...
- Search for different methods to climb
- All guidelines together in 1 paper
 - STI guidelines
 - Tall Ships America Guidelines
 - Regulations?

Results Research

- Regulations and guidelines are minimal and unclear
 - Training is important!
 - Training to rescue persons also important
DRILLS
 - **Risk Assessment before, during and after climbing**
- > Understanding before action**

Risk Assessment before climbing

- Climbing Equipment
- Object to climb
- Circumstances
- Human Element

Climbing Equipment:

- Materials
 - Lifelines
 - Carabiners
 - Shock absorbing materials
 - Shrouds
- Sort of harness
 - Full body harness or sit harness
 - Depending of job

Object to climb / enter:

- Mast
- Jibboom
- Boom / gaff
- Superstructure

Circumstances and reasons:

- Weather
- Amount of crew
- Amount of supervision needed/available
- General maintenance or necessary repair
- Furling sails - fun climbing - training

Human Element:

- TRAINING
- Knowledge
- Fitness of person who climbs
- Taking a risk

Risk Assessment during climbing

- TRAINING
- Keep supervision all the time
- No group pressure
- No hurry

Risk Assessment after climbing

- TRAINING
- Debriefing is important!
- Learn from (near) accidents

What if...

- (near) accidents can happen
- Drills to train crew
- How to rescue a person aloft

Situational Awareness

- Group thinking / pressure
- Self Assertive
- Complacency

- Overconfidence
- Heroic / macho
- Self-esteem





- **Unaware unable**

Risk Assessment

Method of Fine & Kinney					
Likelihood		Frequency		Consequences	
0,1	Highly unlikely	0,5	Very rare (<1 year)	1	Negligible injuries
0,2	Practically impossible	1	Rare (yearly)	3	Minor injuries
0,5	Possible but unlikely	2	Unusual (monthly)	7	Major injuries
1	Unlikely	3	Occasional (weekly)	15	Fatal (1 death)
3	Unusual	6	Frequent (daily)	40	Disaster (more than one death)
6	Good possible	10	Continuous (constant)	100	Catastrophe (many deaths)
10	To be expected				

Risk Assessment

$$R = L \times F \times C$$

Risk = Likelihood x Frequency x Consequences

Very Low	$R < 20$	No attention required
Low	$20 < R < 70$	Attention required
Moderate	$70 < R < 200$	Required actions
High	$200 < R < 400$	Corrective actions required
Very High	$R > 400$	Stop activities





www.alamy.com - JAKKYD

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Risk Assessment

Risk

Working aloft

Assumption?



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