GUIDELINES FOR THE MANAGEMENT OF DISTRACTION-CAUSING DEVICES ON BOARD SHIPS

BIMCO

INSTITUTE OF MARINE Engineering, Science & Technology

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1. Foreword

Human Element Industry Group

Aim

The Human Element Industry Group (HEIG) is established to focus on the importance of the Human Element and enhance existing coordination and cooperation in engagement with the issues at the International Maritime Organization (IMO). A greater understanding of the human element will ensure that it is adequately and appropriately considered and addressed in all aspects of future work of the IMO.

Membership

This group is an industry group initially comprising non-governmental organisations (NGOs) accredited to IMO which have interests in the Human Element. Further expansion of the group will be encouraged as activities commence. Membership may be extended to Flag states in order to further the work of the group.

Terms of Reference

To promote consideration of the Human Element within the IMO, and in particular:

1. Promote consideration of the wider scope of the Human Element as reflected in IMO Resolution A974 (23) “Human Element Vision, Principles and Goals for the Organization”
2. Encourage appropriate use of the standing agenda item on the “Human Element” at HTW
3. Promote understanding of the Human Element through training and education
4. Promote understanding of fatigue and the factors that influence fatigue
5. Consider the Human Element in the context of increasing levels of automation of ship systems, equipment and operations.

These guidelines are prepared and endorsed by the following organizations:

2. Preamble

In today's fast-paced world, technology has brought us closer together, allowing us to communicate with each other more efficiently and effectively. This is especially true in the maritime industry, where advancements in communication systems have greatly improved ship-to-shore and ship-to-ship communication and the use of devices such as mobile phones and other personal electronic devices have increased. In general, communication systems and shipboard internet has improved the wellbeing of seafarers as it keeps them connected with their families and loved ones. However, with these advancements come certain risks, one of which is the risk of distraction at work.

Before proceeding further, it is important to establish that it is not the intention of these guidelines to limit how crew members on ships use internet during their off-duty hours and personal or recreational spaces. In fact, the use of internet and other communication systems is encouraged when not working, to promote the welfare of our seafarers.

This document presents a set of voluntary guidelines developed by some of the members of Human Element Industry Group (HEIG) and is aimed at shipping companies to help them understand the risks associated with distraction at work and to assist them in putting safeguards in place to mitigate these risks. These guidelines are intended to provide an understanding of the hazards, the risks associated with these hazards, and the means to identify and mitigate such risks. Distraction at work is a major cause of decreased productivity and can lead to dangerous and fatal accidents. For example:

- The collision of the UK-registered cargo ship *Scot Carrier* with the Danish barge *Karin Høj*[1] in Swedish waters on 13 December 2021, resulting in the capsize of *Karin Høj* and deaths of its two crew members. The investigation revealed that the *Scot Carrier*'s second officer, who was distracted by his tablet and had consumed alcohol, altered the ship's course without checking for traffic. The investigation found, among other things, that the *Scot Carrier*'s second officer's actions were likely influenced by his distraction.
- The collision between bulk carrier *Bunun Queen* and offshore supply vessel *Thunder*[2] on 23 July 2022, where the *Thunder* sustained substantial damage to its port side, which resulted in the flooding of one of its propulsion rooms and three other spaces. The master on the *Thunder* told investigators he was using a cell phone before the collision. On the *Bunun Queen*, the second officer told investigators he was engaged in other duties and not maintaining a lookout, while the AB normally assigned lookout duties was in his cabin resting. As such, both the second officer of the *Bunun Queen* and the master of the *Thunder* failed to fulfil a fundamental duty required by international law for a vessel underway – to maintain a proper lookout.

