ECN technology

File - PCBs

Factory Inspectorate criticizes safety record of multinationals

THE first review of the activities of the UK's Factory Inspectorate since the introduction of the Health and Safety at Work Act contains a criticism of the safety performances of the smaller subsidiaries of multinational companies.

The Accident Prevention Advisory Unit, examining the safety records of the subsidiaries of various large concerns, has reported that in some cases it has been unable to achieve a lasting improvement after the identification of a hazard even by persuasion or prosecution.

It intends to extend its approach to higher levels of larger organizations where it feels directors, although genuinely ignorant of conditions, are to be condemned for their lack of competence and lack of compliance with the law.

It also comments, in a discussion of carcinogen problem, that a strictly controlled use of carcinogens is at present unavoidable and that a policy of prohibiting all carcinogens, although attractive, is unfeasible; the continuing development of a major hazards policy for the guidance of local authorities considering planning applications is also reported.

Carcinogens/Major Hazards

Commenting on the UK interim hygiene standard for vinyl chloride (50ppm maximum, 25ppm time-weighted average), the Chief Factory Inspector's report states that, although the US standards have been reduced to a 5ppm ceiling and a 1ppm time-weighted average, these standards are recognized as being not reliably attainable. Bearing in mind the more stringent monitoring requirements outlined in the UK code of practice, the report suggests that the UK standard is satisfactory, since no risk can be positively demonstrated in humans at 50ppm or below.

In the PVC processing sector, the Employment Medical Advisory Service (EMAS) is carrying out further epidemiological studies to see whether any cases of angiocarsima can possibly be associated with the low exposure levels found in this sector.

he report echoed comments made earlier this year by Barry Barnes, chairman of the CIA's VCM committee, pointing out the "unity of purpose" which had characterized the deliberations of the government/industry/union tripartite working party which drew up the code of practice.

Other suspected carcinogens which attracted study during 1974 included methylene - bis - o - chloroaniline, bis chloromethyl ether, mineral oil (solvent refined), coke oven emissions, propane sultone, antimony, vinylidene chloride and inorganic arsenic.

Within the Major Hazards Branch of the Inspectorate, set up after the Flixborough disaster to develop policy for the control of large-scale hazards, a multidisciplinary Risk Appraisal Group has been formed to give advice to planning authorities.

Previously authorities had to rely on a potential hazard list compiled by relating the potential hazard to the quantity of material stored.

One area selected for particular mention by the report was the control of highly exothermic chemical reactions. It is suggested that it is imperative that any interruption in circulation of the cooling media controlling the heat generated in these reactions should actuate effective alarms and also shut down the reaction if this is necessary. This is because of the greatly reduced margin of safety in the event of any deviation from normal conditions.

The report refers to 14 incidents resulting from runaway reactions since 1970 which occurred from three main reasons; instrumentation errors, imprecise operator instructions and mistakes by operators.

Compromise likely in EEC pollution quarrel

A COMPROMISE solution to the problem of establishing emission standards as the most effective means of controlling pollution of the EEC's aquatic environment was being considered at the meeting of Council Environment Ministers this week.

During discussions, which have continued since the UK vetoed the original proposals in October, a solution was devized involving the possible bypassing of the proposed emission standards requirement "in cases where a member state is able to show that quality requirements are fulfilled on its territory." This would allow a parallel operation of both quality standards and emission standards.

If the Council adopted such a proposal it would solve the problem posed by the UK's continued refusal to accept blanket emission standards.

A UK Chemical Industries Association statement last week confirmed its position: "We see no justification why the UK industry should be forced to meet unrealistic standards, however suitable such standards might be to highly polluted rivers like the Rhine."

The problem of emission or quality standards concerns the "black list" of persistent pollutants only, other questions which remain to be settled include the arrangements to be made to control emission of the "grey list" of less harmful pollutants, the control of the emission of black-list pollutants in underground waters, and the dumping of waste at sea which the FRG and Dutch delegations wish to see prohibited.

Dow Chemical to market replacement for PCBs

DOW Chemical and McGraw-Edison have reported the development of a new dielectric fluid to replace the increasingly undesirable polychlorinated biphenyls (PCBs).

Based on alkynated chlorodiphenyl oxide, the new fluid is claimed to be between 20 and 36 times less toxic to fish than PCBs and appreciably less so to animals. It is claimed to be more biogradable and more easily disposed of.

The result of three years' development and testing, the new fluid should be marketed by Dow early in 1976 and McGraw-Edison plans to begin using it in its capacitors by the middle of the year.

The development comes amid increasing pressure for a total ban on the use of PCBs, following their continuing detection in the environment in the USA, even three years after a voluntary restriction on their supply by the sole US producer, Monsanto (except to users with closed-system electrical applications).

Previously reported alternatives, however, have been limited to one recent proposal from Dow Corning for the use of polydimethyl siloxane, which is being used successfully in Japan; its suitability was, however, refuted by General Electric, a major PCB user, who claimed that there was no satisfactory substitute for PCBs for electrical applications.

Systems group to study chemical investment cycle

THE dynamics of the Chemical Plant Investment cycle in the UK is to be the subject of a research project at the University of Bradford. The System Dynamics Research Group has been granted an £8 000 grant by the Social Science Research Council to examine the possibility that a policy change in either chemical manufacturing, plant design or hardware fabrication industries might allow a reduction in the yearly variation in plant orders which seriously affects the competitiveness of UK contractors.

MONS 081279