Maersk checklist - Heavy Weather



Checklist - Heavy Weather A.F.Moller Group (D.316 - 18,09-2007 - 02 - 6 months

Vessel: Maarisk Kithira

Uate: 23-Sep-2008

A vessel signation and set of the second of the available onboard all vessels to facilitate an efficient "making ready for sea" clock we parture from port, bound for an ocean passage, when expecting adverse weather between coastal ports, or when the weather will end of the most set of thems below shall be considered and the shipboard management shall, there the weather in advance, compose their own clocklist with all appropriate check items.

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Weather ros i und forecasts scrittinised		
Heavy Murthan and consulted known and consulted		D
Personnel transition and familiar with available means for heavy weather response		0
Loading cor 1 ar - (e.g. (iM. stress, tank shoshing, immersion of propeller, freeboard)		
Continuers a district for ocean passage		5
Container la cruits rechecked' trightened		ß
Harchtower and Ling devices rechecked		D
Anchors proventing the second and brackes engaged		5
Dumpers for a mation on forecastle closed		D
Ventilation 4 monster closed		
Dampers Ic 1, Lation of cargo holds closed (reefer cargo holds exempted)		ß
Lashings or the second contract received of the second s		۵
Stores, equi: 1: 1: etc. stowed on deck secured		Ы
Store room and the checked and additioned lashings applied as necessary		
Paint looke 4. ked and all paint secured		5
Steering y checked and additional tashings applied as necessary		
Fugine two starts and additional tashings applied as necessary		D
Waterlight, h ilused		5
Portable use to properly secured		D
Pilot ladde : at outsts properly secured		D
Chief Steve id . s.fied and provision main and gallery prepared for rough weather	10	5
Eminine a d 1 viances ni Dining Saluon secured		D
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Fumiture F		5
Furniture return secural		5
Additional 1 - 1 on PC monitors, coly nuclines and primers		ß
Deck contest on prepared for rough weather		ß
Bridge men - 1 for rough weather		D
If nolling c. 20 heres the engine room to be manued		D
Crew instr. I dout any restructions in work outside accommodation		D
Achers and i.e. hruster vents closed alter satisng Yantian	1530	Þ
C/O Round 11, Sects after soiling	1630	Ы

MAERSK

Vessel:

Checklist - Heavy Weather A.P.Moller Group ID:416 - 18/09/2007 - 02 - 6 months

Date:

A vessel specific heavy weather checklist shall be available onboard all vessels to facilitate an efficient "making ready for sea" check on departure from port, bound for an ocean passage, when expecting adverse weather between coastal ports, or when the weather detriorates while on route the inclusion of items below shall be considered and the shipboard management shall, thoroughly and well in advance, compose their own checklist with all appropriate check items

ltem	
Weather routing and forecasts scrutinised	
Heavy Weather maneuvering characteristics known and consulted	
Personnel instructed and familiar with available means for heavy weather response	
Loading condition - (e.g. GM, stress, tank shoshing, immersion of propeller, freeboard)	
Container stacking adjusted for ocean passage	
Container lashings rechecked/ tightened	
Hatchcover locking devices rechecked	
Anchors properly lashed and brakes engaged	
Dampers for ventilation on forecastle closed	
Ventilation for bowthruster closed	
Dampers for ventilation of cargo holds closed (reefer cargo holds exempted)	
Lashings on mono-rail crane rechecked	
Stores, equipment etc. stowed on deck secured	
Store room forward checked and additional lashings applied as necessary	
Paint locker checked and all paint secured	
Steering gear room checked and additional lashings applied as necessary	
Engine room checked and additional lashings applied as necessary	
Watertight doors closed	
Portable gangway properly secured	
Pilot ladders and hoists properly secured	
Chief Steward notified and provision room and gallery prepared for rough weather	
Furniture and appliances in Dining Saloon secured	
Furniture and appliances in Duty Mess secured	
Furniture in Officers Smoking Room secured	
Furniture in Crew's Dayroom secured	
Furniture in Conference Room secured	
Additional lashings on PC monitors, copy machines and printers	
Deck control room prepared for rough weather	
Bridge prepared for rough weather	
If rolling exceeding 30 degrees the engine room to be manned	
Crew instructed about any restrictions in work outside accommodation	

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Master:

(signature)

Injury or fatality following waves washing onboard vessels as recorded in MAIB databaseÁ1998 – 200Ï

