in remote places was now possible. The minister was acting on advice given him by the Nuclear Safety Advisory Committee, which had said that the principal safeguard to public health came from the high standards of design, construction and operation of nuclear stations. For gas cooled reactors built in pre-stressed concrete vessels, it was clear that it was safe to build them much nearer to cities than had been customary. Mr Marsh said that this meant any area with a population density sufficiently light to evacuate the people within a range of 1·5 to 2 miles in the unlikely event of an accident. He agreed that this included the areas around Hartlepools and Heysham, both possible sites for nuclear stations.

The decision raises some interesting issues. Although most people agree that a relaxation of the restrictions is timely, particularly in Britain where isolated sites are hard to find, the decision of the committee refers only to British gas cooled reactors. What would happen if the generating boards decided to build a water reactor in the United States style (as they have sometimes threatened to do) is not made clear. A direct comparison of the safety of the two reactor types has not been made—so far both have a completely clean record, although it has been suggested that gas cooled reactors are inherently safer. The decision also clears the way for the generating boards to replace some of their older coal fired stations with nuclear stations, making better use of sites nearer to towns. As the map shows, all British nuclear stations so far built are in fairly remote areas, which has tended to increase the costs of building and of transmitting the power to the point of use.

In other parts of the world which lack the sophisticated grid system in operation in Britain, the advantages of building near towns may be even greater. This, it is hoped, may help the export of British power stations, perhaps to Germany. As Mr Eric Lubbock mentioned in the short debate in the Commons, a power station is to be built near Ludwigshafen in West Germany; Mr Marsh pointed out that another is to be built within 20 miles of Hamburg. The fact that Britain is now willing to build as near as this to towns will lend some weight to the tenders made by British consortia. In the United States, Consolidated Edison did once propose to build a station in New York, but were dissuaded by the Atomic Energy Commission. Despite this, the same tendency for generating stations to get ever nearer to towns has been observed in the United States. One of the problems which dictates a cautious advance, however, is the way in which the size of nuclear stations has increased. In this sense, Mr Marsh is disingenuous to claim that Britain has 132 nuclear years of experience. Until Dungeness *B* starts operating, Britain has no actual experience of a commercial advanced gas cooled reactor. The experience is on the less sophisticated—and generally smaller—magnox reactors.

Kidney Transplants

THE ethical problems of transplanting organs are to be discussed at a conference announced on February 14 by Mr Kenneth Robinson, Minister of Health. The conference will be chaired by Sir Hector MacLennon, President of the Royal Society of Medicine, and will include lawyers, leading churchmen and laymen as well as doctors. Although the conference will be private, there seems some chance at least of a joint communiqué being issued after it is over. The ministry has emphasized that the purpose of the conference is to discuss the problems that have arisen in the provision of kidneys for transplant operations in Britain, and not to embark on lengthy discussions of the more controversial subject of heart transplants. So far, because there have been no heart transplant operations in Britain, the discussion of the subject has been less acrimonious than elsewhere, but there have already been signs of sharp disagreement. The minister will be hoping to steer the discussion away from such potentially dangerous topics.

Kidney transplantation is a much less heated subject; almost everybody agrees that in principle it is a very good thing. But technical difficulties over the provision of kidneys from donors have at times made the surgeon's task harder than it might have been. Some surgeons feel that the law should be amended so that kidneys could be taken from fatally injured people without consent from relatives. The difficulty here is that the kidney must be removed from the patient very soon after death if it is to be of any use to the patient.

Guidance for Universities

BRITISH universities have now been provided with some cautious guidance on the degree to which lecture rooms and laboratories are being used. This information is the first product of the work of the sub-committee under Mr C. F. Carter, Vice-Chancellor of the University of Lancaster, which has been brooding on the utilization of university facilities for the best part of a year. The report now being sent to universities is based on a survey in sixteen institutions which has been carried out by Mr K. S. Davies, the research officer attached to the project by the vice-chancellors' committee. At this stage it is clear that everybody is anxious not to let the universities feel that they are being coerced into a uniform pattern of teaching, and

