

North York Moors Park, one application to mine potash has already been approved, and the commission fears that two further applications could be successful. It is plain, it says, that considerations of amenity in the parks do not enjoy the priority in public policy that was intended by the National Parks and Access to the Countryside Act of 1949.

In other ways, the commission is more cheerful. It says that it hopes shortly to make recommendations to the government for the protection of more than 2,000 miles of unspoiled or little-spoilt coastline in England and Wales. The first National Park Centre for day visitors, Brockhole on the shores of Windermere, was opened to the public on June 26 and by the end of September it had received 55,000 visitors, which the commission judges to be a success.

With a view to improving the cooperation between hill farmers and the park authorities, the commission is carrying out experiments in the Lake District and in Snowdonia in which the farmers get paid for work they do in improving the appearance of their farms and in providing simple facilities for public access.

On May 24, the second long-distance footpath, the Cleveland Way, which runs for 100 miles across the moors and coast in Yorkshire, was formally opened. There are now nearly 350 miles of continuous footpaths open, and the commission is negotiating rights of way on several other paths that have been approved. All national long-distance paths will be way-marked by the symbol of an acorn.

The commission is pleased with the response of local authorities and some private owners to the Countryside Act of 1968. Eight country parks and seven picnic sites have been recommended for grant aid and have already received approval from the Ministry of Housing and Local Government, and ten other parks and thirteen picnic sites have been accepted in principle by the commission. No new areas of outstanding natural beauty were designated during the year under review, but designation orders are being made for submission to the minister during the next few months. In the National Parks, projects were hampered by restricted Exchequer grants, but there was progress in such matters as nature trails and the provision of car parks, and three more information centres were set up.

COMPUTERS

More Computer-aided Design

TECHNIQUES of design by computer are not being applied as fast as they should be, either here or in the United States, but, if the Ministry of Technology adopts the recommendations made by the Computer-aided Design Committee in its second annual report, considerable progress should be made within the next two years. In making its recommendations the committee was particularly concerned to ensure that there should be a major reduction in the cost of applying the new techniques and that all the resources available to develop the techniques should be brought closer together. The committee gives particular attention to the problems of information collection and retrieval.

The main proposal the committee makes is that the government's protégé, International Computers Ltd, should be "induced" to take overall design authority for a workable design system in line with its present programme of computer development. This would

include the supervision of the interfacing of graphic display systems and the provision of software for them, and would be an extension of ICL's work in managing the CAD Centre at Cambridge, suggested by the committee's first annual report. Mr A. I. Llewellyn from the Ministry of Technology becomes the first director of the centre on January 12.

The idea is that the Atlas computer at the centre should hold in its store a collection of blueprints for the designing, for instance, of turbo machinery or process plant equipment, the relevant structural engineering rules, and data on various types of materials which might be incorporated. These would be made available to many users in their own design offices by means of graphical display links. The committee suggested that the Post Office should be asked to provide better transmission lines for graphic displays. The committee also suggested that the Ministry of Technology should encourage companies such as Marconi, Elliott, Ferranti and Plessey to rationalize their manufacture of these display systems and also the software for them. To get industry involved as quickly as possible, the ministry should offer to lend up to six graphic terminals with the necessary software to potential users, and centres should be set up to demonstrate the systems and to train operators.

The report, with its recommendations for the extension of CAD facilities, comes at the end of a good year for British computer manufacturers. Following the merger with English Electric last year, ICL has raised its combined profit by 25 per cent—from £3.9 million last year to £5.8 million this year. The GEC-Elliott Automation company has also won £1 million worth of orders from the German Democratic Republic. Three ARCH computers have been successfully commissioned at the Schwedt petrochemical complex and there are two new orders from Vickers-Zimmer for Schwedt and a new plant at Premnitz.

ENGINEERING

First MacRobert Award

THE first MacRobert award, worth £25,000, is to be divided between teams from Freeman Fox and Partners and Rolls-Royce Ltd for the design of the Severn Bridge superstructure and for the Pegasus vectored thrust engine respectively. The MacRobert award is for outstanding innovations in the field of engineering or the application of physical science which "have enhanced, or will enhance, the national prestige and prosperity of Great Britain". The MacRobert trustees hope that it will provide a balance, at least in Britain, for the Nobel prizes.

The Freeman Fox team, directed by Sir Gilbert Roberts and including Dr W. C. Brown, Mr M. F. Parsons, Mr C. D. Crosthwaite and Dr T. A. Wyatt, was responsible for designing a novel superstructure for the Severn Bridge which saves about 25 per cent in cost compared with the conventional truss type of bridge. The new features include the shallow streamlined hollow box section of the deck, the construction of the towers and the sloping hangars. The use of a single box girder wide enough for its top to form the bridge deck was attractive both economically and aesthetically, although at the time no all-welded box bridge structure of anything like the size required had been made. It has the advantages of lightness, a