[1] https://www.gov.uk/government/news/scot-carrier-and-karin-hoej-report-published#:~:text=Collision%20between%20a%20general%20cargo,the%20loss%20of%20two%20lives

[2] https://www.ntsb.gov/investigations/Pages/DCA22FM030.aspx#:~:text=%E2%80%8BWe%20determined%20that%20the,both%20officers%20from%20keeping%20a

- Another example of an accident caused by the use of distraction causing devices is the grounding of the container ship *Ever Forward*[3] on 13 March 2022 on the US East Coast due to the pilot's use of a mobile device and poor bridge resource management. The vessel's pilot made several phone calls during the ship's journey, including personal calls that lasted for a significant amount of time. He also sent text messages during a critical period leading up to the grounding.
- The collision of the USCG vessel *CG 25889* with the small passenger vessel *Thriller 09*[4] on 5 December 2009 in Charleston, South Carolina where it was established that personal cellphone use while on watch was done "repeatedly, routinely, rampantly and continuously" from 2002 when the policy was established until the accident.
- The collision of the tug *M/V Caribbean Sea* with the anchored passenger vessel *DUKW34* on 7 July 2010 in the Delaware River, which resulted in two fatalities and 25 injuries, was found to be caused in part by the distraction of the wheel man on the tug due to his repeated use of his cell phone and company laptop computer while he was solely responsible for navigating the vessel.

Distraction and distraction-causing devices had a role to play in all of these incidents, highlighting the importance of managing distraction on board ships to ensure the safety of the crew, the ship and its cargo.

There are several such examples of distraction leading to accidents.

[3] **https://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-5P/Inspections-Compliance-CG-5PC-/Office-of-Investigations-Casualty-Analysis/Marine-Casualty-Reports/**

[4] **https://mblb.com/admiralty-maritime/more-on-cell-phone-use-in-the-maritime-industry/**

3. Introduction

Communications technology, particularly in mobile phones or tablets, has evolved at a great pace in recent years. Global high speed internet connectivity is now readily available at sea and ships are often fitted with WiFi networks – little different to those found in an office on land.

In addition to aiding ship management, including reducing emissions through improved operational efficiency, developments in communications technology significantly enhances crew welfare with a consequential feed-through to improved performance as recognised in through the Maritime Labour Convention. The presence of improved communications systems, especially internet, on board ships has helped seafarers improve their well-being.

However, improved connectivity comes with certain risks, notably distraction. An identifiable and increasing trend are accidents at sea, and elsewhere, directly attributable to the distraction from using mobile phones or similar technology.

These guidelines are mainly aimed at shipping companies and seek to give the reader an understanding of the hazards associated with distraction together with the means to both identify sources of distraction and evaluate the risks these present. These guidelines also assist the reader in establishing controls to protect against this risk.

4. Distraction at work

Distraction is referred to as a process of interrupting attention. It may be something that prevents someone from concentrating on the work at hand or it could be a diversion of mind to something else.

While developments in technology have increased productivity, it comes at the cost of increased scope for worker distraction.

Research has identified distraction at work as a major cause of decreased productivity[5]. While the impact on productivity is a cause for concern, in safety critical industries such as shipping, distraction also contributes to the development of unsafe practices. In short, distraction represents a hazard to maritime safety, be it the safety of the seafarer who is distracted, or the safety of other seafarers who are directly or indirectly dependent on the distracted seafarer.

Statistics estimates that in the US, mobile phone distractions are causal to at least 2,600 traffic deaths (land transport) each year and a further 330,000 accidents resulting in moderate or severe injuries[6]. Taking the eyes off the road for 5 seconds at 55 miles per hour is equivalent to travelling the length of a football field without looking. A disconnect between perception and reality worsens the problem, with recent research showing that drivers overestimate their own ability to safely multitask, even as they worry about the dangers of others doing this.

On ships, seafarers carry out multiple tasks that need constant situational awareness, many of which are safety critical. For some of these tasks, the situation is dynamic thus it is essential the seafarer maintains undivided attention to the situation at hand. However, with so many potential sources of distraction it is easy to lose focus and, with that, situational awareness.

In particular, increased digitalisation has led to the proliferation of telephone and internet connectivity onboard commercial ships. Increasingly ships' crew have access to telephone, internet and wi-fi services on board. While this delivers welcome social and welfare benefits, with consequential enhanced seafarer performance overall, this has also led to an increase in the time spent on devices for both business and personal use.

