

Health and safety 3 years on

Alastair Hay traces the teething trouble of the UK Health and Safety Commission since its inception in 1974

WHEN the UK Health and Safety at Work Act (HSW Act) received the Royal Assent on 31 July 1974, a single agency—the Health and Safety Commission (HSC)—was brought into being. It was charged with securing the health, safety and welfare of people at work, and of the public out of work. The Commission has a Health and Safety Executive (HSE) to implement its decisions and coordinate the safety work previously carried out by separate agencies dealing with occupational safety and health, explosives, nuclear installations, factories and employment medical advisory services. Three other agencies were also allocated to the HSC and, in spite of considerable pressure to return them to their former status, have been retained by the Commission. They are the inspectorates for mines and quarries, farm safety, alkali and clean air.

The HSW Act states that the Commission shall consist of a chairman and "not less than six nor more than nine other members" to be appointed by the Secretary of State for Employment. At the moment the Commission has eight other members. Employers' organisations in the form of the Confederation of British Industry (CBI) appointed three, the Trades Union Congress (TUC) nominated a further three, local authority organisations two more. Although several nominations have been considered for the ninth post no single nominee has proved acceptable to both employer and employee representatives on the Commission. CBI nominees have been vetoed by the TUC representatives and vice versa. According to one member of the HSC this political infighting was only to be expected in the creation of a new organisation. It had in no way affected the work of the Commission which, he said, was "going well".

Evidence that both sides of industry are cooperating well on safety issues is provided by the safety representatives' legislation due to come into force on 1 October 1978. This provides for trades unions to establish 'safety watchdogs' in work places throughout the UK; 150,000 'watchdogs' are likely to be appointed, according to HSC estimates. When the measure was first proposed, CBI representatives opposed it, fearing that it would increase the power of trade unions; but, with no machinery other than the unions for negotiating with workers in industry, their opposition was short lived.

A further threat to the legislation was posed by expenditure cuts implemented by the government. In fact the cuts would have stopped the legislation had the CBI and TUC not put pressure on the government to secure the measure. By this time both organisations were agreed that the legislation was important. As the coal mining industry has had safety representatives at the work place for many years, the pressure is not entirely new. But its success in the coal industry is undoubtedly one reason for the HSC introducing it into others. It is also, say the HSC, the only way of ensuring that people can participate actively in decisions affecting their own safety.

Placing responsibility

The 1974 Act is quite explicit when it places responsibility for safety at work; it is the duty of every employer to ensure, "as far as is practicable", that his employees are not "exposed to risks to their health and safety". The HSE's factory inspectors have the task of ensuring that the law is enforced in the factories of manufacturing industry in the UK. In the past these inspectors had to be generalists, each one being responsible for about 500 different premises. Today there is a different strategy: inspectors concentrate on specific problem areas. A new class of specialist inspectors is being trained who will be better able to advise local safety representatives.

These inspectors are well armed too. If any employer does not comply with an 'improvement order' an inspector can issue a 'prohibition order' to stop a particular activity. In the HSC's report for 1974-76, inspectors are reported to have served 5,433 improvement notices, 1,951 immediate, and 799 deferred prohibition notices. Of the 44 appeals lodged against these notices, 31 were withdrawn, some were modified but in no case was a notice cancelled. In the HSC's view this outcome is "very satisfactory"; the Commission's inspectors are using their legal powers, but with prudence.

Prohibition notices are unlikely, however, to be served on the directors of research laboratories in the UK. According to Audrey Pittom, the Director of the Hazardous Substances Division of the HSE, "enforcement or spot checks are not necessary for research institutions". In Miss Pittom's view, scientists obviously need to exercise care in the laboratory. But she ac-



VCM worker with personal monitor

knowledges that most scientists are usually well versed in the hazards involved in their work. She says that the HSE feel that it is the large scale production processes in industry that present the real dangers. It is in these circumstances, where there is a long chain of command with no single individual responsible for the whole operation, that problems arise; this, she adds, is not the situation in the laboratory.

