The background of the cover is a close-up, artistic photograph of an hourglass. The top bulb is filled with a dark, granular substance, likely sand, which is captured in mid-pour, creating a dynamic, blurred trail as it falls into the bottom bulb. The lighting is dramatic, with strong highlights on the edges of the glass and the falling sand, set against a dark, moody background.

DYNAMIC RISK ASSESSMENT

The Practical Guide
to Making Risk-Based
Decisions with
the 3-Level Risk
Management Model

Stephen Asbury
and Edmund Jacobs



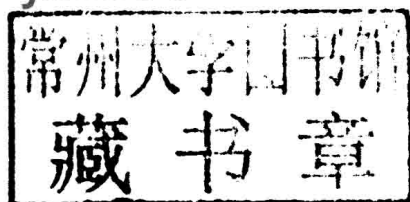
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Dynamic Risk Assessment

Written by experts, this book seeks to achieve and offer an explanation on how dynamic risk assessment (DRA) is possible and how it can benefit and work within an organization.

It will provide a holistic risk management framework (cradle to grave) approach to how employers, managers and staff alike can effectively integrate and embed DRA into their business/management processes and systems to aid service delivery and risk-based decision making. The book joins up the risk assessment done in 'slow time' in the office, to real life 'quick time' actions in the field, closing this loop, and providing a feedback and debriefing approach.

- Fully supports and complements the systematic five steps to the risk assessment process.
- Multi-disciplinary dynamic risk assessment text covering fire, policing, ambulance, coastguard, lone workers and workers in the private sector.
- Contains practical examples, tips and case studies drawn from a career in the emergency services.

Stephen Asbury is Managing Director of Corporate Risk Systems Limited, a leading international consulting and training organization. Between 1998 and 2012, he was a member of the Council of IOSH; in 2010, was presented with the IOSH President's Distinguished Service Award. He has worked in a variety of senior safety and risk management roles in employment and consultancy in over 60 countries on 6 continents in a career which spans almost 30 years. This is Stephen's fourth book.

Edmund Jacobs is a Chartered Fellow of IOSH and is currently Head of Profession in the Ministry of Justice for Corporate Fire, Health and Safety. He has worked in the field of occupational health, safety and well-being for nearly 25 years and is a member of the IOSH Board of Trustees. Edmund was Chairperson for the London Health & Safety Group (2005–2008) and was awarded the status of Honorary Member. Whilst working for the City of London Police he undertook research into the application of dynamic risk assessment for his Master's Degree in Occupational Safety and Health.



'Carry on. The paperwork looks fine.'

Figures and tables

Figures

‘Carry on. The paperwork looks fine.’	v
1.1 Three stages at an operational incident	11
1.2 The Green Cross Code	13
1.3 Welly wanging	15
1.4 Police pursuit in the high street	18
2.1 Policy, plan, implement/operate, check and review	29
2.2 Continual improvement cycle	30
2.3 Plunge pooling	32
2.4 Captain Sullenberger safely lands US Airways flight 1549	40
2.5 Sahara Force India F1 team	45
3.1 Hillsborough Memorial	59
4.1 The 3-Level Risk Management Model™	66
4.2 NASA Mission Control	70
4.3 MOCR2	71
4.4 Robonaut 2	72
4.5 Officer safety system	76
4.6 Sub-Officer Paul Metcalfe	83
4.7 Medium pressure gas main ~50mm below the road surface	84
4.8 ‘Let’s not bother with trial pits’	86
5.1 ‘We don’t want dead heroes’	92
5.2 Fire-fighters’ risk appetite	94
5.3 Assault on care worker	97
6.1 Red mist	108
6.2 Suzy Lamplugh	109
6.3 12.45 Mr. Kipper – 37 Shorrolds Road O/S	110
6.4 <i>Piper Alpha</i> disaster	112
7.1 Maybo SAFER Model	125
7.2 Door supervisors	128
8.1 Maybo Cycle Model	140

