Risk-based Regulation in the UK: Courtroom Battles Expose Ongoing Problems

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Since 1974, the UK has followed a risk-based approach to safety that, in the event of an incident, is enforced through the courts. The legislation is intentionally non-prescriptive and thus requires duty holders and the courts to decide what control measures were reasonable in the circumstances from ex ante and ex post positions. This has proved challenging for all parties involved. This paper describes a series of cases that have shed light on the thought processes of the courts. It appears that there is some variability in decision-making that can be attributed to several factors, including understanding of the word "risk", the acceptability of residual risk and the validity of historical data as a means of measuring risk. In the aftermath of incidents, there is a real danger that psychological factors may intervene when the prior risk is being assessed for sentencing purposes. It is argued that while the risk-based model continues to enjoy widespread support in the UK and is not challenged, its implementation could be much eased by attention to details. This would serve to simplify courtroom debates, support those practising risk-based regulation and enable risks to be better prioritised.

I. Risk-based regulation in the UK

The UK has a long-established risk-based approach to safety management, where "risk-based" can be defined as prioritising risks based on their likelihood, as determined by ex ante assessments. This contrasts with hazard-based approaches, which eschew such considerations, looking at hazards in isolation. As such, risk-based regulation embodies the notion that, in the quest for best use of public resources, some risks are to be tolerated, and regulators cannot – and should not – try to prevent all possible harms.[1]

The advent of this risk-based approach can be traced in part to the 1974 ground-breaking legislation in the form of the UK's Health and Safety at Work etc. Act (HSWA).[2] The HSWA followed directly from a report by Lord Robens into the situation with regard to workplace safety in the UK in the period up to the 1970s.[3] Confronted with a stagnating national fatal accident rate, Robens' enquiry found that

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1 H Rothstein, "The institutional origins of risk: A new agenda for risk research" (2006) 8(3) Health, Risk & Society 215–21.

2 Health and Safety at Work etc. Act 1974.

3 A Robens, *Safety and Health at Work: Report of the Committee 1970–72* (London, HMSO 1972).

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the safety system was overburdened by piecemeal protocols and concluded that a simpler, principle-based approach was needed. Not only would this better enable the legislation to keep pace in an age of rapid industrial and technological change, it would also deliver other benefits, including placing more clearly the responsibility to manage risk on duty holders,[4] and encouraging thinking and worker engagement rather than apathy and the repetitious following of previously laid-down procedures. A further possible dynamic of the decision to proceed with this new approach was a catastrophic industrial disaster in 1966,[5] which glaringly exposed the fact that the existing legislation neglected to cover the effects of work activities on the public.

The commitment to a risk-based approach was further confirmed by the lead regulator, the Health and Safety Executive (HSE), in 2001,[6] as it has been by other agencies since.[7] This was reflected in its broadly stated principles of good regulation,[8] which included the targeting of action on the most serious risks and proportionate action commensurate to the level of risk.

Interestingly, the HSWA also brought under its wing many employees who had previously been outside of its remit, including members of the public who were affected by work activities. As HSE has written:

> An immediate effect of the HSW Act was to extend protection to a further 8 million workers – including employees working in local government, hospitals, education and other services. It also imposed duties on self-employed people and on the designers, manufacturers and suppliers of equipment and materials. Those "affected by work activities" were brought under the legislative umbrella for the first time. In the mid-1970s, this latter provision provoked widespread astonishment.[9]

Meanwhile, Europe's approach to occupational safety and health (OSH) was enacted by the European Workplace Safety Directive of 1989. This laid down general principles concerning the prevention and protection of workers against occupational accidents and diseases. The principles include the prevention of risks, the protection of safety and health, the assessment of risks and the consultation and balanced participation in and training of workers and their representatives.[10] So far as the UK is concerned, this Directive was incorporated into law via its Management of Health and Safety at Work Regulations (1999).[11] This includes a schedule of general principles of prevention, starting with "avoiding risks", "eliminating risks" and so on.

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[4] An entity or person with the responsibility for the management of specified hazards.

[5] T Breverton, *Wales: A Historical Companion* (Stroud, Amberley Publishing 2009).

[6] HSE, "Reducing Risk Protecting People" (2001) <https://www.hse.gov.uk/risk/theory/r2p2.pdf> (last accessed 18 August 2020).

[7] R Löfstedt, "Reclaiming health and safety for all" (2011) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/66790/lofstedt-report.pdf> (last accessed 10 August 2020).

