Nearing The "Sunny Uplands" of Robens' Self Regulation

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After briefly outlining the roles of HSC and HSE, the principles and development of self-regulation and proportionality are described. The development of UK major hazard legislation, particularly with regard to the development of on-shore and off-shore major hazard controls, is examined. The current position of offshore safety case assessment and the review of offshore safety legislation is provided.

Introduction

I very much appreciate the honour and privilege of providing the keynote address at this conference. Firstly, let me briefly outline my involvement with HSE. I joined the HSE as Director of Special Hazards Division in October 1989. From 1992 to mid-1994 I was the Director of HSE's Safety Policy Division, dealing with all policy issues except those specific to the offshore and nuclear industries. In July 1994, I became Chief Executive of the Offshore Safety Division.

In setting the scene for this Conference, I should like to trace the development of workplace health and safety regulation in the UK, looking particularly at offshore safety. I will attempt to illustrate how building a new safety regime, based on flexible goal setting legislation and the development of a stronger safety culture, represents a radical shift from the preceding prescriptive regime.

The Robens Report

In May 1970 the Secretary of State for Employment, Barbara Castle, set up a Committee of Inquiry to "review the provision made for the safety and health of persons in the course of their employment". That Committee was chaired by Lord Robens.

Interestingly - particularly in the current climate of deregulation - Lord Robens identified a major problem with legislation at the beginning of the 'seventies: its sheer proliferation. He argued that "far from advancing the cause of safety and health, (the law) may well have

reached the point where it becomes counter-productive". There was too much of it and much of it was largely irrelevant. Let me quote you one of his examples: in 1966, there were 270 accidents on 140 construction sites, but only 19% of them could be regarded as being due to breaches of legislation.

Robens viewed the law as "intrinsically unsatisfactory, badly structured and written in a style that rendered it largely unintelligible even to those who were supposed to administer it". If it was also largely irrelevant and "an endless and increasingly hopeless task" to maintain and update, is it any wonder that there was a widespread tendency to disregard it?

He concluded, in his report published in June 1972, that there was a need for a more self-regulating system for health and safety at work. He held that industry should be encouraged to tackle their own health and safety problems - the "Sunny Uplands" referred to in my title. He also recommended that a National Authority for Safety and Health at Work should be established.

The UK Health & Safety Commission/Executive (HSC/E)

As a result of the Robens Report, that statutory body - the Health and Safety Commission (HSC) - and its operating arm, the Health and Safety Executive (HSE), were set up under the auspices of the Health and Safety at Work etc Act 1974.

HSC is the governing body and consists of representatives of employers, employees, local authorities and the public interest. Responsibility for developing policies and laws on health and safety was devolved by Ministers to the Commission.

HSE provides support for the Commission and is the statutory enforcement body. It provides policy and technical and operational advice; and it undertakes enforcement through its general and specialist Inspectorates. It is responsible in Britain for regulating and enforcing industrial health and safety across the full spectrum of industry, from nuclear power stations to factories, refineries, coal mines and farms.

The general approach of HSC/E is based on two important principles:-

Firstly, self regulation. Current legislation emphasises that those who create risks - particularly employers - are responsible for controlling them. Linked to this is the idea that regulations should set safety goals, rather than prescribing solutions.

The second principle is that of reasonable practicability. In general, we require safety standards to be "reasonably practicable". Controls should be commensurate with the risk. The word "reasonable" means that cost must be taken into account. The greater the risk, then the greater the amount of expenditure it is reasonable to expect employers to invest to ensure that they have adequate controls in place.

The Development of Major Hazards Legislation

The development of major hazards legislation is a clear example of the application of these principles. The UK has taken a major lead within Europe to frame safety legislation for hazardous plant, both onshore and offshore.

