



## The key to safe ECDIS operation Part 3: Legal implications

*The legal effect of failure to meet the statutory ECDIS requirements and the effect on claims where levels of operation or knowledge of ECDIS are considered to be a factor or fundamental link in the chain of causation leading to an incident*



Photo Neumayer Channel - Antarctica

### Introduction

This article entitled 'Legal implications' is the third in a series of three short articles that consider the effect of the new mandatory requirements of ECDIS. The first article in the series provided the reader with a general introduction to ECDIS and the legislation that governed its operation. The second article focused on the operational aspects of ECDIS considering the requirements of generic and type specific training in further detail.

This final article in the series now considers the legal effect of failure to meet the statutory ECDIS requirements and the effect on claims where levels of operation or knowledge of ECDIS are considered to be a factor or fundamental link in the chain of causation leading to an incident.

This review into the legal implications of ECDIS will commence with a closer look at the legislation relating to ECDIS operation and the effect on the vessel's ability to operate in the event of a failure to comply with provisions of SOLAS, STCW 95 or indeed ISM Code statutory legislation.

The consequences of claims in tort, and under contracts of carriage will also be considered with the consequent change relating to how casualties of the future will be approached from a marine inspector's viewpoint also considered.

# New ECDIS mandatory requirements

## Statutory compliance

As previously discussed in the first article of this series relating to the new ECDIS mandatory requirements, the international legislation governing ECDIS and its operation is provided under:

- SOLAS Chapter V Regulation 19, which identifies the chart carriage requirements.
- IMO Resolution A.817 (19), which establishes ECDIS performance standards.
- STCW 95 (shortly to be amended by the Manila amendments) that identifies the training requirements relating to ECDIS operation.
- MIN 405 training for ECDIS as a primary means of navigation for UK flagged vessels that further clarify the familiarisation requirements relating to ECDIS operation.
- ISM Code Section 6, which identifies clear requirements for training and familiarisation with respect to safety and emergency, related duties.

With Port State Control inspectors operating under the Paris and Tokyo MOUs now becoming more familiar with ECDIS related compliance and operational issues, an increased focus during random port state inspection is now evident. The effect of failing to meet the established legislation governing ECDIS operation can have severe ramifications including:

- Detention of the vessel under the provisions of Port State control conventions.
- Suspension of Class.
- Evidence leading to the issue of a major non-conformance under the ISM Code resulting in suspension of the ISM DOC / SMC.
- Automatic termination or alternatively excluding the insurer for liability for any breach associated with the failure to comply with the requirements under hull and machinery insurances.

## Admiralty damage claims

Claims arise in many forms resulting from loss during a marine adventure. Incidents such as collision, grounding, machinery failure, heavy weather and contact damage to docks and jetties are all matters where the advent of sophisticated electronic aids to navigation and permanent recording facilities available to investigators, will inevitably lead to closer scrutiny and the identification of fault.

### Collision

Regulations relating to collision avoidance are contained in the provisions of S.I 1996 No. 0075 (The Merchant Shipping Distress Signals and Prevention of Collisions Regulations 1996). Non-compliance with these regulations is potentially a criminal offence and will be evidence of potential negligence in a civil case for damages.

Electronic record keeping will make it easier to prosecute (or defend) cases where breach of the Collision Regulations is alleged.

### Grounding / Stranding

The introduction of ECDIS equipment operated in conjunction with approved ENC charts should make the accidental grounding of competently operated vessels a thing of the past. Automatic route checking, monitoring and alarm systems effectively operated in conjunction with electronic chart safety contours should not only avoid human errors during planning stages but also effectively monitor the ship's position whilst on passage.

Safeguards against accidental changes to the approved passage plan, position inputs, speed inputs, position monitoring and cross reference should be established under the company SMS. However, in the event of grounding incident the effective operation of the ECDIS system will be carefully examined.

