

Debunking Safety Cases — Three Myths and Realities



Nimrod's focus on 'paper safety' is the antithesis of a good safety case

A safety case aims to provide a valid and reasonable confirmation that a facility is sufficiently safe. Safety cases have been in place for many years in major hazard sectors in some regulated environments such as Europe and Australia. They have also been adopted as best practice by many international operators in other regions of the world where such legislation does not exist. What's more, in the aftermath of last year's explosion and oil spill disaster in the Gulf of Mexico, the US government is also currently assessing the feasibility of adopting safety cases for offshore activities.

There are many 'myths' or misconceptions about safety cases – some reflecting difficulties in the early years of safety cases in the 1980s and 1990s, and some still present in certain sectors, such as the UK military environment, as exposed by the recent Nimrod review [Ref. 1]. However, for every past weakness there is an opportunity to learn from experience and improve the reality of safety cases today. Below we debunk three common myths by portraying the reality of a good safety case.

Myth #1 – A safety case has to be a huge and expensive tome

Safety cases have certainly been prepared that are too long and bureaucratic with unnecessary detail, written in obscure and difficult to understand language. Many have often resembled archaeological digs of ancient design documents that have little bearing on today's risks, or have simply been a reworking of perfectly adequate existing hazard studies, or have relied on expensive quantitative risk studies to justify situations that good engineering judgement would deem unacceptable.

Reality #1 – A safety case is a succinct, value for money report

The safety case is a single, concise, through-life 'document-lite' report with a clear audit trail to supporting information. It is written in easy to understand language and is proportionate to the level of risk. It focuses on real safety rather than paper safety. Use is made of existing studies, with qualitative risk assessment used to identify the vast majority of safety improvements, and more time-consuming quantitative risk assessment used selectively (e.g. when comparing options).

Myth #2 – The safety case is for the regulator, written by a consultant

The first safety cases were undoubtedly written entirely for the regulator. The regulator had set out its requirements and the operator wrote the safety case in a way which showed compliance with the regulations. Worse, the paper chase was usually outsourced to a handful of consultants working from their back offices. As a result, the safety cases often lacked practical insights from actual operational knowledge and experience.

Reality #2 – The safety case is developed by the operator for the operator

The safety case is not primarily for the regulator but is good discipline for the operator. It is the working document to improve safety. The workforce is involved in developing and maintaining the safety case – operators and maintainers have the most knowledge and experience of the equipment and procedures. Indeed, the best safety cases are those developed with the workforce in mind first, the operator second and the regulator third. Consultants are best used to provide independent facilitation, specialist technical studies or transfer best practice between operators.

Myth #3 – The safety case is a tick-in-the-box, one-off event which can be consigned to the shelf

Some operators have viewed the safety case as a necessary evil to get a tick-in-the-box. As an impediment to operation surely it simply requires a one-off effort to gain the regulatory stamp of approval? After all, the safety case is only a piece of paper isn't it? Once written, it can languish in a nice looking folder on-the-shelf.

Reality #3 – The safety case is a living document, ensuring the process of continuous improvement

The safety case is about the process of ensuring continuous improvement in safety performance. It is aimed at delivering world-class safety by developing appropriate behaviours within the operator. The regulator focuses on the active verification of the claims made, rather than nit-picking a paper document. A major benefit of the safety case comes from the process of preparing it, rather than the document itself. The safety case is a living document, readily accessible to the workforce, for keeping abreast of hazards as changes occur, whether in technology, knowledge, the organisation or procedures.

So have safety cases been successful?

A safety case presents a high obligation on the operator, who must demonstrate an understanding of risks and prove they are under control. As such, it goes beyond compliance with prescriptive legislation or standards, to show how risks have been reduced as low as reasonably practicable.

But have safety cases actually been successful? Have they been more successful than prescriptive approaches to safety?

The general consensus is that safety cases have been very successful (see Ref. 2). Public inquiries into major accidents have

shown that simply complying with basic standards without any real consideration of prioritising risks caused many of the problems. Moreover, the regulator has much more impact under a goal-setting, risk-based regime than a simple ticked-box, go/no go approach.

Conclusion

There are no fundamental flaws in the concept of safety cases, rather there are issues around applying the concept in practice. Many of the myths of safety cases have arisen from past difficulties but, with over 20 years of practice, industry itself has created the best practice realities of today.

References

1. The Nimrod Review, Charles Haddon-Cave QC, 28th October 2009.
2. Regulatory Approaches to Offshore Oil and Gas Safety, US Chemical Safety and Hazard Investigation Board, Public Hearing, December 2010.

UK Principal Office

Wilderspool Park
Greenall's Avenue
Warrington WA4 6HL
United Kingdom
Tel +44 (0)1925 611200
Fax +44 (0)1925 611232

Other UK Offices

Aberdeen
Ashford
Edinburgh
Glasgow
London

Middle East

Dubai
Muscat

North America

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Houston

For further information,
including office contact
details, visit:

www.risktec.co.uk

or email:

enquiries@risktec.co.uk