A report from the Advisory Committee on the Safety of Nuclear Installations suggested that the history of health and safety followed a clearly identifiable path involving three stages:

- blame and punishment when something goes wrong ;
- prescribing in advance the action to be taken, although in practice this has usually been on the basis of trying to rectify the last accident that happened;
- developing a true safety culture, with safety owned by everyone involved, thereby bringing us to the sunny uplands of true "safety regulation" envisaged by Lord Robens in his report.

Shortly after HSC/E was formed in 1974, there was the disastrous explosion at Flixborough. It was caused when a design modification to a process plant failed, leading to a release of several tonnes of cyclohexane at high pressure and temperature. The resultant vapour found an ignition source and exploded, killing 28 people on-site and injuring 36 people off-site. The installation was devastated and there was extensive damage to surrounding property.

As a result of the Flixborough disaster, HSE set up a panel of experts - the Advisory Committee on Major Hazards - to study the control of major hazards and to advise on the best policy to adopt. They produced three reports, the first of which in 1976 proposed a three-part strategy for managing major hazards consisting of:

- identification
- prevention and control
- mitigation

The **identification** of installations presenting, or liable to present, a major hazard involved two factors: the recognition of this fact by the operator concerned and the notification of it to the relevant authorities.

Measures of **prevention and control** involve operators assessing their processes in order to determine the levels of risk and the consequences of accidents; and then using this information to ensure that appropriate precautions are taken to secure safe operations.

Mitigation measures include separating vulnerable populations from hazardous installations through land-use planning controls; on- and off-site emergency plans to provide for effective response to major accidents; and warning the general public about the potential hazards and the action to take in an emergency.

Controlling Major Accidents

This three-part strategy was to have been followed by hazard survey regulations, but the major environmental disaster at Seveso, Italy, in 1976 led to a European Directive - the so-called "Seveso" Directive, which was itself much influenced by the emerging UK ideas about regulations. The "Seveso" Directive in turn led to the **Control of Industrial Major Accident Hazards Regulations** (CIMAH) in 1984.

CIMAH requires manufacturers to prepare a written safety report containing details of dangerous substances, the installation, the management system, the potential for major accidents and the measures to be taken to prevent, control and minimise the effects of major accidents. This new and radical approach was, in effect, making manufacturers look at their sites and installations and make their own assessment of risk potential and control. It recognised that, even when all reasonable practicable precautions had been taken, a small residual risk of an accident would remain; therefore the Regulations included a requirement to plan for emergencies, both on- and off-site, and prepare the responses to them.

CIMAH was amended twice - in 1987, following the Bhopal disaster in India; and again in 1988 to widen its application to storage premises after the 1986 Sandoz (Switzerland) warehouse fire.

Further changes are now in the pipeline. The new **Control of Major Accident Hazard Regulations** (COMAH) have reached common position in Europe and are likely to be adopted in the UK by mid-1996, for implementation early in 1998. Some differences from CIMAH will include:

- petrol becoming a "named substance";
- the likely increased of some existing thresholds to current higher levels; and
- toxic and very toxic dangers to the environment.

One likely major change, however, will bring UK onshore regulations closer to those applying offshore. The Offshore Safety Case Regulations require the regulator to "accept" installation safety cases. CIMAH requires reports to be submitted, but does not require formal "acceptance" by the regulator. COMAH, which will not apply offshore, will introduce this additional dimension by requiring duty holders to prepare a major accident policy and a safety report and prove to the regulator at any time, in particular for the purpose of inspection and control, that all necessary measures have been taken. Duty holders will also be required to provide publicly available information.

COMAH will therefore narrow the gap between on- and off-shore health and safety legislation in the UK, by requiring duty holders to satisfy HSE that their risk assessment and control systems are sufficiently robust to minimise accidents and injuries.

Developments Offshore

The safety regime for the offshore sector had developed largely separately from that for onshore industries, as part of the wider functions of the UK Department of Energy. It had, in fact, lagged behind onshore developments. But once it began to adopt the self-regulatory approach advocated by Cullen, it started to move ahead dramatically - particularly with regard to major hazards control.