	MAIB accident databa (Acc	se records of idents occurr	injuries and f ing on board	atalities to crew working on deck in heavy weather when a wave washed inboard. merchant vessels of 500gt or more of UK flag or in UK waters) 1998 – 2007
No	Ship Type	Injuries	Fatalities	Remarks
1	Tanker	2	0	Bilge alarm in Bow thruster compartment sounded. Chief officer and deck crew went
				forward to investigate. Ventilators and hatch tightened and crew returned to accommodation. Chief officer and bosun delayed due to closing the forecastle door. As
_				they moved aft they were hit by a wave.
2	Rig supply	2	0	During a lull in operations, two ratings were sent on deck to check spaces for damage.
_				While on deck they were hit by a large wave and both sustained injuries. The master
_				had used the pre-briefed whistle signal to warn of the approaching wave, and the two
				men had been trying to take cover when the wave hit.
3	Dive support vessel	1	0	A well operations supervisor went onto the main deck for some fresh air and was struck
_				by a large wave. He was not found for some time since he had not told anyone he was
				going on deck.
4	Dredger	1	0	Ship making passage in rough weather, though ship's motion was relatively easy. Two
_				ABs sent on deck to close ventilation covers which were letting in water. On
_				completion, the ABs were returning to the accommodation when a wave washed on
				board, knocking one of the men into the ship's side rails.
5	Ro-Ro cargo	1	0	Ship was hove to in heavy weather. Three ABs were sent on deck to inspect the
				forecastle, when a large wave washed on board.
6	Container	1	0	Crewman stumbled as he crossed the deck avoiding water washing on board.
7	Passenger	1	0	While entering a door from the forecastle, a crewman got his leg caught in the door
				when the door was struck by a wave.

Annex B

×	Container	1	0	Chief officer carrying out routine rounds in rough weather, left the underdeck passageway to check outside, when he was hit by a wave which washed him along the
				deck.
6	Tanker	2	0	Two crewmen injured while working on deck by a wave washing inboard.
10	Container	1	0	A crewman was carrying out rounds of the reefer containers, when a wave broke over
				the bow. The water surged along the deck, knocking the man against the steelwork.
11	General cargo	1	0	When weighing anchor, the chief officer was hit by a wave breaking over the
				forecastle.
12	Container	0	1	Crew member was washed overboard from the pilot door opening in the hull. He was
				never recovered.
13	Container	3	1	With the ship moving easily, four crewmen were working forward. A large sea broke
				over the bow, washing three of the men into the iron work on the deck.
14	Passenger	1	0	Vessel operating in heavy seas, pitched heavily. Seas shipped on board burst open a
_				weathertight door. The water rushing into the passageway knocked a crewman over,
				injuring him.
15	Tanker	1	2	Tanker leaving port with men completing the securing of the forecastle after letting the
_				tug go. Vessel pitched and shipped two large waves over the bow. This resulted in the
				deaths of two seamen and serious injury to a third.
16	Safety standby vessel	1	0	After a stormy night, OOW noticed loose equipment on deck. Crew were sent to secure
_				the same, and as they were coming off deck, the vessel shipped a sea, washing the
				seaman against a bulkhead.
17	General cargo	0	0	Two crew members went on deck to secure equipment. Unexpected large wave washed
				on board, throwing both men against the accommodation bulkhead.

Amended SJA entitled "Movement on Deck in Heavy Weather"



## Safe Job Analysis

 SJA Title
 Authorising Officer
 Assessor:

 DECK - MOVEMENT ON DECK IN HEAVY WEATHER
 Crew member 1
 Crew member 2

 Location(s):
 Creation Date:

 Iocation 1
 29/01/2009

Wave on deck					
Hazard Effect	Consequence			Risk	
Wash overboard/being submerged/drowning	Involving a serious	injury or fatality (C4)	Possible, and repre	i.e. the event may have occurred sents a credible scenario (P4)	16
Control Measures			S. Valiation		
Description	<b>Responsible Person</b>	Consequen	ce	Probability	Residual Risk
Manoeuvring/reducing speed to ease the ship	Master	Involving a serious in fatality (C4)	jury or	Possible, i.e. the event may have occurred and represents a credible scenario (P4)	16
Use lifejackets/immersion suits	Chief Officer	Involving a serious in fatality (C4)	jury or	Possible, i.e. the event may have occurred and represents a credible scenario (P4)	16
Only use sheltered passage	Chief Officer	Involving a serious in fatality (C4)	jury or	Unlikely, less than average i.e. easy to hypothesize an incident but unlikely (P3)	12
Only daylight operations	Master	Involving a serious in fatality (C4)	jury or	Unlikely, less than average i.e. easy to hypothesize an incident but unlikely (P3)	12
Use lifelines	Chief Officer	Involving a serious in fatality (C4)	jury or	Highly unlikely, would require multiple failures of systems and controls (P2)	8
Prohibition to go on deck	Master	Negligible injury (first	aid) (C1)	Highly unlikely, would require multiple failures of systems and controls (P2)	2

