

Dangerous pathogens

New UK committee

The long-awaited reorganization of the British mechanism for regulating research with dangerous pathogens is planned for early in 1981. Last week the Department of Health and the Health and Safety Executive made public the terms of reference of a new regulatory body, to be known as the Advisory Committee on Dangerous Pathogens. The chairman and members of the group, which will replace the Dangerous Pathogens Advisory Group, have yet to be appointed.

The days of the existing advisory group have been numbered since the smallpox accident at the University of Birmingham in August 1978. Set up in 1975, the group was first responsible for drawing up lists of pathogenic organisms supposed to involve various degrees of hazard. The group also advised the Department of Health which laboratories should be licensed to work with organisms in the most hazardous category, category A. Control was voluntary.

The new system will be backed by the statutory requirement that laboratories planning to work with dangerous pathogens should first notify the Health and Safety Executive (HSE) of the people who will be involved and the experiments planned, giving at least 30 days' notice. The draft regulations published by HSE require more cursory notification of other listed pathogens.

Under the proposed arrangements, the new advisory committee will not scrutinize safety arrangements in individual laboratories, which will in future be the responsibility of officials of HSE. Instead, it will be responsible for advising the executive as well as the ministries responsible for health and agriculture on the classification of pathogens, the development of safety procedures and the opportunities for research.

One of the peculiar difficulties of the regulation of dangerous pathogens affects the working of medical diagnostic laboratories, which cannot know in advance whether a corpse on the slab has been laid low by, say, lassa fever. The proposed notification regulations will not apply to such laboratories, which will nevertheless be required not to carry out

Schedule 1 pathogens

Crimean haemorrhagic fever virus (Congo)
Ebola virus
Jumin haemorrhagic fever virus
Lassa fever virus
Machupo haemorrhagic fever virus
Marburg virus
Rabies virus
Simian herpes B virus
Smallpox virus
Venezuelan encephalitis virus

further work with schedule 1 organisms without going through the full procedure.

The composition of the new advisory group has been settled only in outline. There will be five employers' representatives drawn from universities, public health laboratories and the like, five representatives of employees' organisations and ten scientific members, together with a chairman.

For researchers in British laboratories, the chief consequences of the proposed arrangement will be that in future control will have the force of law. Failure to notify will be an offence, as will be failure to follow approved codes of practice.

Soviet geophysics

Drilling deeper

Soviet geophysicists have had to rethink their models of the deep strata beneath the European part of the USSR, after processing the preliminary data from the super-deep borehole now being drilled on the Kola peninsula. And, according to Professor Vladimir V. Belousov, head of the Scientific Council on the Earth's Crust and Upper Mantle of the Department of Earth Sciences of the Soviet Academy of Sciences, two and possibly three more such holes will be started in the near future.

The Kola bore can advance at a rate of some 10–12 m per day, and has now passed a depth of 10,000 m. It is sited in an area thought to be geologically "dead", and without risk of earthquakes or volcanic activity. Core samples, however, have revealed that cracking extends to considerable depths, and at these levels, at a temperature of about 150°C, significant quantities of aqueous solutions, carbon dioxide and helium provide evidence of high geological activity.

This remarkable level of activity is not the only surprising result to have come from the Kola bore. It had been predicted that a transition from granites to basalts would be observed at a depth of about 7,000 m, and that, as the bore-hole went deeper, the angle of inclination of tilted strata would gradually flatten out. But so far it has been granite all the way, though of increasing density, and the angle of inclination of the strata remains constant.

The Kola bore has still another 5,000 m to go before it reaches its scheduled depth, but already some of the preliminary data are being used in planning prospecting for new mineral deposits. The other projected bores will also have their practical aspects — the Tyumen' bore will look for deep level oil and gas deposits in Western Siberia, while the Tagil bore will investigate the "foundations" of the Urals — an important range mineralogically.

The most exciting proposal under consideration would entail drilling a bore at the foot of the Avachinskaya Sopka — a large and active volcano in Kamchatka.

Vera Rich

Uranium deposits

France backs basics

Paris

A £1 million laboratory opened last week at Nancy seems intended to give France an incontestable world lead in uranium geology. Nicknamed CREGU, the laboratory will poach its director, Dr Bernard Poty, and five senior staff from the institute next door — the Centre de Recherche Pétrographique et Géochimique, which has already established a lead in using microscopic laser Raman spectroscopy to analyse fluid inclusions in ore-bearing rocks. Such inclusions are expected also to give a clue to the formation of uranium ores — a complex process because of the extreme geochemical mobility of uranium, and the low concentrations of economically significant ores.

CREGU itself is a £400,000-a-year five-year experiment. Its £1 million buildings are a local enterprise, rented to the Commissariat à l'Energie Atomique and the five principal uranium prospecting firms in France. The Centre National de la Recherche Scientifique (which runs Poty's old lab) will pay the scientists' salaries. After five years, a council composed of members of the sponsoring organizations will decide whether the enterprise has been a success, and if it should continue.

To be successful, the new laboratory will not have to devise revolutionary methods for detecting uranium — though nobody denies this is the long-term aim of the investment. (In fact a proposal that CREGU should look at empirical methods of prospecting using magnetic anomalies was rejected by the laboratory's council.) Rather, it will attempt to extend the very sketchy existing knowledge of how the ore is formed. It is here that the fluid inclusions are significant, for they are relics of the fluids which deposited the ore — but they are so tiny that they have evaded detailed chemical analysis. CREGU, it is hoped, will solve this problem with its Raman techniques.

Other mining interests in France are watching the new laboratory carefully. It will help to train students and to retrain prospecting uranium geologists; and as ores of other minerals become economic at increasingly lower concentrations, greater and greater scientific subtlety is required in the detection of ores, and the judgement of the economic value of potential mines. So, it is believed in France, activities such as GREGU's, bridging basic science and industry, will become increasingly important.

Robert Walgate

The title 'Soviet science: relations forsworn', *Nature* 23 October, p.672, should have appeared at the top of the left-hand column of the page, to head the article by Vera Rich. The article by Robert Walgate should have been entitled 'Nuclear waste: West German problems'.