

Debunking the ALARP Principle — Four Myths and Realities



Fig. 1 – The nature of ALARP assessment varies according to risk

The ALARP principle recognises that no industrial activity is entirely free from risk and, quite sensibly, requires that risks are reduced to levels that are As Low As Reasonably Practicable, or 'ALARP'.

The ALARP level is reached when the time, trouble and cost of further reduction measures become grossly disproportionate to the additional risk reduction obtained.

Determining if this is the case normally relies on ensuring compliance with accepted good practice, and evaluating options for

improvement at key points throughout the lifecycle of a facility.

While simply stated, the mechanics of when and how to apply the ALARP Principle, are for some, shrouded in mystery – perhaps because ALARP decision making is not black and white.

As a result, there are many 'myths' or misconceptions about the ALARP Principle. Below, we debunk four common myths by portraying the reality of a good ALARP justification.

Myth #1 – Ensuring that risks are reduced ALARP always means continuously improving safety

Reality #1 – ALARP assessment is not synonymous with continuous improvement

While it is true that as technology develops, new and potentially better methods of risk control may become available, it is not a given that they should be adopted. It is the responsibility of the operator/owner to assess the options available periodically and determine whether the cost, time and trouble of implementing new risk controls are grossly disproportionate to their risk reduction, in which case improvement is not warranted.

Myth #2 – ALARP assessment should focus on quantitative cost-benefit analysis

Reality #2 – A balanced ALARP decision is needed, which considers a range of factors

Cost and risk reduction are just two of many potential factors that should be considered during ALARP decision-making. The overriding decision should be based on sound engineering argument supported by a range of factors. This should start with benchmarking against good practice, followed potentially by qualitative consideration of the benefits and detriments of an appropriate range of options. In less clear-cut situations quantitative cost-benefit analysis may help, but should always be supported by other means of assessment. The nature of ALARP decision-making should also vary according to risk (see Fig. 1).

Myth #3 – ALARP assessment is a separate activity to design

Reality #3 – The ALARP process should feature prominently at every stage of the facility/project lifecycle

The ALARP principle is an extremely powerful tool that can be used to great effect as a front-end activity. In this role it can influence not only the design but also the amount of analysis and the level of application or interpretation of codes and standards. A good design review process should identify improvements early on (when they are cheapest). In the operational phase, as operational feedback grows, ALARP assessment can be used as a risk-based decision tool for improving procedures and processes. Decommissioning options should also be assessed using the ALARP principle, since a short-term increase in risk can often be weighed against the long-term reduction in risk.

Myth #4 – If a few organisations have adopted high standards, these define ALARP levels

Reality #4 – ALARP relates to risk reduction based on accepted good practice

In the context of the ALARP principle, good practice has a very precise meaning in the UK – it refers to those standards for controlling risk which are recognised by the UK's Health & Safety Executive (HSE) as satisfying the law when applied to a particular circumstance, and includes Approved Codes of Practice, HSE guidance, national and international codes and standards [Ref 1]. Although some organisations may implement higher standards than this to meet corporate goals, this does not constitute accepted good practice. Equally, an improvement should not be immediately discounted simply because it is not recognised as good practice. Organisations should make their own assessment of the available options, taking into account their own particular circumstances.

Key to success

The key messages that come across are that ALARP decision-making should:

- Be applied throughout the whole project/facility lifecycle.
- Be integrated with existing safety processes.
- Consider accepted good practice.
- Identify options and consider a range of factors.
- Be underpinned by sound engineering argument.

The more complex the project, the more sophisticated the supporting ALARP process is likely to be, involving as it does a larger number of potentially affected stakeholders. Equally, the higher the associated risk, the more robust and comprehensive the supporting arguments and evidence should be.

Conclusion

To some, the ALARP principle may seem like another legislative hurdle. However, in the right hands, the ALARP principle is a

powerful means of choosing between improvement options or showing that no further improvement is warranted. As the ALARP principle is applied with increasing success, we can only hope that the myths surrounding its use will fade away.

References

1. <http://www.hse.gov.uk/risk/theory/alarpglance.htm>

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