Tables

1.1	Error biases	6
1.2	Group biases	7
1.3	Characteristics of naturalistic decision making	9
2.1	Some definitions of risk assessment	26
2.2	Timeline of US Airways flight 1549 (call-sign ‘Cactus 1549’)	39
3.1	Six-step approach to dynamic risk assessment (fast time)	53
3.2	Five-step approach to predictive risk assessment (slow time)	53
4.1	Fire-fighter fatalities, total and at operational incidents in the UK, 1978–2008	74
5.1	Safe person concept	96

Case studies

1.1	Road safety: assessing the risk	13
1.2	Welly-wanging DRA and its incorporation into case law	14
1.3	Work at height in the Police Service	17
2.1	Fatality at Glenridding Beck, 2002	31
2.2	Captain Sullenberger lands on the Hudson River	38
2.3	Lessons from Formula 1	42
3.1	The Hillsborough disaster	57
4.1	NASA: 'The hot seat'	68
4.2	Lessons from a Fire and Rescue Service	82
4.3	Medium-pressure gas main strike	84
5.1	Not looking for dead heroes	92
5.2	Familiarity breeds contempt	97
6.1	Lessons from an NHS Trust	104
6.2	Suzy Lamplugh	109
6.3	<i>Piper Alpha</i>	111
7.1	Noise nuisance	121
7.2	Security training for door supervisors working within licensed retail and events settings – Maybo (1)	123
8.1	Security – Maybo (2)	137

Foreword

It has been interesting to see how the concept of Dynamic Risk Assessment (DRA) has developed since its emergence in the early 1990s. At the time, I was the Health and Safety Manager for the London Fire Brigade and became conscious that the then new requirement for risk assessment was not always practical or possible in the emergency scenarios fire-fighters were facing. I proposed that a dynamic approach needed to be taken which took account of the nature of fire service work. Following a paper I submitted to the then Chief and Assistant Chief Fire Officers Association health and safety committee at the request of the Home Office, I ended up chairing and guiding a small group of fire officers at a three-day meeting at Moreton-in-Marsh. There, we put together the guidance which was subsequently published by the Fire Service Inspectorate.

Much of the subsequent development elsewhere appears to be misguided when considering how the concept came about. It was always intended as part of a wider, strategic approach to the managing of fire service risk, not a stand-alone. We intended that it should diminish the level of unexpectedness and unpredictability over time, as knowledge grows. It should be used only where the situation really does need a dynamic approach, and this will be infrequently and certainly not as prevalently as appears to have become the case.

Perhaps also worth noting is the difference in making risk decisions when deliberately committing people into dangerous and perhaps unknown situations, as opposed to the type of situation which arises as an emergency, often unforeseen. People cannot be prepared in isolation to face the unknowns; this can be achieved only by the management systems of the organisation being geared towards the role and environment in which they may be exposed. Equally, I do not feel that it is possible to have stand-alone training in DRA.

If you are involved in DRA, then every lesson needs to be learned from it every time it is applied, for this is the way the organisation builds a store of risk knowledge and exposure which can then be allowed for in the development of competence, provision of equipment and general support for workers who may be exposed to unknown or changing risks.

This book puts many of the misconceptions about DRA to bed. This should enable a better understanding of what is (or was) intended by the process. DRA is not a substitute for pre-planning, safe systems of work or where a pre-work risk assessment can be made. It is a means of keeping people safe when exposed to unknown and changing, dynamic situations.

John Norton-Doyle
October 2013

Endorsements

There can be no doubt that risk assessments have proved a rational and efficient way of reducing negative outcomes in the workplace. Yet for too many, they have become a bureaucratic activity rather than a matter into which one puts deep thought. ‘Have you done the risk assessments?’ is a standard mantra of a superior to a subordinate when any change is being introduced, however low or high risk.

Stephen Asbury and Edmund Jacobs have addressed this flabby approach head on, and restored vigour and utility to the risk assessment process. Risk assessments, they argue, are an essential and invaluable tool of the process of managing safely, but on occasions there are unexpected situations that may arise, where static risk assessments may not provide the necessary solution in isolation.

The authors draw upon and develop the concept of Dynamic Risk Assessment (DRA), developed within emergency services in the 1990s, to show how DRAs can be used more widely within rapidly changing environments to manage developing risk.

