

# RISK ASSESSMENT AND THE NEW AMENDMENTS TO THE ISM CODE

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## 1. INTRODUCTION

In my opinion, the ISM Code always did represent an example of a risk-based approach to managing safety – it just never said so! It was implied but left to interpretation by each ship operator.

At the 85th session of the IMO Maritime Safety Committee (MSC), an agreement was reached to promulgate a number of amendments to the ISM Code – including an important clarification with regard to the relevance of risk assessment to the Code. Resolution MSC.273(85) introduced these amendments on 1 July 2010.

In this article, I will endeavour to explain what I think the amendment with regard to risk assessment will actually mean in practice and what steps, if any, a ship operator will need to take in order to ensure its SMS remains compliant with the requirements of the Code.

## 2. WHAT CHANGES WILL TAKE PLACE?

The core objectives of the ISM Code are set out in Section 1.2 of the Code. This is a very important part of the Code and contains not only the basic philosophy behind the Code but also the goals that must be aimed for, if not achieved, through the SMS.

Within the safety management objectives of the Code, there has always been an implied reference to risk assessment. The IMO has traditionally shied away from making the assessment of risk an actual requirement. In the original version of Section 1.2.2.2 of the Code, the requirement of the company with regard to the safety management objectives included the need to:

- establish safeguards against all identified risks

The use of the word 'risk' here was, in my opinion, incorrect – the word that should have been used was 'hazard'. It has always been a mystery to me why this irregularity was never rectified before now.

It was never entirely clear what exactly was intended by this extremely wide-ranging requirement. It resembled the second part of a classic four-part risk management formula:

- identification of the hazards
- assessment of the risks associated with those hazards
- application of controls to reduce the risks that are deemed intolerable
- monitoring of the effectiveness of the controls

After more than a decade since the phase one implementation deadline, the IMO decided to make an important amendment to Section 1.2.2.2. From 1 July 2010, IMO Resolution MSC.273(85) will introduce a number of amendments to the ISM Code, including a major change to Section 1.2.2.2. The revised Section 1.2.2.2 will now require the safety management objectives of the company to:

- assess all risks to its ships, personnel and the environment, and establish appropriate safeguards

Whilst this amendment still falls short of the full four-part Risk Management formula, it does come very close. My interpretation of this requirement is that a ship operator will now have to carry out a risk assessment on its operational activities and produce an SMS that is based upon the findings of that risk assessment. More so, the company will have to produce objective evidence to demonstrate that it has indeed carried out the risk assessment.

## 3. WHY ARE THE CHANGES BEING MADE?

The new amendments will considerably strengthen the foundations of the ISM Code by establishing a more coherent basis for the Standard Operating Procedures of a company. It will provide an opportunity to encourage companies to adopt more informed and more responsible approaches to operational risk assessment.

## 4. WHAT DOES A COMPANY NEED TO DO?

For many companies, the additional requirement should not pose a major problem – particularly where the company has developed its own SMS as was originally intended by the ISM Code. A company that bought a ready-made 'off-the-shelf' SMS from a so-called ISM consultant may encounter more of a problem.

What is important to understand is that the IMO has not prescribed any particular method of risk assessment that must be used across the industry. There are many models available – although most would be based on a risk management formula similar to that set out in Chapter 2 of this article. My advice is to always follow the 'KISS' (keep it simple sailor) principle and do not allow yourself to be baffled by science – there are some very complicated risk management models out there!

Most companies, whether they realised it at the time or not, would have carried out the sort of risk assessment that is now expected – when preparing their safety management manuals. What they probably did not do was actually approach it in a systematic way or write down what they were doing.

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## CONT.