[8] BRTF (Better Regulation Task Force), "Risk, Responsibility and Regulation – Whose risk is it anyway?" (2006) <http://archive.cabinetoffice.gov.uk/brc/upload/assets/www.brc.gov.uk/risk_res_reg.pdf> (last accessed 5 July 2019).

[9] HSE, "Thirty years on and looking forward" (2004) <https://pdf4pro.com/view/thirty-years-on-and-looking-forward-the-144d6.html> (last accessed 5 December 2019).

[10] Framework Directive [1989] OJ 2 89/391.

[11] The Management of Health and Safety at Work Regulations 1999, SI 1999/3242.

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For some commentators, the existence of two strands of legislation was problematic because they considered that they were not entirely compatible. The HSWA was notably less prescriptive in that it did not specify any hierarchy of control, instead relying upon the condition of "reasonable practicability" as the criterion for deciding what controls were necessary. The European Commission (EC) had previously voiced concerns to the European Court of Justice that the UK's risk-based approach to health and safety regulation threatened worker protection. The UK's implied cost–benefit approach – whereby the costs of additional safety measures are weighed against probable benefits using explicit value-of-life calculations – was seen as bucking the trend of other large European Member States. Instead, these States had interpreted the Directives in ways that emphasised the reduction of workplace risks to minimum levels, with the issue of cost of control being far less prominent.[12]

This debate culminated in 2007 in a legal challenge by the EC, the final outcome of which was that the European Court of Justice ruled that the UK had not breached European Community Law by imposing a duty on employers to ensure the health, safety and welfare at work of all employees only to the extent of "so far as is reasonably practicable".[13]

Nonetheless, it is of interest to consider how the UK has managed with its less prescriptive approach to risk management. Therefore, the purpose of this paper is to report on this, primarily through consideration of prominent court cases – civil and criminal – that have exposed underlying thought processes. The effectiveness of risk-based decision-making is, of course, an issue across Europe, as has been noted by the European Risk Forum: "Citizens, the EU institutions and businesses benefit from a well governed EU Administrative State that makes high quality implementation decisions", and, "Whilst a significant proportion of the decisions taken through the EU Administrative State to implement risk management laws are of high quality, too many have a negative impact. Poor quality decisions are characterised by regulatory failings of time, cost, precaution, proportionality, and uncertainty, and, over time, generate a series of negative regulatory outcomes for Europe and its citizens".[14]

It should be mentioned at the outset that the risk-based approach as deployed in the UK has not been trouble-free. For example, the UK government conducted a review of OSH in the 2010s[15] because of a perceived lack of proportionality in decision-making, and in 2011 Löfstedt found that there was confusion over what proportionality meant in practice.[16] A recent review of the understanding of proportionate decision-making in the UK has identified multiple factors that affect how risk management decisions are

[12] H Rothstein et al, "When 'Must' Means 'Maybe': Varieties of Risk Regulation and the Problem of Trade-offs in Europe" (2015) HowSAFE Working Paper No. 1.

[13] H Smith, "Reasonably practicable – The ECJ Verdict" (2007) <https://www.lexology.com/library/detail.aspx?g=5a7c1c0c-aa9f-478d-ab3f-4c761d96a549> (last accessed 28 August 2020).

[14] European Risk Forum, "Policy Note 33: The EU's administrative state: nature, scale and implications of implementing risk management law through science, regulation and guidance" (1 September 2019) <http://www.riskforum.eu/uploads/2/5/7/1/25710097/erf_-_pn_33_-_admin_state.pdf> (last accessed 28 July 2020).

[15] Lord Young, "Common sense, common safety: a report by Lord Young of Graffham" (15 October 2010) <https://www.gov.uk/government/publications/common-sense-common-safety-a-report-by-lord-young-of-graffham> (last accessed 28 August 2020).

[16] Löfstedt, supra, note 7.

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made by duty holders.[17] Highly significant was the issue of the understanding of the concept of risk by the courts, which is the subject of this paper.

II. Requirements of the HSWA

Section 2 of the HSWA states that with respect to employees:

> It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

Section 3 of the HSWA extends protection to non-employees affected by workplace activities:

> It shall be the duty of every employer to conduct his undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in his employment who may be affected thereby are not thereby exposed to risks to their health or safety.

