Safety management systems in Norway

A survey from the tanker industry

Helle Oltedal, Companion
Doctoral research fellow, Stord/Haugersund University College, Norway

Shipping companies have traditionally been reluctant to give details of near-miss shipping incidents. A Norwegian survey provides some pointers.

All Norwegian shipping companies have been required to have a safety management system (SMS) since the implementation of the International Safety Management (ISM) Code.

Recent research has been conducted into the Norwegian controlled tanker industry's safety management record of incident and near-miss reporting practices, data analysis, procedures and checklists. The balance between commercial pressures and safety concerns were included a major survey.

This included feedback from 768 respondents and 41 vessels, supported by two case studies. The results indicate several SMS related deficiencies.

First, data from the vessels (near misses and incidents) were substantially under-reported, and reports that were received appeared to have been massaged, to present a better state of affairs than was in fact the case.

The data indicates that a complicated reporting system and a lack of understanding of the overall safety management system may have been responsible for the under-reporting, and crew fears of negative consequences may have influenced the content of 'massaged' reports.

Some 36.3 per cent of the respondents admitted that they never, or only sometimes, reported close calls, and 35.4 per cent that they never or only sometimes reported minor incidents. In addition, feedback given to crew on reported events appeared to be inadequate with 48.1per cent stating that they never, or only sometimes, received constructive feedback.

The qualitative data confirmed that feedback is perceived to be inadequate, too general and delayed. However, the implication that the lack of feedback is contributing to under-reporting may be good news if the converse is true, and an improvement in feedback might lead to better reporting.

Data reliability

One critical SMS system requirement is the reliability and accuracy of input data: near miss and incident reports. Indeed, the ability of the overall system to develop efficient safety measures depends on this requirement being met. The shortage of data that under-reporting causes makes it hard to analyse trends, root causes and the like.

Most will agree that under-reporting is a bad thing. The situation is made worse, however, when one considers that 36.5 per cent of respondents admitted to massaging reports to cover mistakes.

Many incoming reports are less than accurate, sometimes often or most of the time. Statistical analysis also indicates that there is a relationship between the tendency to massage reports in this way and the perception of a blame-culture among those doing so.

That as many as 25.7 per cent of respondents believe that such a culture exists within their organisation suggests that discouraging that perception could similarly improve the effectiveness of the SMS.

The fact that the second and third most frequent reasons for not reporting incidents and near misses relate to blame and fear, both that information may be used against the reporter and of negative reactions from co-workers.

Blame culture

A company policy of constantly developing new procedures and checklists may also be perceived as belonging to a blame culture. Procedures and checklists that are developed to control crew behaviour may be seen as a person-oriented safety approach, implying crew shortcomings as the cause of error.

The problem is that the real underlying cause is often to be found elsewhere in the organisation, in the form of manning policy or commercial pressure.

There are several drawbacks with a person-orientated safety approach. First, when human error is cited as the cause of a failure, crews may perceive this as implying blame and, as suggested, this perception can have an adverse affect on reporting practices afloat.

A second drawback concerns developments in safety measures. With human error cited as the cause of failure, the tendency is for safety measures to seek to control human behaviour with procedures and checklists.

Then, when the real cause is found to lie elsewhere in the organisation, such measures may clearly not be the answer to the underlying problem and incidents of failure and accidents will continue to occur. This may develop into a cycle of blame, where – the next time human error is cited as the cause of failure – the

situation appears worse because the crew have already been warned.

At the same time, the crew's perception may well be that the relevant measures are not helping them in their daily tasks. This state of affairs may have arisen, either because the crew were not being consulted, their experience was not taken seriously, or insufficient allowance was made for the specific circumstances that apply in the vessel in question.

Procedures, so discredited, tend to be breached deliberately and this is unlikely to encourage conscientious reporting or to contribute to good safety management. Another hindrance is the reporting system itself, which is often perceived to be too complicated and time consuming.

A common view at sea is that the SMS is a paper-production system which requires constantly increasing administrative work, without having a proportionate effect on safety. Field studies have revealed situations where administrative tasks have been carried out at the expense of time spent focusing on practical work and operational challenges.

Vicious cycle

All this may be seen as a vicious cycle that undermines and degrades safety. To break out of it will require the following features of human nature and error to be recognised:

- First, human actions are almost always constrained by factors beyond an individual's immediate control;
- Second, most human failure does not result from intentional actions. People cannot easily avoid actions which they did not intend to perform in the first place;
- Third, among a number of causes of error are those that are personal, task-related, situational and organisational;
- Finally, within a skilled, experienced and largely well intentioned workforce, while it may well be feasible to improve situations, people are less amenable.

I also believe that employment conditions and crew stability are influential factors. Trust, good safety management and proper safety practices all evolve over time, as a result of close interaction and feedback.

Organisations have to communicate safety as a priority with a united voice throughout their establishment, supported by evidential actions.

Crews need to be provided with the required resources and support if work is delayed for safety reasons. Each vessel, even within the same fleet, is different where structural conditions, crew experience and competence are concerned.

In such circumstances, it may not be easy to standardise measures. Safety could be managed more efficiently, if crew were allowed to make local adjustments.

Finally, in a SMS, all of the parts are equally important and mutually dependent. Amendments should apply to the system as a whole, and not be limited to individual components.

■ This article is based on a paper given 'The use of safety management systems within the Norwegian tanker industry – do they really improve safety?' Reliability, Risk and Safety Applications conference in Prague, September 2009. A pdf of the full paper may be obtained from the author at helle.oltedal@hsh.no

The statistical data used are derived from a survey carried out in 2006. A total of 987 questionnaires were distributed to 44 randomly selected vessels, of which 41 vessels returned a total of 768 completed, which is a fairly good vessel response rate of 93 per cent and an individual response rate of 78 per cent. The interpretation of questionnaire results is supported by qualitative information deriving from two case studies.