Wave on deck					Report House
Hazard Effect	Consequence			Risk	
Being washed against/submerged/drowning	Involving a serious	injury or fatality (C4)	Possible, and repre	i.e. the event may have occurred esents a credible scenario (P4)	16
Control Measures			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
Description	<b>Responsible Person</b>	Consequer	ice	Probability	Residual Risk
Manoeuvring/reduce speed to ease the ship	Master	Involving a serious injury or fatality (C4)		Possible, i.e. the event may have occurred and represents a credible scenario (P4)	16
Use of safety lines	Chief Officer	Involving a serious ir fatality (C4)	njury or	Possible, i.e. the event may have occurred and represents a credible scenario (P4)	16
Use PPE	Chief Officer	Involving a serious in fatality (C4)	njury or	Unlikely, less than average i.e. easy to hypothesize an incident but unlikely (P3)	12
Only daylight operations	Master	Involving a serious injury or fatality (C4)		Highly unlikely, would require multiple failures of systems and controls (P2)	ŝ
Prohibition to go on deck	Master	Negligible injury (firs	t aid) (C1)	Highly unlikely, would require multiple failures of systems and controls (P2)	2

Conseque njury leading to RWA or nsible Person r Inju (C3 r Iniu	nce LTA (C3) Consequent iry leading to RWA	Possible, and repres	Probability i.e. the event may have occurred sents a credible scenario (P4) Probability	Risk 12 Residual Risk
njury leading to RWA or nsible Person r Inju (C3 r Inju	LTA (C3) Consequence Iny leading to RWA	Possible, and repres	i.e. the event may have occurred sents a credible scenario (P4) Probability	12 Residual Risk
nsible Person r Inju (C3 r Iniu	Consequent Iry leading to RWA	ce A or LTA	Probability	Residual Risk
<b>nsible Person</b> r Inju (C3 r Inju	Consequend arry leading to RWA	e or LTA	Probability	Residual Risk
r Inju (C3 r Inju	iry leading to RWA	orLTA		
r Iniu			Possible, i.e. the event may have occurred and represents a credible scenario (P4)	12
(Č3	iry leading to RWA	or LTA	Highly unlikely, would require multiple failures of systems and controls (P2)	6
				an sameran
Conseque	nce		Probability	Risk
njury leading to RWA or	LTA (C3)	Possible, and repres	i.e. the event may have occurred sents a credible scenario (P4)	12
	No. FOR STATE	See See		dis David
nsible Person	Consequence	e	Probability	Residual Risk
r Inju (C3	iry leading to RWA	or LTA	Highly unlikely, would require multiple failures of systems and controls (P2)	6
Conseque	nce		Probability	Risk
nvolving a serious injury	or fatality (C4)	Unlikely, I hypothesi	ess than average i.e. easy to ze an incident but unlikely (P3)	12
Constanting the	The second second second second second	No. of the second second	· · · · · · · · · · · · · · · · · · ·	alter a start
nsible Person	Consequence	e	Probability	Residual Risk
r Inve fata	olving a serious inj ality (C4)	jury or	Possible, i.e. the event may have occurred and represents a credible scenario (P4)	16
Neg	gligible injury (first	aid) (C1)	Highly unlikely, would require multiple failures of systems and controls (P2)	2
ion				
nber 1				
			,	
			Date :	
	r Inju (C3 Conseque njury leading to RWA or msible Person r Inju Conseque nvolving a serious injury nsible Person r Inv fate Neg	r Injury leading to RWA (C3) Consequence njury leading to RWA or LTA (C3) msible Person Consequence r Injury leading to RWA (C3) Consequence nvolving a serious injury or fatality (C4) msible Person Consequence r Involving a serious injury (C4) msible Person Consequence r Involving a serious injury (C4) msible Person Consequence r Involving a serious injury (first fatality (C4) Negligible injury (first	r Injury leading to RWA or LTA Consequence njury leading to RWA or LTA (C3) Possible, and repre- msible Person Consequence r Injury leading to RWA or LTA (C3) Consequence nvolving a serious injury or fatality (C4) Unlikely, I hypothesi msible Person Consequence r Involving a serious injury or fatality (C4) Negligible injury (first aid) (C1) ion	(C3)       nave occurred and represents a coredible scenario (P4)         r       Injury leading to RWA or LTA (C3)       Highly unlikely, would require multiple failures of systems and controls (P2)         Consequence       Probability         njury leading to RWA or LTA (C3)       Possible, i.e. the event may have occurred and represents a credible scenario (P4)         Insible Person       Consequence       Probability         r       Injury leading to RWA or LTA (C3)       Highly unlikely, would require multiple failures of systems and controls (P2)         Consequence       Probability         nvolving a serious injury or fatality (C4)       Unlikely, less than average i.e. easy to hypothesize an incident but unlikely (P3)         nsible Person       Consequence       Probability         r       Involving a serious injury or fatality (C4)       Unlikely, less than average i.e. easy to hypothesize an incident but unlikely (P3)         nsible Person       Consequence       Probability         r       Involving a serious injury or fatality (C4)       Possible, i.e. the event may have occurred and represents a coredible scenario (P4)         Negligible injury (first aid) (C1)       Highly unlikely, would require multiple failures of systems and controls (P2)         ion       Date :       Date :