In laboratories where the staff are organised in trade unions, safety representatives with legal powers will be appointed by October 1978. Many well run laboratories already have safety officers so this measure is unlikely to bring about any serious disruption. It will probably be those laboratories engaged in work of a multidisciplinary nature where scientists, adequately trained in one field, can venture into another, which will come under closer scrutiny. This is an area of concern for many laboratory safety officers who argue that the technicians employed in these laboratories are often unaware of the dangers they run, either because they have not been told or simply because their employer's don't know the hazards themselves.

Genetic engineering

One of the HSC's proposals has been viewed as a serious provocation by sections of the scientific community. It concerns the Commission's all embracing definition of what should, or should not, pass for genetic engineering. The Commission feels that there must be regulations to cover this useful, but potentially dangerous research field. Its guidelines, put forward in a discussion document last year, were deliberately all-encompassing: in the words of a spokesman for the HSC it "did not want to leave anything out". The definition certainly did not do that. In fact one commentator remarked

ironically that the definition was so broad that it would even preclude consumption of a bowl of yoghurt.

But this was not the only response from scientists to these proposals. Reaction was often far more extreme. Some biologists attacked the recommendations with a fervour bordering on hysteria, principally, says the Commission, because they were not fully informed of the reasoning behind the proposals. The Commission feels that some over-reacted, others were initially slightly misguided, but that the majority discussed the recommendations rationally. Note has been taken of these discussions and the Commission is now proposing a more selective definition of genetic engineering. It has yet to be approved by the Secretary of State for Employment.

On the subject of industrial carcinogens, the HSC view is unequivocal; industry must take more effective measures to reduce the risks. Inspectors in the HSE point out that workers in specific industries are still developing cancer. More and better surveillance is necessary. The HSC uses as its guidelines the recommendations of the 59th sessions of the International Labour Conference on the prevention and control of occupational hazards from carcinogens.

As a first step to limiting the spread of carcinogens, the HSC is preparing a notification scheme for all new substances. Where the quantity manufactured in, or imported into the UK exceeds 1 tonne per year, advance information on the substance's toxicological properties must be sent to the HSC. Substances already in use before the introduction of the scheme are exempt from its provisions unless there is evidence that they present a particular hazard.

Included in the toxicological details will be information about potential carcinogenic properties. As industry will be required to do its own testing, this will have to be done according to a protocol agreed with the Commission. Animal studies are still regarded by the HSC as the most effective for determining carcinogenic potential. But as they are expensive, the Commission argues that they are not feasible as screening tests for large numbers of new substances; the short term tests now available are more practical. Two short term tests favoured by the Commission are the Ames test—for assessing mutagenic properties in bacteria—and *in vitro* cell transformation in cultured cells. It is the Commission's view that the results of these tests, as well as other factors such as chemical structure, nature of exposure and the number of workers exposed, should be considered in assessing whether addi-

tional tests are necessary. Some scientists point out that co-carcinogens are not covered by short term tests, and they add that some attention must be devoted to this problem.

The Commission is unlikely to ban substances, however, simply because they are carcinogenic. The activity of the carcinogen, its use in industry and its manufacturing process will be considered before resorting to a banning order. The Commission feels that cleaner manufacturing techniques could reduce the risk to workers from some carcinogens. Audrey Pittom cites the case of vinyl chloride monomer (VCM) as a substance, which can be "control(led) without prohibiting". VCM, an important polymer in industry but linked with the deaths from angiosarcomas of a former ICI employee and a worker at British Petroleum, is now subject to far stricter manufacturing procedures than existed in the past. Thus vinyl chloride, once even mooted as a potential anaesthetic, has escaped the prohibition notices served on some chemicals in the UK, such as β -naphthylamine and benzidine.

In the final analysis it is epidemiological evidence which is necessary for assessing the carcinogenic risk a substance carries for humans. To assist with this, the HSE, and TUC in particular, would like to see industry keep better general medical records of employees. A few specific industries do keep this information but the TUC feels that all industrial concerns should do likewise. Some argue, therefore, that it is almost certain that pressure will be exerted on the government in a year or two to introduce amending legislation to the HSW Act to secure this end.