The concept of reasonable practicability is an important one in that it effectively encapsulates the philosophy behind the HSWA. The term is frequently attributed to a 1949 civil trial case[18] in which a miner was deemed by the presiding Judge, Lord Asquith, to have died in a rock fall in a coal mine. Lord Asquith (1949) ruled that a balance needed to be struck in deciding whether it was "reasonably practicable" to shore up every section of every mine to prevent even the smallest possibility of a rock fall. The term established an important qualification on absolute concepts such as "physically possible" that were problematic and seen as impossible to fulfil – and would later come to represent a key point of departure from the perceived European standard.[19]

The word "ensure" in Section 2 of the HSWA also has significance. It means that if an accident happens, then the HSWA has been breached, leading to the matter of criminal liability. The caveat to this is whether all reasonably practicable measures had been implemented is applicable. This is referred to as "the reverse burden of proof" because it requires a duty holder to prove their innocence rather than for the Prosecution to prove their case, as in standard legal contests. The same requirement is also present in Section 3 of the HSWA, along with a second, which is that non-employees affected by work activities should not be exposed to risk.

Both requirements place the onus firmly on the Defendant – the duty holder – in the event of an accident and a subsequent prosecution or civil claim.

III. Insights from court decisions

In the UK, the legal system is based on case law and is constantly evolving as new cases are heard. There are a number of important legal cases that clarify legal understanding of the

[17] LN Ball-King, *Risk Management and Proportionality – A Synoptic View of UK Practices* (self-published 2020).

[18] Edwards v National Coal Board [1949] 1 CA 743 (CA) (Asquith LJ).

[19] Rothstein et al, supra, note 12.

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risk-based approach and the responsibilities of duty holders. The following sections summarise points from the more prominent of these cases, mainly those in the higher courts – which set precedents and therefore have greatest influence. Lower courts are also of interest because this is where most cases are heard. In addition, the decision-making process of the lower courts is of interest in its own right and may differ from that of the higher courts. The analysis of higher (appeal) court judgments makes use of published documents. The evidence from the lower courts makes use of documents and some in-court observations.

1. The higher courts

a. Tomlinson v Congleton Borough Council and Others (2003)

This landmark 2003 civil case was heard in the House of Lords[20] and involved a teenager who was paralysed after diving into a lake and striking his head on the sandy bed. The claimant sued the local council for failing to prevent him from diving. The case progressed through the court system to the then highest level (House of Lords)[21] before a conclusion was reached. While accepting that Mr Tomlinson suffered a "terrible tragedy ... in consequence of a relatively minor act of carelessness", the Law Lords ruled unanimously against him on the grounds that the council had properly marked the lake as unsafe for swimming and had also taken steps to make the beaches less accessible to the public.

With regard to the comprehension of the risk-based approach by lower courts, Lord Hobhouse made the following striking observation:

> It is a fallacy to say that because drowning is a serious matter that there is therefore a serious risk of drowning. In truth the risk of a drowning was very low indeed and there had never actually been one and the accident suffered by the claimant was unique. (para 79)

The above statement was preceded by an acknowledgment of the need to consider the actual risk of harm:

> It is then necessary to put these few incidents in context. The park had been open to the public since 1982. Some 100,000 people used to visit the park in a year. Up to 200 would be bathing in the mere on a fine summer's day. Yet the number of incidents involving the mere were so few.

From this, Lord Hobhouse concluded that the lower (appeal) court had, because of confusion over the meaning of "risk", falsely concluded that there was a significant risk of injury. This observation immediately pinpoints a serious issue for risk-based control.

[20] House of Lords, "Judgments – Tomlinson (FC) v Congleton Borough Council and others" (31 July 2003) <https://publications.parliament.uk/pa/ld200203/ldjudgmt/jd030731/tomlin-1.htm> (last accessed 18 August 2020).

[21] The highest court in the UK is now the Supreme Court.

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If there is not clarity over terminology, then problems will inevitably result. It would appear in this case that Lord Hobhouse's definition of risk was something akin to:

> . . . the probability that a particular adverse event occurs during a stated period of time, (or results from a particular challenge).[22]

This is a straightforward, probabilistic definition of risk. Regrettably, however, many other agencies have subsequently defined risk as "some combination of probability and consequence".[23] This can lead to situations where a low-likelihood event with a potentially serious consequence (eg being struck by lightning) can be described as a high risk. Clearly, this also caused problems for those arguing the Tomlinson case, as Lord Hobhouse observed.

b. R v Porter (Court of Appeal, 2008)

R v Porter[24] is an influential case relating to a criminal prosecution brought against the headmaster of a private village school in Wales. It involved a young child who had jumped down some steps while playing outside and banged his head. While attending hospital as a precaution, he contracted methicillin-resistant *Staphylococcus aureus* (MRSA) and died. The headmaster, Mr Porter, was first convicted by a jury, but the case was thrown out on appeal.