With ECDIS systems having many complex features of operation, a failure by the operator to navigate in the correct format with only base chart information selected

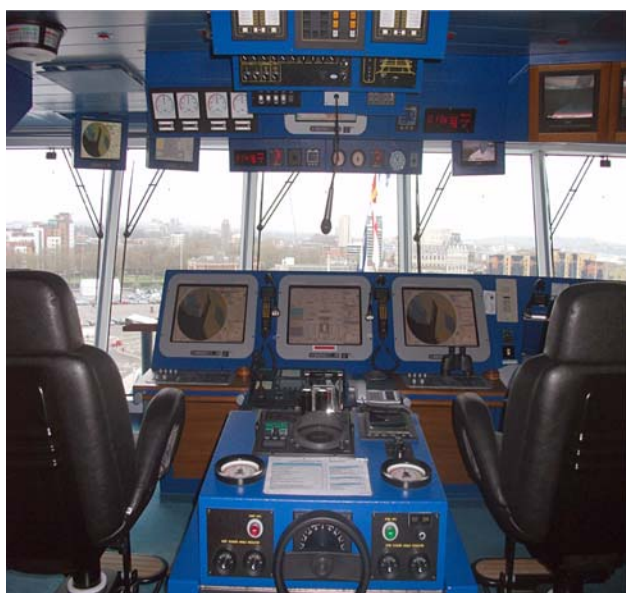
for example could result in critical information contained in the chart database being missed or undetected.

Where a failure of the requirements relating to training or familiarisation in ECDIS operation is established, claims arising from the alleged unseaworthiness of the ship are likely to arise and will be of major concern to owners, H&M and P&I insurers.

### Limitation of liability

Section 185 of the Merchant Shipping Act 1995 incorporates the Convention on Limitation of Liability for Maritime Claims 1976 into English Law. Article 4 of the convention states that "A person liable shall not be entitled to limit his liability if it is proven the loss resulted from his personal act or omission, committed with the intent to cause such loss or recklessly and with the knowledge that such loss would probably result."

Although this test imposes a significant burden on the party attempting to break the right to limitation it will enable creative claimants the opportunity to probe new areas of investigation where clear breaches in training and operation of electronic aids to navigation can be established.



### Claims under contracts of carriage

The provisions of the Hague-Visby Rules are enacted within English Law by the Carriage of Goods by Sea Act 1971 (COGSA 1971), Article III identifies a requirement for the carrier to exercise due diligence before and at the beginning of the voyage to make the vessel seaworthy and to properly man, equip and supply the ship.

Article IV of COGSA 1971 subsequently allows the carrier to be indemnified against cargo claims providing that; "the carrier nor the ship shall be liable for loss or damage arising or resulting from unseaworthiness



unless caused by want of due diligence on the part of the carrier to make the vessel seaworthy, and to secure that the ship is properly manned, equipped and supplied."

With the competence and ability of the master and crew to effectively operate electronic navigational systems established as a critical element in the vessel's ability to encounter the 'ordinary perils of the sea', the cause of cargo damage will now be closely reviewed in relation to ECDIS certification and operation.

Where the carrier attempts to rely on the provisions of article IV of COGSA 1971 to avoid claims relating to cargo damage, the burden of proof rests firmly with the carrier to prove that he exercised due diligence.

In this respect if it is proven that there was a failure to comply with the statutory requirements of ECDIS operation or installation and this failure was considered causative in relation to the incident, the presumption of a lack of due diligence on the part of the carrier may be unavoidable.

### Marine insurance claims

The effect of increasing levels of technology on board modern ships and the ability to electronically document the events leading to a marine casualty have created a tendency within the insurance sector to investigate claims against perils insured against with defences such as seaworthiness and lack of due diligence on the part of the assured featuring more often.

Insurance policies covering H&M, and P&I may now be reviewed closely by the insurer especially with the provisions of the ISM Code now linking operational aspects onboard to the 'highest level of management' through the designated person.

The lack or efficiency of equipment, navigational aids or charts has been clearly established as affecting the vessel's seaworthiness both in relation to contracts of



carriage and under insurance policies. Additionally, sufficiency and competency of crew and their levels of training with regard to on board technology can also impinge upon the vessel's seaworthiness.

With the continuing advancements in technology making the question of the dynamics of an incident resulting in loss an item of fact rather than speculation, combined with the link established between the actions of those on board to the 'highest level of management' through the ISM Code, defences to claims relying on traditional navigational perils insured against and negligence of the master and crew may become more difficult to sustain.

## Casualty investigation

Casualties and incidents of one kind or another are bound to occur from time to time during the navigation and operation of ships. When they do, legal disputes are likely to arise especially when large sums are involved.

The principle aim of the commercially minded shipowner, charterer and cargo owner is of course to settle any disputes quickly and cheaply. If however a dispute cannot be resolved between the parties then the matter may refer to arbitration or the courts for determination.