To explain what will be required, it may be useful to use an example. Section 7 of the Code requires the company to establish procedures, plans and instructions for key shipboard operations. One such key shipboard operation that would be common to all ships would be navigational aspects and bridge management. There are a number of hazards that could be identified, e.g. other ships, weather conditions, navigational obstructions, etc. Having identified the hazards, it will then be necessary to assess the potential consequences. A common approach to this exercise is to create a 'risk matrix' – from which a 'risk factor' can be calculated. Depending upon the level of risk factor, controls can be introduced to reduce the risk to 'as low as reasonably practicable' (ALARP). As far as navigation and bridge management are concerned, this probably starts by ensuring that properly qualified and experienced people are appointed in the first place; that appropriate training is provided in, for example, Bridge Team Management or Crew Resource Management techniques; that the requirements of the relevant sections of the STCW Convention and Code are met; that berth-to-berth passage plans are produced; and that checklists are produced for pre-arrival and pre-departure checks for bridge equipment, steering gear, propulsion equipment, etc. By way of example, such a risk assessment could resemble Diagram 1 shown opposite (although it is important to realise that Diagram 1 is only for illustration purposes and does not attempt to set out a full risk assessment).

### 5. WHEN DOES A COMPANY NEED TO DO IT?

The simple answer is now; the amendments came into effect on 1 July 2010. A company can expect the External Auditor from the Flag State Administration, or a Recognised Organisation acting on its behalf, to look for evidence that such risk assessments have been carried out.

### 6. WHAT ARE THE IMPLICATIONS AND CONSEQUENCES?

Properly developed and implemented, a systematic approach to risk assessment can provide a company with a very valuable tool to help it manage safety as well as manage the company itself.

An External Auditor, on behalf of the Flag State Administration/ Recognised Organisation, establishes that a company has not developed documented procedures for risk assessment and the company could not provide evidence to show that it had, at least, begun the process of assessing all the risks associated with its operations and activities, then it is very likely that a major non-conformity would be raised.

### 7. CONCLUSION

Remember, the company has been given the freedom to decide how it satisfies the requirement of the new Section 1.2.2.2. of the Code. However, whatever approach is adopted, the company should ensure that it can demonstrate that it has:

- systematically examined its operation
- identified where things may go wrong
- developed and implemented adequate controls

The company will need to document its procedures for assessing its risks and maintain records of the risk assessments carried out.

Risk assessment really can be a most valuable tool. This new requirement will provide ship operators with an opportunity to carry out a thorough review of their SMS and consider whether it really is still 'fit for purpose'.



## RISK ASSESSMENT

Project Number: 001/10 Status:

Short Description of Project: Navigation and Bridge Management

RA Log  
Created: 16/02/2010 By: Dr Phil  
Rev 01  
Rev 02  
Rev 03

### Assessment of Risk Factor

Likelihood of harm	Severity of harm			
	Slight harm	Moderate harm	Severe harm	Very severe
Very unlikely	Low risk 1	Low risk 2	Medium risk 4	High risk 7
Unlikely	Very low risk 1	Low risk 2	High risk 7	Very high risk 10
Likely	Low risk 2	High risk 7	Very high risk 10	Very high risk 10
Very likely	Medium risk 4	High risk 7	Very high risk 10	Very high risk 10

If risk factor is medium or above additional control measures should be recorded.

### Risk Factor Calculation

Hazard No.	Likelihood of harm	Severity of harm	Risk factor
1			2
2			2
2a			7
3			2
4			
5			
6			
8			
9			
10			

Av. RF = 3.3

Hazard	Description	Consequence	Existing/Suggested Initial Controls	Additional Controls
1	Other ships	Collision	Appoint properly qualified and experienced master and bridge watchkeeping officers. Provide top quality Radars/AIS/AIS and other navigational equipment. Ensure hours of work/rest adequately managed and monitored. Ensure lookouts are posted.	Provide bridge team management/crew resource management training for all masters and bridge watchkeeping officers.
2	Weather conditions (heavy weather)	Damage to vessel	Clear guidelines on reducing speed/altering course if heavy weather is encountered + checklist.	Provision of weather routing services to try and avoid heavy weather.
2a	Weather conditions (restricted visibility)	Collision/Grounding	Clear guidelines on reducing speed and doubling up watches, if appropriate, if reduced visibility is encountered. Posting additional lookouts. Provision of top-quality navigation equipment + checklist.	
3	Navigational obstructions	Grounding/Stranding	Berth-to-berth passage plan prepared and approved prior to sailing. Position fixing frequency and method determined. Clear procedures for using all available navigation equipment.	Clear master's standing orders and master's night orders.

N.B. This diagram is for illustration purposes only and does not represent a full risk assessment of navigation and bridge management