The authors are both skilled and distinguished members of the safety profession and already enjoy high reputations among their peers. This book will confirm and even enhance those reputations. It is an academic and well-thought out work that is nevertheless interesting, applicable and eminently readable, of use to the manager or supervisor as well as those in the safety profession. It will become the classic work on the subject.

Stephen Vickers PhD FCIS FCMI FCIEA
Chief Executive
Vocational Training Charitable Trust

Dynamic Risk Assessment is an overdue addition to the safety literature, as this approach to working in hazardous settings has significant mileage beyond its origins in the Fire Service. Asbury and Jacobs have succeeded in presenting the basic ideas in a very accessible manner and clearly explain their evolution within the world of safety management. One of the book’s strengths is that the dynamic component is set against the broader context

of strategic and predictive risk assessment, with powerful illustrations of their interdependence. Every chapter has salient case studies and importantly, these portray the underlying hazards that suddenly emerged, not just in the obvious settings such as aviation or energy production but elsewhere, such as outdoor activity centres and estate agencies. These reveal the fundamental need for ongoing risk vigilance even when the pre-task risk assessment has been completed: Dynamic Risk Assessment provides a means of achievement and is applicable in almost every workplace. The authors have sensibly realised that their readers will need advice for implementing this method and there are useful tips throughout the book which should help to transform their framework into practice.

Rhona Flin
Professor of Applied Psychology
Industrial Psychology Research Centre
University of Aberdeen

A 'must read' for every manager in every type of organization.

Dynamic risk assessment provides a risk-based methodology for undertaking operations in real time, whilst continually ensuring that actions remain relevant to the changing context in which they are taken.

It inspires a level of awareness amongst the workforce that positively influences the safety culture and individual attitudes towards safety.

This 'safe person' approach develops a raised awareness of the risks present in the working environment and the ability to assess the appropriate steps to take in order to mitigate them, for the individual, the team and for the whole organization.

David Onigbanjo
Senior Human Resources Business Partner

In some occupations, such as adventure training, emergency services, news correspondents, etc., the nature of work inevitably involves some risk taking. Unlike a static workplace, where risk is predictable and control is relatively straightforward, these workers operate in an environment which can be hostile and fast moving. Sound judgements have to be made based upon training and experience in circumstances which often fall outside the comfort zone. Dynamic risk assessment is a process used to evaluate these circumstances as they unfold and to ensure that the safest system of work available is chosen.

This book explains the process and provides guidance on how to carry out such a dynamic risk assessment.

Martyn Grant MSc CFIOSH
Former Head of Health, Safety & Environment
Thames Valley Police
Service headquarters, Oxford, UK

I have worked in Formula 1 for all of my career, and I welcome this book from Stephen and Edmund which shares good practices from other sectors and environments I'm less familiar with. It is a most interesting read and I recommend it to you if, like me, you sometimes have to make decisions in very short time.

Andy Stevenson
Sporting Director, Race Team
Sahara Force India Formula 1
Silverstone, UK

In our hospital, we have developed early warning systems to make the unusual more predictable and more easily noticed. This leads to earlier interventions and better patient outcomes. We're pleased to share some of our ideas with you through Stephen and Edmund's book about dynamic decision making. Sharing ideas amongst the professions seems a good idea to me, and we are pleased to contribute to this compendium of cases, ideas, tips and examples for anyone required to make decisions in rapidly changing situations. It is an interesting book and I enjoyed reading it. I recommend it to you if, like me, you sometimes have to make critical decisions to save and protect lives.

Dr Craig Stenhouse
Medical Director
Burton Hospitals NHS Foundation Trust
Staffordshire, UK

It's a given in the world of professional education and training that instructors *always* need to be wary of – and prepared for – the unexpected, the unanticipated, and the unwanted. This trio is always lurking in the shadows and takes great delight in appearing at any time to interrupt the transfer of knowledge, affect participant/instructor behavior, and wreak general havoc wherever teaching/learning takes place. To combat these disruptions and distractions, instructors are taught the art of 'nimblity' – the art of being able to immediately, comfortably and smoothly adjust and adapt what they're doing to meet the challenges, changes, and roadblocks thrown up by this unholy troika.