Unlikely measure

A measure not likely to be adopted in the UK in the fight against carcinogens is the proposition put forward by doctors representing two German chemi-

cal giants—Hoechst of Frankfurt and Bayer of Leverkusen. The doctors suggested that older workers be employed in plants manufacturing dangerous chemicals on the basis that a more experienced workforce exercised more care in handling toxic substances, and that if there was a latency period of 20–30 years between first exposure and the development of cancer, these workers may be less at risk of developing cancer than their younger colleagues.

The companies made it plain that they had never adopted this practice themselves and a spokesman for Hoechst said that it might be possible to implement the decision in smaller factories, but not in one as large as his. Reaction to the proposal in Germany from the Ministry of Labour, members of parliament and trade unionists was understandably hostile; it is hardly likely to be adopted. In Britain, Mr Bill Macmillan of the Chemical Industries Association thought that the proposal was an "interesting approach" but he insisted that it was "not one we apply in Britain, nor is it one which as far as I am aware had ever been considered in this country". Spokesmen for both the HSE and one of the larger chemical unions in Britain said that the suggestion was "politically unacceptable". The real flaw in the Hoechst suggestion as far as the HSE spokesman was concerned, was that if there was a risk of someone being exposed to a carcinogen it would be impossible to restrict the substance merely to the factory confines and prevent other people in the environment being exposed.

Thus the HSC and its Executive have to look at safety measures from both a political and technical standpoint. The Commission has had to exert some political muscle to resist pressure from mining and agricultural interests to have their safety inspectorates detached



Heat exchangers at VCM plant

from the HSC and reinstated in their former guises. Attempts to have the Alkali and Clean Air Inspectorate returned to the Department of the Environment have also met with little success. But this should come as no surprise, for few governments would wish to see their own creations dismembered so early in life, and the HSC

is after all a protégé of a Labour government, albeit its second term in office.

It remains to be seen whether future British governments take the demands for dismemberment more seriously. By that time, however, most of the arguments in favour of such a measure will no longer apply, for the various in-

spectorates will be more coordinated, and existing and proposed legislation will be more in tune. As for the 1974 HSW Act, the results of that legislation can only be judged some years from now. Many are in no doubt that the Act will be shown to have achieved its objective, that is, a safer working environment in the UK. □

Protecting production or workers?

In November 1974, the British Society for Social Responsibility in Science reported in *Nature* on its work on vinyl chloride monomer. The Work Hazards Group of BSSRS sent *Nature* this update of its activities:

OVER the past three years, BSSRS has expanded its hazards programme with the aim of providing information to those directly at risk on the factory floor and to community groups directly affected by industrial hazards. We now publish *Hazards Bulletin* five times yearly which includes material on particular hazards, developments in health and safety legislation, legal cases and trade union struggles for health and safety in the workplace. Pamphlets on noise, oil, vibration and asbestos dust provide more comprehensive analyses of the effects of these hazards and how to fight them. Our hazards enquiry service now receives 50-75 enquiries per month. Local hazards groups work within trades councils, local trade union branches and community groups on health and safety issues, and we talk directly to safety representatives and shop stewards on day release safety training courses organised by concerned members of the trade union movement. This direct contact has been invaluable to our work.

While we have been developing our work at the rank and file level, worldwide concern about environmental hazards has increased. The enormity and horror of the disasters at Flixborough and Seveso, the struggle of the inhabitant of Minimata Bay to obtain compensation for the damage done by mercury poisoning, the poisoning of the state of Michigan by PBB, the militant demonstrations against fission reactors in France, West Germany and the United States, have all forced the scientific communities in industry and the universities to begin a more systematic evaluation of the hazards of old and new technologies. So far, unfortunately, this response has been grossly inadequate, reflecting a remoteness from the problem and a lack of fundamental concern for those who are directly at risk.

A conference on risk held at Imperial College, London, last May and organised by the Council for Science and Society (CSS) and the ensuing leaders and articles in *Nature* (19 May, 26 May) expressed fundamental differences of approach between our work and current academic and industrial considerations. The dominant note struck at the CSS conference and echoed in the pages of *Nature* is the need to guarantee production. Health and safety issues are secondary to the needs of maintaining and increasing production. While this approach is understandable from the point of view of those responsible for planning the economy it is unacceptable

to those directly at risk in the factories and the neighbouring communities. Significantly, trade unionists and community groups are virtually excluded from conferences such as the one organised by CSS where the issues are discussed and where policy begins to be formulated.