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[5] Draheim, C., Hicks, K. L., & Engle, R. W. (2016). Combining Reaction Time and Accuracy the Relationship Between Working Memory Capacity and Task Switching as a Case Example. Perspectives on Psychological Science, 11(1), 133-155. doi: 10.1177/1745691615596990.
Foroughi, C. K., Werner, N. E., Nelson, E. T., & Boehm-Davis, D. A. (2014). Do interruptions affect quality of work? Human Factors: The Journal of the Human Factors and Ergonomics Society, 56(7), 1262-1271. doi: 10.1177/0018720814531786.

[6] **https://www.nhtsa.gov/risky-driving/distracted-driving**

a. Causes of distraction

There are number of different ways one can get distracted using modern communications devices:

1. Reading or sending a text message
2. Using a mobile phone or prioritising answering a call at an inopportune time
3. Engaging with social media or viewing other media, or using a navigation system, eating etc while driving a vehicle (land-based)
4. Indulging in other non-time-constrained important work-related tasks, such as chart corrections while carrying out a critical navigation or collision avoidance task
5. Indulging in non-work-related tasks while carrying out an important task at hand.

b. Devices causing distraction

Devices that can cause distraction include but are not limited to mobile phones, computers (laptops, desktops), tablets, cameras, smart watches, entertainment devices such as gaming consoles, music systems etc. These can be for both personal or business purposes.

5. Governance of the use of distraction causing devices (DCD) in other industries

A major cause of road accidents is the use of mobile phones while driving. Writing a text message, which normally takes 10 seconds, while driving at 55 km per hour is equivalent to driving through the length of a football field without looking at the field.

In most countries, the use of mobile phones while driving is a judicial issue. Strict laws are in place proscribing use of a mobile phone or other distraction causing devices while driving. For example, in Denmark the use of a hand-held mobile phone while driving invites a DKK 2500 (EUR 350) fine with a demerit point on the driver's licence[7]. An additional two or more demerit points within a defined time period may lead to the driver's licence being revoked. This rule not only applies to the use of a mobile phone but also to tablets, satellite navigation devices, computers, smartwatches and walkie-talkies.

Although these penalties may seem severe, they have been seen as an important factor in deterrence against the use of DCDs while driving[8]. It can be argued that these initiatives have improved road safety conditions.

[7] https://www.thelocal.dk/20190910/denmark-just-got-tougher-on-drivers-who-use-their-phone-behind-the-wheel#:~:text=Fines%20totalling%20up%20to%202%2C500,was%20punishable%20only%20by%20fines

[8] Hansen, Benjamin. 2015. "Punishment and Deterrence: Evidence from Drunk Driving." American Economic Review, 105 (4): 1581–1617.

6. Distraction and the maritime industry

The maritime industry is not immune from distraction-related incidents. On several occasions, human lives have been lost and extensive property damage has been caused due to the operator being distracted from work. Some examples of maritime accidents have already been listed in the preamble above. These guidelines will look into the use of devices that cause distraction in the maritime industry and specifically, while carrying out work on board ships.

Type of distraction

Distraction may occur either if the person involved is using a device or another person nearby is doing so. Such distraction can be grouped under the following classifications:

1. Key personnel[9] using a personal DCD while performing an essential task
2. Non-key personnel using a personal DCD, which interferes or distracts key personnel
3. Key personnel using a business device such as the ship's mobile phone to make or receive calls not related to the task at hand and / or frequent use of onboard computers.

Furthermore, engrossing oneself in one particular task as part of performing a larger task, and not paying attention to the overall picture, may also be termed as distraction. This need not necessarily involve a DCD. However, for the purpose of these guidelines, focus will be on the DCDs and their usage.

a. The process of distraction

It is reported that human beings are not designed to carry out multi-tasking, so doing that can reduce productivity by 40%. Each time our brain switches from one task to another, there is a cost involved with part of the brain left behind in the previous task. In short, it is very difficult to pay 100% attention to an individual task when switching between different tasks, even if the person feels that it is doable.

