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Cycle of Competence: Model for Risk Assessment in the Outdoors

Background, rationale and validation

1. The principle of Risk Assessment has been a tried and tested tool within Risk Analysis and Management Systems (RAMS) across many sectors from the financial and medical worlds to Health and Safety. It has proved a reliable method of managing financial risk, medical risk and the risk of injury or illness in the examples above. Indeed as a result of the Hampton Report (HM Treasury: March 2005 and endorsed by Gordon Brown in autumn of that year) all regulatory activity should be on the basis of risk assessment (Recommendation 1 of 35). The challenge for the future therefore will not be IF the risk assessment tool is to be applied but HOW.

2. The aim of the Hampton Report is to "identify ways in which the administrative burden of regulation on business can be reduced, while maintaining or improving regulatory outcomes" (Executive Summary). This is an aim which every employer and regulator alike can sign up to.

3. In its 'Strategy for Workplace Health and Safety in GB to 2010 and Beyond' (HSC: Feb 2004) the Health and Safety Commission says, "we accept that others may be better placed to produce good practice guidance for particular industries or topics and we will encourage that wherever we can." Moreover, HSC, HSE and the outdoor community enthusiastically support the idea of sensible health and safety; that is, due regard to the benefits of the activity, the regulatory burden in terms of finance and bureaucracy, and the risk of serious injury or ill health.

4. As for Local Authority enforcement (which make up 468 of the 531 regulators in the scope of Hampton, and which between them form the biggest enforcer of adventure activities in a work context), the Hampton Report states that the Cabinet Office has issued guidance to them. This guidance states "We expect local authority enforcers to adopt a balance of techniques and approaches in order to ensure safety and well being of the public and of the environment and not to rely on any one method."

5. Reducing the regulatory burden on providers and reducing duplication were given as explicit proposals by Hampton. However, if for example, an employer is inspected fewer times in a year, but has to do twice as much work to satisfy these inspections then the aims of Hampton will not have been met. As risk assessment becomes more comprehensively applied it must also become simpler, not more complex.

6. This model also identifies five stages. Whilst it could be argued that these more or less correspond to the conventional 5-steps, this alignment may be reinforced or departed from in later versions as the model is refined and improved.

7. The model aims to insure that, at any given time, the right person with the right skills and training, has the right equipment and knowledge to make an appropriate judgement in an often rapidly changing environment. Since most accidents are caused by people, not things, the model addresses human factors as well as procedural ones, and is as likely to identify human factor weaknesses as technical ones, and address them as well, before an accident results.

8. Finally, the effectiveness of the model in achieving the required standards of safety, both generally and in detail, has been demonstrated by HSE's own Report of Pilot Mapping Exercise Findings – December 2005. This was carried out in relation to the Working at Height Regulations and its application to the adventure activity sector. It was based on nine visits to a range of providers, some licensed and some not, and carried out by two of HM Inspectors of Health and Safety during November 2005. Its executive summary includes the statement:

"These visits show:

- The sector can and does comply with a sensible interpretation of the regulations as currently drafted.
- Following of good practice in climbing and caving as set out in the National Governing Body (NGB) instructor training schemes is generally sufficient to comply with WAHR":

This Pilot validated a statement agreed between HSE, relevant NGBs and the Licensing Authority which asserts that, with relation to working at height:

"Where work falls within the remit of an NGB then following the good practice identified by that NGB will generally be sufficient to satisfy the requirements of the WAHR."

9. The Cycle of Competence Model of Risk Assessment in the Outdoors could be seen as a generalisation of that assertion as applied to other activities.

The Cycle of Competence Model of Risk Assessment for the Outdoors

Stage one: The collection of evidence of issues of concern or interest. This ensures that the analysis of the risk is evidence based. Most of the evidence comes from an accumulation (usually by the relevant NGB) of a wealth of experience of what works well, of investigated incidents, accidents, lessons learned, and regular review by NGBs and individual employers to ensure that the outcome is still fit for purpose, etc. It includes, therefore, an analysis of 'who may be harmed and how' but goes beyond that narrow focus and strives to achieve optimum safety with due regard to both the benefits of an activity as well as the risks so as to achieve, if you like, sensible health and safety.