This was an important decision in that it revealed judicial thinking on the concept of "risk" in the HSWA. Up until this point, from other cases, the trigger for prosecutions under the HSWA had been the existence of a "possibility of danger".[25] However, in the Porter case, Lord Justice Moses ruled that there was no obligation to guard against risks that were merely "fanciful". The incident in question, it was contended, was not clearly foreseeable, but rather a highly unlikely event. He asserted that the prosecution first had to prove that a real risk existed as opposed to a hypothetical one. Only then would the test of reasonable practicability come into play.

As has been noted, Section 3 of the HSWA says that employers must ensure that persons not in their employment are *not exposed* to risks to their health and safety, albeit subject to the SFAIRP criterion.[26] Sometimes in court this qualification is not flagged, and it is implied that if an accident occurred then the case was proven. Lord Justice Moses, however, was evidently not of this mind.

c. R v Chargot (2008)

One of the cases referred to by Lord Justice Moses in Porter was R v Chargot. This related to an incident involving the death of an employee in 2006 while driving a tipper truck.

[22] The Royal Society of London, *Risk Assessment – A Study Group Report* (London, The Royal Society 1983).

[23] Eg ISO 31000, "Plain English definitions" (7 August 2018) <https://www.praxiom.com/iso-31000-terms.htm> (last accessed 20 July 2020).

[24] R v Porter [2008] EWCA Crim 1271 (Moses LJ).

[25] This had emerged in the case of R v Trustees of the Science Museum (1993), in which a potential exposure of the public to *Legionella* virus was alleged from defective cooling towers.

[26] So far as is reasonably practicable (SFAIRP).

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Criminal proceedings were brought under Sections 2 and 3 of the HSWA, it being alleged that there had been a failure to ensure safety. The defendants maintained that they had done all that was reasonably practicable; however, they were found guilty. Their subsequent appeal was dismissed but was later considered by the House of Lords.

The prosecution based its case on having only to prove there existed a risk of injury, whereas the defence argued that specific failings needed to be identified. The Court of Appeal, however, sided with the prosecution; if it could be shown that a risky state of affairs prevailed – one that was real and not hypothetical (or "fanciful") – then that was sufficient.

The House of Lords contended that the fact that an accident occurred showed that the risks were real, not hypothetical. Therefore, the defendants, to avoid prosecution, must prove they had taken all steps SFAIRP. The Lords' reasoning derived from an analysis of the duties in Sections 2 and 3 of the HSWA.[27] The duties are expressed as being general and are results based; if the result is not achieved (ie to ensure SFAIRP the safety of employees or to prevent exposure of risk to non-employees), then the duty has been breached. As soon as an individual is exposed to a risk of injury, the employer has failed to achieve the stipulated result.

The concept of safety was enlarged upon by Lord Hope, whose statements were met with agreement from all other members of the House. He stated that the legislation was "not contemplating risks that are trivial or fanciful", that the statutory framework was "intended to be a constructive one, not excessively burdensome", that the law "does not aim to create an environment that is entirely risk free" and that the word "risk", which the statute uses, "is directed at situations where there is a material risk to health and safety, which any reasonable person would appreciate and take steps to guard against" (para 27).

Despite the assurances of Lord Hope, the Chargot judgment was troubling for duty holders. It says that all a prosecutor has to do to bring a case is point to the fact of an accident because this proves either that a worker's safety was not "ensured" or that a member of the public was "exposed to a risk". It is then left to the defendant to prove they had done everything that was reasonably practicable. While, to some extent, this is softened by Lord Hope's speech, which says that the legislation was not contemplating risks that were "trivial", "fanciful" or were not "material" – the fact is that some prosecutions are seemingly brought on the existence of a serious incident, such as a fatality, serious injury or near miss, without much if any apparent consideration of the prior risk.

d. Baker v Quantum Clothing Group (2011)

Baker v Quantum[28] is a more intricate case that involved hearing damage sustained by employees of a clothes manufacturing company in the 1970s. In the initial trial, Judge Inglis rejected the claim. The Appeal Court then reversed his decision, only for it to be reversed again by the Supreme Court on a split decision.