Research shows that when we check something, our mind requires several minutes of refocus time to return to the original task;[10] it is hard to concentrate on more than one channel of information. Furthermore, there is a limit to what a human brain can remember at any one given point in time. The maximum number of information sources a person can remember at any one point in time is four, and then only if the individual is in a normal state of mind. However during periods of stress, that number can reduce to one[11] hence, during periods of extreme stress, personnel forget to, or are unable to do important activities in

[9] Key personnel are those members of the crew, who are directly involved in and/or responsible for safety critical operations on a ship. This includes the Master while conning a ship, navigating officers while on his bridge watch, engineers while performing an engine room watch or when performing a critical manoeuvre, duty officer/ rating while supervising a cargo operation or an engineer or able-bodied seaman while performing a bunker watch or a watchman posted as a standby person on deck during enclosed space entry operation etc.

[10] University of London – **How to manage digital distraction in your studies | University of London**

[11] CHIRP Maritime – **https://www.chirpmaritime.org**

response to an emergency situation, such as closing fire doors, launching life rafts or avoiding the urge to save a colleague overcome in an enclosed space, without calling for additional assistance.

There are certain things that cannot be avoided during work. The absence of a DCD helps to avoid the frequent switching of the brain, maintaining focus on the task in hand. When the brain receives information that is unrelated to work, it is more likely to lose focus and, consequently, situational awareness. This raises the risk of accidents.

b. ISM Code

The IMO International Safety Management (ISM) Code requires companies to develop and maintain policies, procedures and instructions to ensure safe operation of ships. The Code also requires that companies develop safety management systems (SMS), which should assess all identified risks to its ships, personnel and environment, and establish appropriate safeguards. Several maritime administrations issue safety advisories on this topic[i].

As has been highlighted above, distraction at sea, particularly but not exclusively in relation to the performance of navigational tasks, is a risk that needs to be addressed in the SMS.

7. Management of distraction

The management of distraction should be handled on board a ship like any other safety risk.

This process may include:

1. Understanding the hazard
2. Assessing if the hazard can evolve into risks
3. Identification of potential risk and the impact it could have on the safe operation of the ship
4. Assessing available risk/hazard control options
5. Choosing the most appropriate option
6. Implementation of the chosen risk/hazard control option.

a. Understanding the hazard

Distraction can be caused by:

i. Key personnel using a DCD:

Key personnel are those members of the crew who are directly involved in or responsible for safety critical operation(s). This includes a Master while conning a ship, a navigating officer while on bridge watch, an engineer while performing an engine room watch or a critical manoeuvre, a duty officer/rating while supervising a cargo operation, an engineer or able-bodied seaman while performing a bunker watch or a watchman posted as a standby person on deck during enclosed space entry operation etc. The list is not exhaustive.

Examples of the use of DCD include:

1. Reading or sending a text message
2. Using a mobile phone or prioritising answering a call at an inopportune time
3. Engaging with social media or viewing other media, or using a navigation system, eating etc
4. Indulging in other non-time constrained important work-related tasks such as chart corrections while carrying out a critical navigation or collision avoidance task
5. Indulging in non-work-related tasks while carrying out an important task at hand.

When key personnel use a DCD, it immediately impacts their situational awareness together with their ability to perform decision-making. In addition, their overall work efficiency is reduced by around 40% because the switch from one task to another reduces attention in the task at hand. At times, this can lead to incidents or accidents[ii], if not intervened well in time.

ii. Non-key personnel using a DCD at workplace:

Distraction can also be caused by non-key personnel at workspaces. Examples of these could be ships' personnel making personal phone calls from the bridge[12], which to a certain extent, distracts the officer on watch (OOW). There is also the practice of using the ship's VHF (very high frequency) radio to make social calls to other ships. This not only distracts the OOW but may also inhibit the OOW from listening to important VHF traffic from other ships or shore stations.

Lately, the practice of using cameras and smart phones to shoot videos, which are later uploaded on social media to gain publicity/followers etc, has increased. Examples include crew members recording videos from the bridge whilst the ship is in a high traffic density area, cargo control room while loading or discharging cargo or a mast or other unsafe places.

These practices can lead to the key personnel getting distracted from their primary task of navigation or cargo work or other watchkeeping activities.

iii. Excessive use of business DCD by key-personnel:

Personal devices are not the only ones that cause key personnel to get distracted from their primary duties. Excessive use of business or work-related devices or other activities may distract crew members from their primary duties. Such use can also become a safety hazard for those performing critical tasks on board a ship, such as:

While using a mobile phone, or tablet or a personal computer, or even excessive use of business computers/tablets, can be termed within reasonable limits for shore-based office staff, this can become a safety hazard for those performing critical tasks on board a ship, such as – navigational bridge, engine room operations, bunker operations, cargo operations etc. Performing safety critical tasks such as ballast operations, enclosed space entry work, hot work and other important tasks needs full attention of the worker.