Stephen and Edmund have produced wonderful guidance on how to adapt in fast time the carefully laid plans made in advance and in slow time. As a result, they've done an excellent job of illustrating how to proactively respond to internal or external changes that will alter how a system functions unless immediately assessed and dealt with – in other words, they've clearly shown how 'nimblity' can – and does – work.

Dr David Pelton
Instructor Development Specialist
PetroSkills LLC, Houston, Texas, USA

This exciting book expertly builds on the theory and practice of dynamic risk assessment from the Fire and Rescue Service, into a practical risk based reference resource, transferrable across organisations outside of the blue light emergency services.

Public, private and charity sector organisations that operate in environments which are dynamic in nature can use the illustrative examples and case studies within the book, to help them manage risk and usefully implement new concepts, in a meaningful and sustainable way.

I would strongly recommend that you and your senior management teams read this book before you consider applying dynamic risk assessment within your organisation or before you make changes to existing risk management approaches.

Chris Steele, CMIOSH, GFireE
Director
C. Steele Associates Limited
Fire, Health & Safety Consultancy

Dynamic risk assessment (DRA) is commonly used to describe a process of risk assessment being carried out for an activity that is developing as it is being undertaken. The application is wide ranging, from manual handling to confined-space work.

As a practitioner, I have come to appreciate the importance of applying DRAs to everyday activities; for example, use of DRAs can be adopted to address both biomechanics and the body's ability to tolerate loads, in addition to formal manual handling risk assessments.

The principles outlined in this book provide valuable technical knowledge that will be useful when candidates are studying for such courses as the NEBOSH Diploma, where DRA is covered with regard to factors to consider while developing emergency arrangements when working in confined spaces.

It is imperative to understand not only the theory but also the application of DRAs in the workplace. This book provides a detailed understanding of the theory and, more crucially, detailed guidance on how to apply DRAs. It also provides a number of excellent case studies and clearly worked examples showing best practice that the reader may apply to their work or study.

I am therefore pleased to recommend this excellent book.

Jonathan Backhouse, CMIOSH QTLS FIFL AIEMA
NEBOSH Examiner
Middlesbrough, UK

In this book, the increasing importance of Dynamic Risk Assessment, following its emergence as a concept for use in the field in the 1990s, is covered in eight chapters. In essence, it is all about decision making in a dynamic environment. It is expected that recommended readership will be drawn from a wide variety of sectors, particularly those working in front

line services and decision makers will also find this essential reading as an ongoing reference book.

Chapter 1 explores the relationship between dynamic risk assessment and systematic risk assessment and its application in the field. The seven chapters which follow explore:

- the reasoning behind the emergence of dynamic risk assessment as an operational control measure
- a dynamic risk assessment risk management model
- the theory of risk assessment as it moves from the board room to the field of operations
- the key areas which must be embraced to successfully convert risk assessment into a useful management tool
- the benefits of utilising a risk based approach which will inform and improve service delivery
- how the application of dynamic risk assessment can be integrated into risk assessment training
- how management can learn from organisations who have adopted dynamic risk assessment for use in their sector and its role in recent major events.

The introduction of case studies in each of the book's chapters should provide useful 'stop off' points for readers.

Not only is the book content well chosen, but also it benefits from being written by two safety professionals with much experience of working with and in the emergency services sector. It is well presented with helpful and informative tables. I particularly like the fact that key points are brought out at the end of each chapter.

In these times, when unpredictable, adverse events have a habit of occurring, advice and guidance on and understanding of dynamic risk assessment should be welcomed and this book should provide a valuable resource in such circumstances.

Malcolm Brown MIIRSM
Health and Safety Advisor
Atmospheres Air Conditioning Services Ltd

This book is a must read for every person who manages people and situations in the office or out at the sharp end of their business; dynamic risk assessment is a skill that is vital to the success of daily work activities and the safety of an organisation's prized asset, its people.

To master the dynamic risk assessment process effectively this book will open up a whole new outlook on situational management when moving out of tried and tested knowledge based zones helping to prevent human error.

Once humans move out of their comfort zone errors begin to show, therefore to factor human into safety in the form of dynamic risk assessment will help to eliminate human error within situational changing environments effectively and safely.