In many cases this collection of information continues back for decades and from thousands of providers over a wide range of situations. This produces a risk analysis substantially greater than can be achieved by any individual employer looking at all reasonably foreseeable occurrences at just one location. Equally, it does not suffer from the same problems of 'company memory' where lessons learned by one set of employees and managers are reduced or lost by subsequent sets of employees and managers.

Stage two: The creation of training programmes and syllabi.

This may take the form of an NGB's training syllabus or an in-house training programme. The Licensing Authority will, for example, accept either, provided it conforms to the good practice identified by the NGB. It may also take the form of good practice guidance on which training is based. Increasingly all these include quite specific performance criteria. This broadly corresponds to a risk assessment document.

Stage three: Training and assessment.

The syllabus above has the additional benefit of being a training check-list, which the conventional 5-steps model does not have. Training and corresponding competence are definitive features of safety management in the outdoors. Evidence is required of successful understanding and the ability to reproduce the skills, knowledge and judgement covered by the training, and make appropriate on-going judgements on many safety related issues. Again this may take the form of an NGB award. Alternatively it may be an in-house assessment, often as part of an on-going development of the employee by suitably experienced





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and qualified internal or external staff. Evidence of an in-house assessment is often retained in the form of a Statement of Competence, signed by the assessor, and stating the range of its validity. The Licensing Authority, for example, requires the assessor of a licensable activity to have the equivalent experience and qualifications of someone who could perform this same assessment for the relevant NGB. Completion of training without assessment is not considered as evidence of competence.

Stage four: Dissemination. In the conventional 5-steps model the dissemination of the information and knowledge which employees and others need to know may merely require employees to read the risk assessment document. In practice, however, there is a danger that this may not happen, leaving employees to pick up need-to-know information from colleagues as they go along. This cannot happen in the Cycle of Competence model.

In the outdoors it is customary to disseminate the outcome of the above stages in each of the five key headings of:

- **Recruitment criteria.** This includes checking for evidence of competence, etc. This will generally be either an NGB award or a Statement of Competence signed by a suitably experienced and qualified person. This ensures that the initial level of responsibility of the new employee within an organisation will be a reflection of their level of competence.

- **Induction** of new employees (in accordance with their experience and qualifications). This looks at how the proven generic skills demonstrated by, for example, an NGB award are to be used in the specific circumstances of a particular employer. Particular attention is generally given to Newly Qualified Instructors (NQIs), and their ability to make sound judgements even in difficult scenarios.

- **The deployment** of instructors on an organised and rational basis to optimise expertise in differing conditions. In a residential centre context this commonly is done by a Chief Instructor, Director of Training, or similar person, and appears as programme staffing. Commonly its appropriateness is confirmed on a day to day basis in 'morning staff meetings' of one sort or another. In local authorities deployment may take the form of 'approval procedures' where an Outdoor Education (OE) Adviser approves specific people to lead certain trips or types of trip, etc.

- **Monitoring** of all instructors, from time to time, with particular attention on NQIs (newly qualified instructors). This has the proactive advantage of identifying poor practice as well as the opportunity to correct it, BEFORE it leads to an accident. The poor practice may be technical in nature but equally human factors can be identified and addressed. Monitoring also provides an ideal opportunity for positive feedback and support, and on-going improvement. The process is therefore reassuring to both management and the instructor.

- **Further training and experience.** Some of this takes the form of immediate feedback during or following monitoring, as identified above. Where this is not possible or sufficient further training and/or experience needs can be identified. This has the additional advantage of encouraging a culture of continuous professional development.