Up to the late nineteen eighties, the most serious offshore accidents in UK waters (leaving aside helicopter accidents) had been due to structural causes rather than to escalating fire and explosion. Thus, the offshore safety regime concentrated on the inspection and certification of installations and a range of specific operational and hardware requirements, largely in prescriptive form.

On 6 July 1988, 167 men died in the explosions and fire on the Piper Alpha fixed oil production platform in the North Sea. This was the biggest death toll in an industrial accident in Britain for over 50 years; and the largest ever apart from mining catastrophes.

Prior to Piper Alpha, the offshore safety regime had mirrored many aspects of shipping law. The Mineral Working (Offshore Installations) Act 1971 and a whole raft of highly prescriptive Regulations had been unaffected by the reforms recommended by Robens: his modernising approach to health and safety, including the Health and Safety at Work etc Act 1974, had not been applied offshore.

In his report into the Piper Alpha disaster, published in October 1989, Lord Cullen recommended that HSC/E take over responsibility for offshore health and safety from the Department of Energy.

Lord Cullen suggested that such a high degree of prescription meant that regulations would become outdated in relation to technological advances, with the danger "that compliance takes precedence over wider safety considerations; and that sound innovations are discouraged". This was quite a distinct echo of the views expressed by Robens fifteen years before.

Cullen compared onshore and offshore regimes and recommended that offshore safety requirements should be modernised along similar lines to the strategy for managing major hazards onshore - a powerful endorsement of the continuing validity of the Robens principles. His central recommendation was that a safety case regime, similar to that onshore and following the established principles of identification, prevention and mitigation/protection, should be developed for offshore installations.

Safety Cases

The **Offshore Installations (Safety Case) Regulations 1992** came into force on November 1992. By November 1995 - just over a month away - all fixed and mobile installations must have a safety case accepted by HSE before they can legally operate in UK waters.

The offshore safety case must demonstrate two things:

- that there is an effective system of management of all health and safety hazards on the installation, together with a system of independent audit; and

- that all hazards that might cause a major accident have been identified and controls put in place to reduce the risks to people as low as is reasonably practicable.

Both onshore and offshore regulations use a definition of "major accident" to limit the scope of safety case reports. The definition onshore is concerned with accidents arising from "uncontrolled developments leading to fire, explosion or major emission", which may harm people or the environment. Offshore, the definition is much wider on health and safety of people but does not cover risks to the environment. As well as fire and explosion hazards, the offshore safety case must consider the potential for major structural damage or loss of stability (for example, from a ship collision), a helicopter crash onto an installation, a diving accident, or any other accident with potentially very serious consequences for the people living and working on the installation.

Earlier, I said that all offshore installations operating in UK waters will require a safety case, accepted by HSE, by the end of next month. The Safety Case Regulations required all installation owners and operators to submit their safety cases for assessment by the end of November 1993. We received 216 safety cases at that time. Completing the assessment of the first round of safety cases within the statutory deadline has called for considerable effort both from industry and from HSE. Progress was slow at first but was speeded up by simplifying the assessment process and our guidance. Of particular help was when we agreed with industry that each operator should submit an "examplar" safety case which we would assess first, so that general issues could be settled at an early stage and a pattern established for dealing with safety cases from that operator. Also important has been the forum we set up of top managers from OSD and from the employers' organisations across the industry, which meets every 2 months.

New Legislation

To underpin the new Safety Case Regulations, Lord Cullen also recommended a comprehensive review and reform of all existing offshore safety legislation, based on a goal- setting approach and taking the form of stated objectives to be met, rather than requirements for detailed measures to be taken. As he pointed out, prescriptive regulations soon become outdated in relation to technological advance, with the danger

that technological development becomes stifled. In addition, prescriptive regulation can result in priority being given to compliance with the regulation, rather than actually ensuring safety.