We all know how quickly a situation can change with the need to move to plan B, should a plan B be available. With the application and implementation of dynamic risk assessment plan B will not be required as comprehensible contingency management will be built into the dynamic risk assessment to help with the management of change as dynamic risk assessments are a live document.

Paul Benson MSc CMIOSH MIIRSM MinstRE
Operations HSE Lead
SHELL

This book is a timely intervention for enhancing the training and development of risk assessors and decision makers in all sectors.

There is a legal requirement for suitable and sufficient risk assessments to be carried out in all predictive areas of work. In spite of the best efforts of trained risk assessors undertaking predictive risk assessments, there will always be some residual risks.

The application of dynamic risk assessment principles to cover residual risks and their associated problems linked to personal injury and associated implications will enable employers to meet their legal, moral, and economic responsibilities as far as undertaking suitable and sufficient risk assessments is concerned.

This book comes highly recommended for safety professionals, senior managers and front line staff across all sectors.

Noel R. E. Thomas MSc CFIOSH
International Health & Safety Consultant

Stephen and Edmund bring together a wide collection of ideas and approaches I have used successfully in my own career, and accordingly, I am delighted to endorse this excellent book about the three levels of understanding and assessing risks, and dynamic risk assessment in particular.

When I was younger, I devoured all there was to read about 'risk' during my IRM studies. And then I duly knocked on the Chief Fire Officer's door to find out what his 'risk appetite' was to help me to understand how much risk we could i) take or ii) needed to avoid when protecting the community we served in Staffordshire. This was one of those moments in my career I will never forget; I was given very short shrift and left his office with him standing there with a 'don't be so silly' look on his face. He said 'How on earth do I know, you [the senior management team] need to come to me as you evaluate the risks [in what Stephen and Edmund call 'slow time'], give me the options to eliminate or mitigate and I will make a decision.'

Most health and safety people have a risk matrix or some software – they pump in risk numbers, and risks are evaluated. Most organizations task a mere mortal, i.e. a safety practitioner, to evaluate and suggest how risks should be managed. But prior to this, it feels like as a profession we are brain-washed into believing that risk is all negative, that it's all about down sides, worst-case scenarios of catastrophic incidents, deaths and major injuries.

In developed countries, these types of outcome do not happen very frequently. Taking a leaf out of those IRM texts, risk is far from a down side – it is full of opportunities and requires careful evaluation to understand. Contrast this with how many HSE directors promise the board they will 'de-risk the business' to prevent health and safety incidents, treating risk like disease for which a cure is urgently sought. This approach is wrong in two ways. Firstly, our commercial colleagues relish the opportunity to find solutions to clients' requirements; their 'can do' attitude means inevitably trying new things and taking risk (mitigated of course). Secondly, the law in most countries does not actually require us to eliminate all risk. Generally speaking, the duty holder must do all that is 'reasonably practicable', rather than the greater 'practicable' duty. However, how many risk assessments do you see that have a belt-and-braces approach, without carefully considering the threat posed and a balanced approach to its mitigation?

Ultimately this overly cautious treatment of risk will lead to a dilution of resources, and so other more significant risks may fail to be managed. Another unintended consequence is that those who work in the operational arm will know what goes wrong most often, and view the belt-and-braces approach as 'butt covering' or another safety zealot going overboard!

Another area where I see that improvements can be made is in the operational area. Often a surveyor will visit site and do a ten-minute walk-around, price up the job and put in a bid to tender for work. If their submission is successful, the first time the supervisor will see the site is when he and the gang arrive on day one with their tools. But surely this is OK because supervisors in most sectors are issued with their own safety manual, containing lots of general risk assessments and other safety stuff. However, what action do we expect them to take if the general risk assessment does not list the hazard posed? So the supervisor most often soldiers on and makes decisions based on his personal risk appetite, and since he was tasked to complete the work within that shift his 'can do' attitude will prevail.

Enlightened employers will have up-skilled supervisors to evaluate risk in what Stephen and Edmund call 'fast time'. This is more than just providing a site-specific risk assessment template. It is providing them with the skills to evaluate risks in the field, and the delegated authority to make decisions.

Bad decisions come back to haunt employers – Stephen and Edmund provide lots of examples in this book. Empowering employees to make the right recommendations to treat risks is fundamentally important, so that all