Examples of inappropriate DCD use include:

1. A navigational watch keeping officer can get distracted from his or her primary function by:
    (a) Checking business emails from bridge
    (b) Making or attending business phone calls. At times, receiving numerous calls from various parties whilst approaching a port can be a daunting task, and easily distract the navigator from their primary duty of navigation and collision avoidance
    (c) Filling port papers or performing other administrative task from the bridge computer
    (d) Monitoring ballast water operations from the bridge control panels

[12] Bridge of the ship is considered the best place to receive phone signals, hence a popular place on board to make phone calls by ship's staff.

(e) Keeping track of the personnel working on deck, including those entering enclosed spaces, working over the side, working aloft etc. While these can be considered normal duties whilst sailing in mid seas, it can cause a distraction whilst transiting through busy coastal waters where undivided attention is needed on navigation and collision avoidance.

2. An engineer on duty can get distracted by completing an excessive amount of checklists on a computer whilst approaching harbour or when performing a critical manoeuvre.
3. In port – while it is normal for the officer on watch to carry the business telephone and attend to phone calls from the agents etc, it can at times become overwhelming with the result that focus is lost on the cargo operation especially if multiple tasks are performed concurrently, such as bunkering, provisions, inspections, maintenance.

b. Assessing if the hazards can evolve into risks

An organisation should benchmark where it stands in terms of management of distraction to determine the nature of the hazard and assess and appropriately control the risk represented by the hazard.

Among other factors to be taken into account in this exercise:

i. The propensity of the crew to carry mobile phones (or other DCD) while they are on duty
ii. How is the communication set-up on board?
    1. How many phones are available for use of crew members to make social calls and where are these phones located?
    2. Is there a wi-fi setup on board?
    3. Can the internet be accessed only through certain wired devices on board?
    4. Can the wi-fi be accessed from key work locations such as the navigational bridge, engine room, cargo control room etc?
iii. Does the shipboard internet give access to viewing videos, playing games online etc or it is restricted to messaging, internet browsing etc?
iv. Are there any restrictions on internet access, for example to prevent access to videos, games or social in work locations or as a function of the maximum time online?
v. Are there any time restrictions on availability of internet, such as only during day time or only during certain number of hours of a day?
vi. Are there time restrictions on use of the internet – number of hours or minutes a crew member can use the internet?
vii. Is there a restriction on the volume of data used per crew member?
viii. Do crew members have to pay for using the internet on board ships?
ix. Can business telephones be only attended from the bridge? Can these be routed to other places?
x. How is the policy of business phone usage in port? Is there excess reliance on the OOW to carry out non-cargo related duties along with cargo watchkeeping?
xi. What is the policy of key personnel's use of on-board computer? Are all the checklists only available on the computer?

xii. Where is the bridge computer placed? Can the OOW maintain a look-out while using DCD for business purposes? *(Placing IT systems where an OOW can maintain a look out may seem logical but can introduce a false sense of security with the OOW spending longer time on the computer than required, a practice that gets worse with time and eventually can lead to getting engrossed in the work on the computer and neglecting the look-out duties.)*

xiii. Is the OOW required to perform admin duties during watch keeping hours?

xiv. What is the policy for non-key personnel using DCDs from key work locations? Are there set procedures?

c. Identification of risk and the impact it can have on safe operations of the ship

The organisation should carry out an evaluation of the existing hazards posed by DCDs. Assessing whether these hazards can result in risk of accidents, is a good starting point.

This may not be an easy exercise. However, running through scenarios from previous accidents or incidents may give a general idea about what kind of consequences the company may need to address.

For example, a ship with a distracted navigator may end up in a collision or grounding incident with multiple fatalities. A distracted engineer's failure to attend to an alarm could lead to extra maintenance work being needed on machinery. Use of such devices during bunkering can lead to pollution incidents resulting in costly environmental damage.