A number of important points emerge from the debate between the Lords involved. Lord Mance, the presiding Supreme Court judge, states that safety is a relative concept:

[27] T Horlock QC and M Snarr, "Proving it in reverse: How has Chargot affected future prosecution practice?" (12 March 2009) <https://www.newlawjournal.co.uk/content/proving-it-reverse> (last accessed 4 April 2020).

[28] Baker v Quantum Clothing Group Ltd and Others [2011] 17 SC 523 (SC).

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> Safety is a question of opinion. There is no such thing as absolute safety. All safety is relative. Two men can legitimately hold different opinions [as to] whether a machine is safe or unsafe.

He also adds that assessments can legitimately vary depending on the authorities in different countries. Mance then provides an important expansion on the meaning of safety, and of foreseeability, referring to another case in the process:

> "Safe" is the converse of "dangerous". A working place is "safe" if there is nothing there which might be a reasonably foreseeable cause of injury to anyone working there, acting in a way in which a human being may reasonably be expected to act, in circumstances which may reasonably be expected to occur.

The support of the Lords for the concept of reasonable practicability is notable here in their comment that "safe" does not mean absolute safety, but the absence of a reasonably foreseeable risk. Mance thus says that the occurrence of an accident does not mean a place was unsafe – the overriding requirement for the occupier is to do only what is reasonably practicable.

Furthermore, their statements make it clear that it is only necessary to consider what measures are reasonably practicable if there is first identified a reasonably foreseeable risk.

This judgment, more so than Chargot, supports the UK's risk-based approach and reinforces the notion of acceptance of residual risk, which is arguably a fundamental precept of any risk-based approach. Overall, there is agreement that safe does not mean being risk-free. There is some disagreement or lack of clarity over whether an accident means a place was necessarily unsafe. However, the judges seem unanimous that foreseeability comes in either at the first stage of the decision process (was it safe?) or the second (were reasonably practicable measures applied?). Overall, though, "foreseeability" is yet another epithet, along with "trivial", "fanciful" and "material", which duty holders might find unclear. Furthermore, the fact that lower courts, Appeal Courts and the House of Lords can reach opposite conclusions, as also with Chargot and Tomlinson, demonstrates a continuing uncertainty regarding the meaning of the HSWA more than forty years after its passage. This is potentially perplexing for duty holders who have to manage risk using their own interpretation of the law.

e. R v Tangerine Confectionary Ltd and Veolia ES (UK) Ltd (2011)

In this instance, the Court of Appeal re-examined and clarified legal thinking on these cases and earlier cases, including Chargot, Porter and Quantum.[29]

The ruling relates to criminal prosecutions under Sections 2 and 3 of the HSWA. The Tangerine case involved a worker crushed in sweet-making machinery. The Veolia case

[29] R Histed and C Arrand, "The future is bright, the future is Tangerine" (In House Lawyer, 1 November 2011) <https://www.inhouselawyer.co.uk/legal-briefing/the-future-is-bright-the-future-is-tangerine/> (last accessed 10 May 2020).

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related to the death of an agency worker while collecting litter on a road. Here, the details of the incidents are unimportant relative to the legal matters raised. One of the chief questions considered was the relationship between the words "safety" and "risk" in Section 2 and Section 3 of the HSWA, respectively.

Lord Justice Hughes and Justices Smith and Walker of the Court of Appeal noted that, in earlier cases, there was confusion over the precise meaning of Sections 2 and 3. For example:

(1) What is the relationship between "safety" in section 2 and "risk" in section 3?
(2) Where there has been an injury, is the Crown required to prove that it was caused by the offence?
(3) To what extent must the Crown prove that the risk "derives" from the defendant's activities?
(4) What, if anything, is the relevance to these offences of foreseeability of injury or of an accident that has already happened?

The Lords agreed that "ensuring safety" (Section 2) is the same as "ensuring absence of risk" (Section 3). Under both sections an offence is committed if there is a relevant risk and the defendant has not taken all steps SFAIRP. Furthermore, the Lords say that these offences are not dependent on the details of how an accident occurred. Indeed, even if there were no accident, they could still apply, because the requirement in Section 2 and Section 3 is to not expose people to a risk. Causation of injury, whether there was one or not, is not a component of that decision.