Stage five. Review and revision

This is primarily done in one of three ways; dynamically, reactively, or periodically.

a. Dynamic review and revision

This is a session by session, or even a minute by minute review carried out by the instructor. There may be a realisation that the original plan is no longer appropriate, because of, for example, changes in the weather, insufficient progress in the time

available, etc. Equally it could be as a result of an accident or incident. An appropriate judgement and revision is therefore made to the day's plan by the instructor. That is, the control measures are revised 'on the hoof' by employing appropriate procedures selected from their training, and subsequently gained experience.

b. Reactive review and revision

This generally follows a 'lessons learned' type process following an accident, incident, near miss, complaint, observation, discovery, etc. either in-house or elsewhere in the sector. This is an extremely important tool, and ensures that the process remains

firmly evidence based, yet is capable of responding quickly to changes in the collective understanding of an issue or venue. This is carried out at an NGB level as well as at the level of individual providers.

c. Periodic review or revision

This is carried out both by NGBs and individual providers, often annually, to ensure that their procedures remain robust. Commonly it is based on 'scenario-based training which can focus either on common mishaps or worst case scenarios. In both cases the practical re-enactment often throws further light on both what can go wrong and how best to respond. This in turn leads to changes in operating procedures, and often feeds back into stage one of the Cycle of Competence Model, the collecting together of issues of concern or interest.



Keep it simple

The principle throughout all NGB procedures, particularly where complex technical issues are involved in a potentially hazardous environment, has been to keep the procedure as simple as is required to achieve acceptable standards of safety, rather than make them as safe as theoretically they could be. Experience in this sector shows that over-complicating procedures in the field leads to more errors, not fewer. In the vernacular it is stated as 'KIS' – Keep It Simple!

Risk Assessment and Operating Procedures

To be practically applicable, the above processes of selection, induction, deployment, monitoring and further training and others need to be bench-marked to the organisation's operating procedures. These in turn are based on a number of assessments; an assessment of the benefits to the organisation, the financial cost of achieving them, the environmental impact, of course the risk of causing injury or illness, and many other issues. Thus the Operating Procedures will always be based on an assessment of the risks, but it goes further and encapsulates the organisation's culture and raison d'être.

Conclusion

Following this model allows each employer to reduce the regulatory burden "while maintaining or improving the regulatory outcomes", which is verbatim what Hampton calls for.

It can be demonstrated that this model describes what is actually done in the outdoors. Moreover, the good safety record of outdoor sessions demonstrates the robustness of the approach. NGBs endorse this approach (although not necessarily the language used here) and the Adventure Activities Licensing Regulations require it. ■

Appendix 1 and 2 overleaf >> >>



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Appendix: A Worked Example of Risk Assessment using the Cycle of Competence model:

Part A: The Generic Risk Assessment for single pitch Rock Climbing.

Step 1	Hazards	The normal hazards associated with single pitch rock-climbing
Step 2	Who might be harmed	All involved
Step 3	Control measures	All instructors will either hold an SPA or will have been judged competent by an MIA holder. All instructors will have been inducted in accordance with their experience and qualifications, and subsequently monitored from time to time.
Step 4	Record your findings	See MLTUK training and assessment syllabi for SPA award
Step 5	Review and revise	a. Dynamically b. Reactively c. Periodically (See above for definitions)

Part B: The Site Specific or Session Specific Risk Assessment:

For any given venue or session type there may be additional hazards (and control measures) which would **not** have been covered in initial

training or assessment. If there are none then no further measures need to be written down, although monitoring of the venue and sessions dynamically, reactively and periodically would be advisable.



The site specific or session specific risk assessment might usefully take the form of an induction check-list, to be used, for example, when a new employee or newly qualified instructor (NQI) first uses a new venue, or leads a new session, or is involved with a new client type.

Examples might include:

The crossing of a particularly dangerous road to get to the venue.
 Tidal considerations.
 Students with physical handicaps.
 Students with challenging behaviour.
 Flood debris altering a gorge.
 Unstable sections of a crag.
 etc.

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Photos
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