In hearing disputes between two parties, arbitrators and judges rely upon the evidence presented to them to establish the facts of the case. This evidence traditionally presented by the parties in the form of both oral and written statements of witnesses and contemporary log entries and documentation has in the past provided the basis on which to decisions have been made.

This evidence sometimes required the courts to determine conflicting statements on a particular issue in dispute. In such situations the judge or arbitrator to establish the facts of the case has heavily relied on contemporaneous evidence such as photographic, video or electronic information.

In this respect electronic equipment designed with a recording facility such as ECDIS, voyage data recorders, AIS data and even GPS have become a crucial part of legal proceedings often used to determine disputed facts.

With literally hundreds of different types of electronic systems with recording facilities operating different generations of software, the recovery of this information can however be a difficult task in itself.

As this critical and at times complex procedure of electronic data recovery has been clearly identified it may be questioned why many ship managers, owners

and operators have failed to provide clear instructions relating to the preservation of such data in the event of an incident.

Additionally, critical information may be lost due to lack of knowledge in relation to the storage space or memory of the equipment in question or by the data being simply overwritten if action has not been taken for its preservation.

With this in mind it seems sensible for the ship manager or owner to establish not only what electronic equipment installed on board each vessel has recording facilities, but also provide clear instructions to the master, which identifies the actions to download the data and safeguard this critical evidence. Failure to preserve evidence may be viewed with suspicion and adverse inferences drawn.



The design of a simple checklist (next page) could be used to establish the equipment onboard with recording facilities and identify the process to be followed in the case of an incident.

It is important to understand that ECDIS systems are capable of recording not only the log of events but the parameters of operation set up by the operator at the time of the incident.

This electronic data may play a crucial part in the litigation process especially during the transition period from paper to electronic navigation where questions relating to the effective operation of ECDIS systems may be raised.

This will mean that in the case of a collision for example where vector charts are selected and overlaid on radars having a primary collision avoidance designation, it may be possible for the officer charged with the navigation duties to reach information overload especially if layers in excess of chart base levels are selected.

## Bridge data recording equipment checklist

<b>Ship</b>	
<b>Flag</b>	
<b>Date</b>	

<b>Equipment</b>	<b>ECDIS/ECS</b>
Type	
Recording facility	
Storage capacity	
Storage medium	
Download method	

<b>Equipment</b>	<b>Voyage data recorder</b>
Type	
Recording facility	
Storage capacity	
Storage medium	
Download method	

<b>Equipment</b>	<b>GPS</b>
Type	
Recording facility	
Storage capacity	
Storage medium	
Download method	

<b>Equipment</b>	<b>CCTV</b>
Type	
Recording facility	
Storage capacity	
Storage medium	
Download method	

<b>Equipment</b>	<b>AIS</b>
Type	
Recording facility	
Storage capacity	
Storage medium	
Download method	

<b>Equipment</b>	<b>System alarm equipment</b>
Type	
Recording facility	
Storage capacity	
Storage medium	
Download method	

If this ineffective mode of ECDIS operation resulted in a target going undetected, ultimately resulting in a collision, the failure of the navigator to act in accordance with the Collision Regulations in this mode of operation may not only result in criminal charges and civil negligence actions, but may render the vessel unseaworthy with questions as to the exercise of due diligence on the part of those responsible for the management of the ship raised by cargo interests or insurers.

This new technological age also places a greater responsibility on the casualty investigator who is tasked to attend incidents and collect evidence. The next generation of casualty investigators now undoubtedly require and extensive understanding in relation to the operation of equipment such as ECDIS and a practical knowledge relating to the principles of electronic navigation.

## Conclusion

The ECDIS revolution and the rapid introduction of complex computerised systems and automation on board ocean going vessels is perceived by the industry as a positive change and an improvement in general

standards of operation, levels of safety and protection of the environment.

The technological age has also brought with it new legislation and operational guidance requiring strict compliance. The additional introduction of voyage data recorders (VDR) and ECDIS recording systems now effectively provide the suitably qualified marine investigator with a clear picture of events leading to a marine casualty. Combine this with the requirements of documentation under the provisions of the ISM Code and the preamble and conclusion to a marine casualty investigation is complete.

With the requirement for effective training, familiarisation and operation now receiving increased focus, with traditional damage defences of navigational error, heavy weather and crew negligence now being subjected to additional scrutiny, the ECDIS revolution may be the catalyst which sparks a new cycle in the claims sector and one which may be even more costly than the introduction of the technology itself...

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