Aside from the inexcusable absence of those directly affected by the discussions and the decision making, there are fundamental problems when the emphasis is on guaranteeing production first and safety second. Such protection as is provided involves enclosing the worker in cheap protective clothing rather than enclosing or redesigning the production process itself. Industry sees the problem as protecting the operation and design of the process, an attitude which characterises a number of industrial approaches to health and safety.

The first approach is a reluctance to accept that a hazard exists. The asbestos industry still claims that there is no risk to the general public from asbestos (remarks of Alex A. Cross, chairman, standing committee, International Asbestos Information Conference at Asbestos Information Association Third Annual Industry-Government Conference, September 8-9, 1976). The second approach is to accept that a hazard does exist but that it is small. This leads to the notion of acceptable risk and threshold limit values (*Hazards Bulletin* 7, July 1977) in an effort to quantify the argument. In the case of asbestos, standards are set at 2 fibres per cc, which is a factor of ten greater than that demanded by the trade unions representing the majority of workers exposed to asbestos. Our evaluation of the literature leads us to give unqualified support to this very minimal trade union demand and we have urged trade unions to ban asbestos and get it replaced with the numerous safer alternatives that are commercially available (*The Asbestos Hazard*, Birmingham Hazards Group, 67 Woodstock Road, Birmingham 13).

A third argument employed when faced with an apparent contradiction between production and safety is to compare the risk with other already existing dangers. The use of fatal accident frequency rates (FAFR) frames this approach. According to FAFR statistics, which ignore occupational disease, non-fatal crippling accidents, the effects of shift work and other debilitating hazards, mining is less hazardous than driving a car. Such an argument paints a picture of the public as being irrational in opposing one hazard while seeming to accept another without protest. The *Nature* leader (19 May) supports this argument without recognising that there is no mechanism for car drivers to affect their hazard directly. The sensation

generated by Ralph Nader's book, *Unsafe at Any Speed*, shows how much interest there is in automobile safety and at the same time how difficult it is to mount a campaign for it. The crucial difference between these 'widely accepted' hazards and hazards at work is that people at work have the organisation, numbers, and power to effect change. The use of this inappropriate comparison serves to blunt the force of the basic demand for adequate health and safety precautionary measures. It is shocking to realise that for the vast majority of fatal accidents at work the hazard is recognised and the safeguards are known (*Accidents in Factories*, HMSO 1971).

The fourth and most critical argument is the claim that adequate protection is simply too costly. Mr Jack Sheppard, managing director of Turner and Newhall, one of the biggest asbestos fibre processing companies in the world, testified at the Government Advisory Committee on Asbestos that the TUC demand of 0.2 fibres per cc would close the UK asbestos industry entirely. The forced choice between jobs and the environment has been one of the most effective methods of getting people to accept unsafe living and working conditions. This can only be fought effectively by supporting the health and safety struggles in other countries and trying to prevent the export of hazardous operations to countries with less stringent requirements.

The BSSRS Work Hazards Group disagrees completely with the management approach of protecting the process. First, not only do we ask if it is safe, we ask, who is it safe for? Present industrial safety considerations are confined at best to the general public and express little concern for the workforce itself. Second, we ask, who pays for the cost of safety? If government or industry decides not to pay, this does not mean that the cost vanishes. Far from it. The individual affected pays the cost in poor health, lost wages and early death. This is a shifting of cost, not the saving of money. In the Robas Report, accidents were estimated to cost the nation 0.8% of the GNP. Third, in our practical work with trade unions we support the view that no matter how much information they may have, there is still a fundamental difference in perspective between the worker on the shop floor and the requirements of management.

It is this conflict between those who control production and those who need safety, between those who assign the risks and those who are exposed to them that must be acknowledged. There is a continuing need for scientists and technologists who are prepared to acknowledge this conflict to help make available to working people the information they need to ensure their health and safety.