After extensive discussion with the industry and trade unions, three new sets of regulations have been devised. These are:

- the **Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995** (PFEER);

- the **Offshore Installation and Pipe-Line Works (Management and Administration) Regulations 1995** (MAR); and

- the **Offshore Installations (Design and Construction) Regulations** (DCR).

PFEER and MAR came into force on the 20 June this year. A consultative document on DCR was published in July and regulations are expected to come into force early next year.

You will be interested to note that MAR and PFEER between them got rid of three whole sections of Acts of Parliament, seven whole sets of regulations and 25 individual regulations. DCR will add to this total. This amounts to revoking over 80% of the previous prescriptive legislation. So we are at the same time improving safety standards and following the Government's Deregulation Initiative by reducing burdens on business, in terms both of the volume of legislation and of restrictive, unnecessary requirements.

PFEER, together with its accompanying Approved Code of Practice, specifies goals for preventive and protective measures for managing fire and explosion hazards and for responding to them in emergencies. The Regulations are generally expressed as broad goals to be met, rather than specific requirements, allowing operators the flexibility to develop detailed arrangements in the light of hazards, plant configuration and other circumstances specific to the installation.

MAR reforms existing requirements concerning the management and administration of installations and connected activities.

DCR will underpin the Safety Case Regulations still further by requiring more specific objectives to be met in order to ensure the structural integrity of installations. They will also contain requirements aimed at ensuring the integrity of sub-sea wells, and requirements to ensure the safety of the workplace environment. They will also contain arrangements for a scheme of verification to replace the present certification regime. Operators and owners of installations will have to obtain verification from a competent and suitably independent body, that the safety critical aspects of installations have been properly dealt with.

The Changing approach to Enforcement

It follows that, if the nature of the legislation changes, then so must the regulator's approach to enforcement. Traditionally, enforcement has been based on the regulator checking compliance with prescribed legislative requirements. But if the law no longer describes in detail precisely what is expected of duty holders, then clearly the regulator needs to modify the traditional "inspection" approach.

In HSE - particularly Offshore Safety Division - we have moved away from inspection towards audit. As legislation becomes increasingly goal-setting, it is incumbent on duty holders to fully set out their approach to health and safety. I have described how offshore safety cases must demonstrate that all potential hazards have been identified, that adequate controls are established to reduce risks to people, and that such controls are effectively managed and audited.

HSE's role is to ensure that those controls and management systems are sufficiently robust, that they incorporate current appropriate best practice and that they are complied with by the duty holder. This, in turn, impacts on the role of "the inspector". Whereas, under prescriptive regimes, inspections might primarily consist of checking that every dot and comma of the law was being complied with (regardless of whether or not there were better ways of doing things), under the goal-setting approach the inspector must be capable of exercising judgements about the integrity and thoroughness of the duty holder's safety case and able to satisfy him or herself that duty holders are adhering to their own laid-down procedures. The transition from checking compliance with a list of mandatory requirements (almost a tick-list approach), to exercising difficult professional judgements in a technologically complex industry which is changing at a fast rate, has been something of a sea change.

If goal-setting has been a difficult concept for industry to adopt, it has been equally difficult for us, the regulator: we are all surmounting a steep learning curve.

Conclusions

The new offshore regulations have the support of the industry management and workforce, both having contributed greatly to the drafting of the new legislation. They force operators to think, to assess and justify what is being done. They enable us, the regulator, to concentrate on challenging and testing, in a constructive sense, what operators are doing, rather than just telling them what to do. This I believe is the most desirable relationship between the regulators and the regulated.

HSE's aim is to facilitate the development of a true safety culture, thereby moving us towards Lord Robens' "Sunny Uplands". I believe that we have moved a substantial way towards achieving this within the offshore industry. Similar steps are now underway for land-based UK industry.

I hope this has set the scene for what promises to be an enlightening Conference.