Conversely, not replying to business emails or attending phone calls may have a detrimental effect on the conduct of business, especially if there are no deputies to carry out the job. A balance needs to be struck, therefore, when establishing DCD policy.

Should an accident occur, the cost and consequences in terms of injury, ship damage, cargo damage or pollution can be extreme. Recent court cases have highlighted that accidents may not be categorised as neglect by crew members if the company failed to address obvious risks and/or did not put necessary safeguards in place to protect the ship against such risks. This is why it is critically important to establish safeguards and implement them in the safety management system.

Internet connectivity is increasing at sea and more and more shipping companies are providing access to the internet to their shipboard staff.

The non-availability of internet access on board may not be an option anymore, especially since the introduction of legislation mandating the need for it. MLC code A.3.1 states – *"17. Appropriate seafarers' recreational facilities, amenities and services, including social connectivity, as adapted to meet the special needs of seafarers who must live and work on ships, shall be provided on board for the benefit of all seafarers, taking into account Regulation 4.3 and the associated Code provisions on health and safety protection and accident prevention."*

However, this does not necessarily mean that internet access should be available throughout the ship with no restrictions whatsoever.

COLREGS Rule 5 – Lookout – states – "Every vessel shall at all times, maintain a proper lookout by sight, hearing and by all available means, appropriate to the prevailing circumstances and conditions, in order to make a full appraisal of the situation."

When the navigational bridge watch keeping team is distracted in any way, this rule is breached. Therefore, if a company allows the use of DCD by the watchkeepers on the bridge, there is a potential breach of this important COLREG regulation. This also means that proper and effective safeguards are not in place as required by ISM Code. It is therefore very important to keep distractions away from the bridge team on duty.

While it may seem that this rule does not apply to other areas on the ship, it can be argued that the requirement of placing effective safeguards against existing risks may not be fulfilled when DCDs are used at workplaces.

d. Available risk control options

Below is a non-exhaustive list of risk control options that can be used to place effective safeguards. Companies may use their own due-diligence techniques to put additional safeguards in place as the case may require.

i. Restricting/prohibiting the use of personal DCD by key personnel in key working spaces such as bridge, engine control room, cargo control rooms, officer on watch (bridge), engineer on watch (EOW), other watch keepers such as gangway watch etc

ii. Restricting the use of personal DCD during working hours, irrespective of the place

iii. Restricting the use of DCDs by non-key personnel in key working spaces. This can limit the distraction caused to key personnel

iv. Limiting the use of business DCDs during working hours and from working spaces

v. Looking into the onboard communication systems setup and optimising it for crew members in order to limit distraction

vi. Placing computers in key working spaces strategically to ensure that working with these devices is kept within a safe limit.

e. Choosing the most appropriate risk control option

Depending on the outcome of the risk analysis, a company may choose one or more risk control options. This comes with another analysis of cost versus benefit, and it can vary from one company to another. When analysing the benefits, it is also important to address the insurance aspect. With proper procedures in place, a company can avoid higher insurance premiums and in certain cases reduce liability in case of accidents[13].

f. Implementation of the chosen risk/hazard control option

It is not only important to have a company policy on managing distractions, it is equally important to actively implement and enforce the policy.

Therefore, once the appropriate risk control options are chosen, it is important to include these in the safety management system and add them to the safeguards of safe operation and pollution prevention.

[13] **https://www.reedsmith.com/en/perspectives/2021/11/cma-cgm-libra-passage-plan-seaworthiness-supreme-court-rules**

g. Verification of effective implementation

ISM has a time-tested verification procedure, which can be used to ensure an effective implementation. Including these safeguards or procedures in the safety management system also means that these are effectively audited, and non-conformances addressed by appropriate corrective actions.

Conclusion

Distraction caused by mobile phones and other DCDs can pose a significant risk to maritime safety. While advancements in communication technology offer numerous benefits for crew welfare and operational efficiency, the possibility of distraction demands careful consideration.

This document has highlighted the dangers of distraction, outlining how divided attention can compromise situational awareness and potentially lead to accidents. Examples from land-based industries showcase the effectiveness of strict regulations and suggest the need for similar measures in the maritime sector.