The Lords say in para 22 that there are two central issues: (1) exposure to risk and (2) whether it was reasonably practicable to avoid it. In relation to the foreseeability, they quote Lord Hope from Chargot (para 27) and his assertion that the legislation is not about trivial or fanciful risks, nor about creating a risk-free environment.

> It is directed at situations where there is a material risk to health and safety, which any reasonable person would appreciate and take steps to guard against it.

A difficulty with this discussion is that the terms "risk", "material risk" and "foreseeability" are not sharply defined. The sole guidance is, as noted in Chargot, that the word "material" was defined as "not trivial or fanciful", which it was felt was the same as Lord Hope's "risks which any reasonable person would appreciate and take steps to guard against".

Thus, the implication is that it hinges on the views of the ordinary person as to whether a risk is fanciful or material. This, of course, has been known to be dangerous ground ever since the pioneering work of Slovic and colleagues,[30] which found that laypeople, amongst other things, tend to overestimate the risk of rare events. In addition, the phenomenon of hindsight bias in the aftermath of an accident has been well documented.[31]

[30] P Slovic, B Fischhoff and S Lichtenstein, "Rating the risks" (1979) 21(3) Environment: Science and Policy for Sustainable Development 14–20.

[31] NJ Roese and KD Vohs, "Hindsight bias" (2012) 7(5) Perspectives on Psychological Science 411–26.

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f. HSE v Tata Steel UK (2016)

This case related to a fine under the Sentencing Council Guidelines[32] (SCG) that steel company Tata received in 2016 after two workers' hands were snared in unguarded machinery in separate incidents. However, the company appealed against the penalty, successfully arguing that the sentencing judge had miscalculated the category of harm involved in one of the offences. Specifically, it centred on the assessment of the degree of likelihood involved.

In the appeal, it was observed that the most recent prior incident had been some fifteen years earlier, since which time the machine in question had been operated for some 150,000 man-hours without incident. In a move that bucked the trend, the Appeal Court judges agreed with the argument of Keith Morton QC, acting for Tata, that these facts rendered the categorisation of the offence as having a "high" likelihood of harm as incorrect. The judges accepted instead a characterisation of "medium" likelihood, and Tata's fine was substantially reduced.[33]

2. Courts of the First Instance

a. R v Merlin Attractions (2012)

The operator of Warwick Castle – Merlin Attractions – was convicted of failing to protect the health and safety of visitors when an elderly man died after falling from a bridge into a dry moat surrounding the monument.

The prosecution alleged (correctly) that there was no site-specific risk assessment for the bridge on the day of the incident. It was claimed that the incident was foreseeable and would not have occurred if Merlin had undertaken a "suitable and sufficient" risk assessment that, in the prosecution's view, would have identified the need to provide barriers to the sides of the bridge.

The case hinged partly on whether the bridge posed a "material" risk. The defence contended that the fact that approximately 20 million people had visiting the Castle since 1978 with no recorded accidents or near misses at the bridge was evidence that the risk was not material. Furthermore, the Castle is a scheduled ancient monument that could not be permanently altered without consent from English Heritage because of its historic importance. Ultimately, the court rejected these arguments – Merlin Attractions were found liable and received a very substantial fine.[34]

On first impression, this case seems to be consequence-driven and without consideration of actual risk. It thus raised significant issues about acceptance of the risk-based approach. These include the conflict between hazard-based and risk-based approaches. The lack of a risk assessment for the bridge in particular raises an

[32] Sentencing Council, "Health and Safety Offences" (1 February 2016). <https://www.sentencingcouncil.org.uk/wp-content/uploads/Health-and-Safety-Corporate-Manslaughter-Food-Safety-and-Hygiene-definitive-guideline-Web.pdf> (last accessed 4 July 2020).

[33] IOSH Magazine, "TATA Steel appeal secures A 25% off £198M fine with likelihood of harm revision" (19 June 2017) <https://www.ioshmagazine.com/tata-steel-appeal-secures-25-ps198m-fine-likelihood-harm-revision> (last accessed 4 March 2020).

[34] Safety and Health Practitioner, "Warwick Castle operator fined £350,000 in moat-death trial" (19 June 2017) <https://www.shponline.co.uk/working-at-height/warwick-castle-operator-fined-350-000-in-moat-death-trial/> (last accessed 4 June 2020).