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Maersk Safety Flash 01/2009



# SAFETY FLASH 01/2009

### Movement/Inspections on deck during heavy weather

Issued by: SQHE Department, Copenhagen dated January 30th, 2009

#### **Event description:**

The following unfortunate incident occurred on board one of our vessels end of last year.

Vessel departed from a port where a typhoon was approaching. Heavy weather checklist was run through and signed off. Weather situation outside was windforce 8/9 with a slightly rolling and pitching vessel.

A few hours after departure, around 20.00 LT, due to a bilge alarm in the bosunstore, the C/O & C/E went up forward via the underdeck passageway to inspect the cause of the alarm.

Vessel altered course to give a leeway and to steady the movement, and speed was also reduced. This gave a leeway to starboard side where the entrance from the under-deck passageway is situated.

It appeared to the C/O's and the C/E's that there was a leakage from the forward store hatch. The C/O & C/E informed the bridge that the situation forward seemed favourable enough and that they would assess on deck whether the weather would allow further securing of the hatch once the vessel was steadied.



Once the vessel was steadied for about ten minutes, both the C/E and C/O made the decision to go up to the maindeck entrance, which is situated some 15 metres aft of the gulfbreaker on the foc'sl, to check out the weather circumstances.

As the weather was considered favourable from there, it was decided to go up forward to tighten the dogs of the hatch. After completing the task, both men intended to go back to the entrance of the lower passageway, when they noticed that the S/B anchor lashing (ocean lashing) had become slack as well.

The C/E climbed on the pedestal where one end of the securing was situated, and the C/O remained on deck to assist.

Busy with securing the ocean lashing, a green sea came over the foc'sl deck and both men were washed off their feet, with the C/E lying under the SB winch drum. Both the C/O and C/E were heavily wounded and requested assistance.



Unfortunately after all due medical care, the C/E passed away the following night as a result of the internal wounds which he had sustained during the incident.



#### **Recommended on board actions:**

- Review/create new and if necessary revise the SJA "Movement on Deck during Heavy Weather" to include lessons learnt from incident.
- Departure checks should be reviewed, especially when heading into rough weather.
- Emphasise onboard the importance of a Risk Assessment prior to tasks involving hazards.
- Assess whether it really is necessary go out on deck during bad weather
- Avoid inspections on deck during dark hours
- If circumstances make it necessary to go on deck, make sure that the vessel is heading in such a direction that 'green water' cannot be encountered.
- If inspection is found necessary, determine reporting intervals/times/periods via handheld radio's
- A third man should be over viewing the inspection team from a safe point
- Consider the use of the right PPE, also making use of lifelines.
- The equipment on deck should be kept well maintained and in good working order so as to prevent water ingress in the foreship (forecastle, forepeak, hold no.1) following heavy weather damage to closing appliances and/or deck structures.
- All members of the work party should take the opportunity to identify further hazards and controls.
- If there is any change that may alter the hazards and controls, the work party must STOP work and the prevailing risks must be reviewed. This can then be reflected in the revisions to the relevant SJA.



The exposed forecastle deck, of course is especially vulnerable, where:

- All closing appliances for openings into the hull should be subject to regular inspection and maintenance, particularly when trading in waters where heavy weather may be expected.
- Locking devices for access hatches and doors should be kept in good working order so that unintended opening, due to green seas, is greatly reduced.
- Condition and clamping devices of air and sounding pipes should also be subject to regular follow-up by the ships crew, as internal corrosion and inadequate clamping may turn out to be critical.
- Anchor lashings should be inspected for tightness each day, when safe to do so.

#### **Recommended shoreside actions:**

- Review the Heavy Weather Procedures as in the GSMS
- Reintroduction of the Emergency Response Manual, taking this incident into account.
- Review the need for additional medical training for sea staff on top of the STCW requirements.

Please discuss this Safety Flash and attached investigation report at your next Safety Committee Meeting. This Safety Flash must be filed according to procedure ID: 260 and be posted on board the vessel for 6 months.