Moving forward, shipping companies may consider implementing robust policies and procedures to manage the use of DCDs on board ships.

These policies could define acceptable and unacceptable uses of DCDs, particularly in critical operational situations. Effective implementation may require crew training and awareness programs, fostering a culture of safety that prioritises focused attention during critical tasks.

By acknowledging the potential risks associated with DCDs and considering appropriate controls, shipping companies can contribute to a safer work environment for seafarers and ultimately improve overall maritime safety.

[i] **Action from regulatory bodies**

1. USCG issued safety advisory 01-10 – **Microsoft Word - ntsb distraction.docx (uscg.mil)**
2. New Zealand issued a safety update – **Safety update - Dangerous use of mobile phones while a vessel is underway August 2009 - Maritime NZ**
3. Australia issued a safety advisory to its pilots – **Use of mobile phones—advisory notice (amsa.gov.au)**.

MCGA UK has issued a Marine Guidance Notice (MGN 299) – Interference with safe navigation through inappropriate use of mobile phones - Microsoft Word - MGN 299 Amended 2.doc (publishing.service.gov.uk)

[ii] **Accidents in the past**

The UK-registered cargo ship *Scot Carrier* collided with the Danish barge *Karin Høj*[ii] in Swedish waters. The collision caused *Karin Høj* to capsize, resulting in the deaths of its two crew members.

Link to accident investigation report:

Scot Carrier vs *Karin Høj*

1. The collision between bulk carrier *Bunun Queen* and offshore supply vessel *Thunder*[ii], where the *Thunder* sustained substantial damage to its port side, which resulted in the flooding of one of its propulsion rooms and three other spaces. The master on the *Thunder* told investigators he was using a cell phone before the collision. On the *Bunun Queen*, the second officer told investigators he was engaged in other duties and not maintaining a lookout, while the AB normally assigned lookout duties was in his cabin resting.

   Link to accident investigation report:

   

   Bunun Queen vs *Thunder*

2. Container ship *Ever Forward*[ii] grounded on the US East Coast due to pilot's use of mobile device and poor bridge resource management. The vessel's pilot made several phone calls during the ship's journey, including personal calls that lasted for a significant amount of time. He also sent text messages during a critical period leading up to the grounding.

   Link to accident investigation report:

   

   Grounding of *Ever Forward*

3. Tug *M/V Caribbean Sea* and its 250-foot barge collided with an anchored 33-foot amphibious passenger vessel *DUKW34* in the Delaware River. Two passengers died and 25 were injured. In the course of its investigation, the National Transportation Safety Board (NTSB) found that the probable cause of the accident was, in part, "distraction and inattentiveness of the wheel man on the tug as a result of his repeated use of his cell phone and company laptop computer while he was solely responsible for navigating the vessel." Commenting on the tragedy, NTSB chairman Deborah Hersman said, "this is yet another example of the deadliness of distractions. Distraction is a safety concern across all modes of transportation. Regardless of the reason, it is not okay to multitask while operating a vehicle – whether it is calling, texting or surfing the web." The NTSB issued recommendations to the tug owner to review its management program and develop improved means to ensure that the company's safety and emergency procedures are understood and heeded by all employees in safety-critical positions. The NTSB also issued recommendations to the U.S. Coast Guard to increase focus on and oversight of inappropriate use of cell phones and other wireless electronic devices by on duty crewmembers in safety-critical positions so that such use does not affect vessel operational safety. Additionally, the NTSB issued a recommendation to the American Waterways Operators to encourage their members to ensure that their safety and emergency procedures are understood and adhered to by their employees in safety critical positions.

4. On December 5, 2009, USCG vessel *CG 25889* collided with the small passenger vessel *Thriller 09* in Charleston, South Caroline, and on December 20, 2009, the collision of the *CG 33118* with a 24-foot recreational vessel in San Diego, California, resulted in one fatality.

5. On 3 June 2004, the Italian registered, double-hulled chemical tanker *Attilio* Ievoli ran aground on Lymington Banks in the west Solent. It was found that the Master was using his mobile phone extensively while manoeuvring the ship.