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interesting issue because the HSE's stated position is that risk assessments need only record the significant findings,[35] which, presumably, would not include fanciful risks.

b. The Bristol quayside case

A similar situation arose in 2018 after a cyclist on Bristol quayside crashed into the dock and drowned.[36] The dockside at that location, another heritage site, had no railing and had been a topic of debate within the Council for many years, some having described it as a "huge risk" and others as a low risk. It was reported that in twenty-five years there was only one known accidental case of falling into the water from the quay and that had been caused by unusual circumstances in which the quayside had been blocked. Given that the quayside had had many millions of visitors, the probabilistic definition of risk is extremely low. However, the use of the alternative definition conflating likelihood and foreseeable consequence could point to a moderate or substantial risk. The judge, His Honour Judge Gargan, went on to find that there was no duty to erect barriers where the risk was very low and, in fact, barriers would have created other risks. The judge appeared to use the probabilistic definition and the council was absolved.

IV. Discussion and conclusions

While risk-based forms of governance have been promoted in various countries globally, the UK stands alone as the place where such approaches have been most rigorously and overtly applied, coming as they have to "colonise" UK policymaking.[37] As studies have found,[38] the UK's explicit sanctioning of risk trade-offs and the qualifying of worker safety contrasts with European countries such as France and Germany that instead mandate ambitious safety goals centred on minimising risk. Nonetheless, these studies have also revealed that beneath the headline targets of these hazard-based approaches, trade-offs on safety are in fact being made, but in ways that are implicit and concealed by differences in legal tradition.

The above lends weight to the impracticable nature of hazard-based approaches to risk regulation. While this paper has shown that such approaches continue to surface periodically in the UK, there nonetheless remains widespread support amongst regulatory agencies and risk professionals for a risk-based approach to safety and the concept of proportionate decision-making.[39] For the system to work effectively, it is necessary for the diverse actors involved to have a clear understanding of its implications and requirements. To assist duty holders, the UK's lead safety regulator, the HSE, has tried to simplify and present as straightforward certain aspects of the

[35] HSE, "Managing risks and risk assessment at work" (3 March 2015) <https://www.hse.gov.uk/simple-health-safety/risk/index.htm> (last accessed 5 June 2020).

[36] Lexology, "No duty to erect railings at heritage quayside" (10 January 2019) <https://www.lexology.com/library/detail.aspx?g=8465da9c-ebf2-4b01-a350-3b9f90fc133e> (last accessed 5 March 2020).

[37] H Rothstein, O Borraz and M Huber, "Risk and the limits of governance: Exploring varied patterns of risk-based governance across Europe" (2013) 7 Regulation & Governance 215–35.

[38] Rothstein et al, supra, note 12.

[39] Löfstedt, supra, note 7; Ball-King, supra, note 17.

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process, including the conduct and administration of risk assessment. Yet it is evident from the cases described here, such as Tomlinson and Bristol quayside, that duty holders are struggling with the concept of risk, even to the extent that the same hazard can be rated as high or low risk depending upon who makes the assessment. Likewise, the courts provide witness to lengthy debates over the interpretation of risk within the HSWA, some resulting in reversals of decisions as cases have progressed to higher and higher levels within the legal system. From this, it can be concluded that even now, after a near half-century of a risk-based regulatory system, there remain significant "teething" problems.

For risk professionals, the risk-based approach brings certain implications. These include that a certain amount of residual risk should be acceptable. In turn, this implies that the occurrence of an accident, however serious, does not directly signify that a duty holder has failed to comply with the risk-based legislation. However, as Woodruff reported some time ago,[40] and as borne out by some of the cases described here, decisions that should be risk-based under the UK's prevailing regulatory regime sometimes give the impression of being more influenced by consequence. In support of this proposition, Woodruff cited the fact that accidents are reported to regulators based on consequence criteria, and that fines levied in courts were more related to consequence than to prior risk. He speculated that courts may respond in this way because consequences are more tangible than probabilistic considerations, and these act on the emotions to which all are vulnerable. There is now overwhelming evidence from the risk community that qualitative factors, personal values and emotions do play a big role in risk decisions.[41]

Since Woodruff's paper in 2005, there have been attempts to make court decisions more consistent, including the introduction of the SCG, which require there to be consideration of the prior risk in determining the sentence following a successful prosecution. Nonetheless, it is proving difficult even then to counter hindsight bias, attentional bias and emotional reactions to the sometimes-serious consequence of accidents that are the subject of these hearings, although the Tata case shows that this to be possible. In other cases (eg Warwick Castle, Bristol quayside and Porter), a very mixed message is transmitted. Sometimes prior risk is a determining factor in court decisions and sometimes it appears to be disregarded.

