

THIS WEEK

Secret tests gauge effects of nuclear blasts

Steve Connor

B RITISH scientists have taken part in secret experiments in New Mexico to test the government's plans for civil defence in the event of nuclear war. The experiments, which ran from 1981 to 1985, involved a series of three tests with high explosives to mimic the sort of blasts expected from low-yielding nuclear weapons. Neither the results of the trials, nor their existence, were mentioned in the Home Office's new advice on civil defence, published last week. But the findings have prompted the government to produce new, more pessimistic, estimates of the number of people likely to die from nuclear blasts.

The Home Office did tell its regional scientific advisers—who liaise between central and local government on the scientific aspects of civil defence—about the trials. The first trial, in 1981, was called Mill Park, the second, in 1983, Direct Course and the third, in 1985, Minor Scale. The scientists ignited mixtures of ammonium nitrate and fuel oil to trigger explosive blasts of around one kiloton, equivalent to 1000 tonnes of TNT.

All the trials took place at the White Sands Missile Range in New Mexico, and scientists from the University of New Mexico also took part in the tests. Results from the experiments are likely to be shared with the US government's own advisers on civil defence.

In two of the trials, Direct Course and Minor Scale, the scientists from the Home Office built a semi-detached house out of similar building materials to those used in



Ken Bolland

Going underground—but is it safe?

below ground to study the effects on them of explosive blasts. The Home Office's civil defence scientists have told the regional advisers that the British shelters performed rather poorly.

The advice from the Home Office on the effects of nuclear weapons has come under attack in the past for being inaccurate. Figures issued by the Home Office to assess the effects of blast, for instance, were lower than those quoted in other countries, notably the US, and by other scientists in Britain who had studied the phenomenon independently.

The Home Office issued its Revised Blast Casualty Rules last September. It admits to having underestimated the effects of a nuclear blast in the past. The data from the tests in New Mexico evidently support critics who claim inaccuracies in the Home

Office's previous estimate of damage from explosive blasts.

The publicity material released by the Home Office last week says that a blast from a nuclear bomb "takes the form of a shock wave travelling faster than the speed of sound". Such a blast wave "is particularly destructive and would cause a high proportion of the casualties".

The new data on blast, which the Home Office now agrees are correct, do not seem to have reached the Home Office's own Civil Defence Training College at Easingwold near York. According to Philip Webber, a senior emergency planning officer for South Yorkshire, the college is still basing its training of local authority staff

on the old figures.

Webber says, for instance, that the college draws a radius of 3.6 kilometres round the "ground zero" of a 1-megaton blast, an area that corresponds to heavy damage. In fact, the radius should be 4 kilometres. Webber, who has studied the effects of such blasts on London, says that the revised death toll from a blast among people living in an urban area would be 200 000 more.

The Home Office has replaced a pamphlet called *Protect and Survive* with a brochure and a quarterly publication, both called *Civil Protection*. The publicity campaign is costing £800 000 in the first year of a three-year public relations exercise. The emphasis is on dealing with all types of civil disasters, not just nuclear war. □