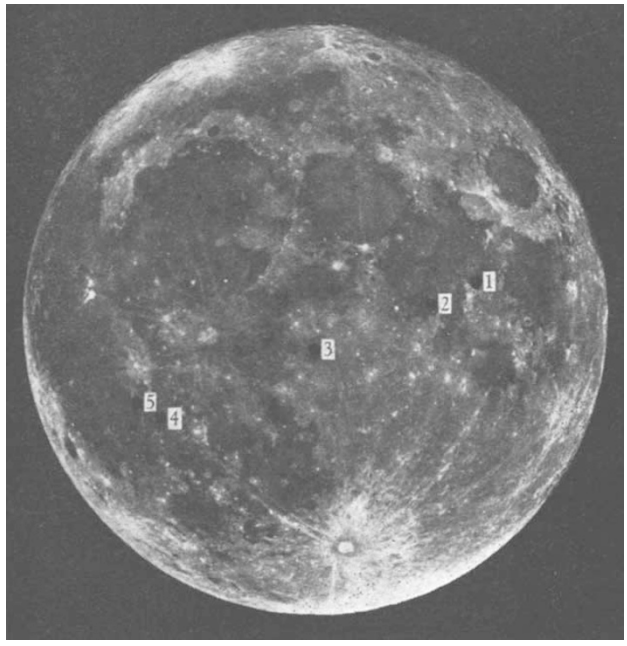
the report is offered as a means of providing "universities with a means of comparing their use of capacity with others". It remains to be seen whether the project will have more to say, in the years ahead, about the ways in which universities should manage their affairs, but the report says that the next step is to estimate what savings and qualitative improvements would be possible "if optimal patterns of use are adopted". Eventually, the argument runs, the universities would then be more able to formulate accurate plans for capital expenditure. The report also looks forward to a kind of advisory service equipped to keep a continuously watchful eye on university practices and able to offer advice about the ways in which universities might get better value for money.

Mr Davies explained, earlier this week, that there is not yet a tangible plan for setting up a continuing organization to superintend the ways in which universities make use of their facilities. The progress report which has now been issued says very little about British university practice in present circumstances, but there is a brief statement that, in the universities already surveyed, the "occupancy factor" of teaching rooms works out at 75 per cent, which is "no mean performance" compared with the average occupancy of 30 hours a week out of 45 in the universities of Washington and California. This brief statement is, of course, quite unconvincing without supporting evidence and has on this account provoked some sarcasm in the daily newspapers. Mr. Davies explained during the week that more detailed information had been circulated to the committee of vice-chancellors, though it is not yet clear whether this is already being used for purposes of comparison by British universities. He emphasized that his enquiries were only at a preliminary stage and explained that in any case the details of his work would not be understandable "to people outside the universities".

Landing Sites on the Moon

THE National Aeronautics and Space Administration (NASA) has completed its selection of landing sites on the Moon for the Apollo astronauts. Five areas, each three by five miles in size, have been chosen by the Apollo Site Selection Board, it was announced last week. Site selection has been achieved through the photographic survey carried out by the Lunar Orbiter series of spacecraft reinforced by the spot checks of the Surveyor landers. At the beginning of the survey programme thirty tentative sites ranged along the Moon's earthward face were under consideration. The observations of the survey spacecraft reduced these to eight "possibles". From these, the board has selected the five target sites and the Apollo men will leave for their mission not knowing which of three they will use.

All five sites lie within a quite narrow band along the lunar equator—within 45° east and west of the visible Moon's centre and 5° of the equator, the so-called Apollo Zone of Interest, where optimum conditions for communications and surveillance from Earth of the astronauts' progress exist. Two are in the Sea of Tranquillity, one in the Central Bay, and two in the Ocean of Storms (Mare Tranquillitatis, Sinus Medii, Oceanus Procellarum). Apart from this, each site has had to satisfy seven other criteria necessary for the safety of astronauts. These are relative freedom from craters and boulders; a smooth approach path without large hills, cliffs or deep craters likely to cause inaccurate altitude signals on the landing radar; a slope of less than 2° over the landing site and approach path; central grouping enabling the least expenditure of propellant by the lunar module; optimum visibility for the approaching astronauts in guiding their craft down which requires that the Sun angle should lie between 7° and 20° and come from behind the craft at landing. This last criterion gives a 1-day launch window each month. The intervals between the sites have had to correspond with the time needed to re-cycle the Apollo/Saturn V if there is a check during initial countdown; and, finally, site location must be within reach of the Apollo "mothership" on a free-return trajectory, that is, where the spacecraft can coast round the Moon and return to Earth without employing propulsion. Altogether this will make a 3-day period each month available for launching the first Apollo flight.



The five sites chosen for the Apollo landing are in the Mare Tranquillitatis (1) and (2), the Sinus Medii (3), and the Oceanus Procellarum (4) and (5).

Contraception in France

GENERAL DE GAULLE'S dream of a French population of one hundred million by the end of the century is not likely to be greatly thwarted by a new French law on contraception, passed on December 19, 1967. Although this law, the Neuwirth law, may well serve to make contraception more respectable, it is in many ways unsatisfactory and has been widely criticized.

The history of events leading up to the formulation of the law reflects the absurdity of the situation. After the First World War, possibly because many Frenchmen had been killed, a notorious law was passed which made contraception illegal. Since then the only method of contraception to which the authorities have turned a blind eye has been the condom, which has come to be regarded as a prophylactic against venereal disease rather than as a contraceptive.