The problem for duty holders is further compounded by decades-long debates within the courts around the meaning of the risk-based approach inherent in the HSWA. Adjectives such as "foreseeable", "fanciful", "material", "trivial" and "hypothetical" have all been applied to describe risk, but without definition, and arguments continue to surface over whether the occurrence of an event alone signifies the existence of a significant risk. Lord Hope (see Tangerine), however, found widespread agreement in the House of Lords when he said that the

[40] JM Woodruff, "Consequence and likelihood in risk estimation: a matter of balance in UK health and safety risk assessment practice" (2005) 43 Safety Science 345–53.

[41] P Slovic, *The Feeling of Risk: New Perspectives on Risk Perception* (London, Earthscan 2010); D Seedhouse, *Using Personal Judgement in Nursing and Healthcare* (Thousand Oaks, CA, Sage 2020); LA Cox, "Does concern driven risk management provide a viable alternative to QRA?" (2007) 27(1) Risk Analysis 27–42.

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legislation was "not contemplating risks that are trivial or fanciful", that the law "does not aim to create an environment that is entirely risk free" and that the word "risk" "is directed at situations where there is a material risk to health and safety, which any reasonable person would appreciate and take steps to guard against". This suggests that the Law Lords, too, are fundamentally supportive of the UK's risk-based philosophy.

Given, therefore, the widespread support for the system, how then might its working be smoothed? Löfstedt has suggested that what is needed in the UK is a wider debate in society about risk and its regulation and proposed asking the House of Lords to establish a committee on risk and the government to set up an expert group on risk policy, the outputs from which would need to be disseminated widely across Parliament, policymakers, academics and the public.[42] This would seem appropriate given the issues identified in this paper, providing the audience were extended to include the legal profession, the judiciary and safety practitioners. The inclusion of the public, as Löfstedt proposed, could be seen as essential because, ultimately, in criminal prosecutions, it is they who decide via the jury process, yet they must wrestle with all of the heuristics and biases with which everyone is conflicted.[43]

In support of this, there is a precedent. As long ago as 1978, a study group of the Royal Society of London took it upon itself to try to reconcile the approaches of different professions on risk estimation and management. This proved a daunting though worthwhile task, and the end result, published in 1983,[44] attracted some criticism from, mainly, social scientists.[45] Nonetheless, it made valuable contributions in relation to understanding the risk-based approach and the concept of residual risk, even going so far as to give quantitative indications of what levels might be acceptable. Shortly after this, the HSE published a philosophy of risk management known as the tolerability of risk (ToR),[46] with a further version in 2001,[47] which built on the work of the Royal Society. Together, these documents provided a valuable basis for risk-based thinking and decision-making.

However, this message has been lost or diluted over the decades, and the contrary notion of risk minimisation has infiltrated the UK via, in part, the influence of the European Workplace Safety Directive of 1989 and the Management of Health and Safety at Work Regulations (1999), and also various international standards generated by the International Organization for Standardization (ISO) on the management of risk.[48] The effect of this has been to increase doubt and uncertainty on top of the already challenging concepts of risk and risk-based control, which mean different things to different people and professions.

[42] Löfstedt, supra, note 7.

[43] D Kahneman and G Klein, "Conditions for intuitive expertise: a failure to disagree" (2009) 64(6) American Psychologist 515–26.

[44] The Royal Society of London, supra, note 22.

[45] The Royal Society of London, *Risk – Analysis, Perception, Management* (London, The Royal Society 1992).

[46] HSE, *The Tolerability of Risk from Nuclear Power Stations* (London, HMSO 1987 & 1992).

[47] HSE, *Reducing Risks, Protecting People* (London, HMSO 2001).

[48] ISO, "ISO 31000, Risk management guidelines" (Geneva, International Standards Organization 2018).

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So what, in conclusion, does this say about the UK's risk-based approach after forty-five years of implementation? The conclusion is that duty holders may still be bearing the brunt of shortcomings in the form of a lack of clarity because of a tendency to avoid being explicit about how risk-based decisions should be made. The job of making this clear appears to have fallen into a no-man's land between regulators and the British courts, and the challenge of rectifying this situation has yet to be accepted.

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