Britain, France Play It Safe on Channel Tunnel

The proposal to build twin rail tunnels instead of road links or bridges represents a conservative technological choice

Paris.

THE bitter disputes that took place during the development of Concorde—the Anglo-French supersonic passenger aircraft whose first flight took place exactly 20 years ago—remained in many memories as British Prime Minister Margaret Thatcher and French President François Mitterrand on 20 January jointly announced plans for construction of a tunnel beneath the English Channel.

Both governments had indicated at an early stage that they did not want to repeat the Concorde experience. Although a major technological achievement, the aircraft proved far more costly to develop than initially predicted, and has fallen well short of its commercial targets. But they were equally keen to avoid the U.S. experience with civilian supersonic flight, in which mass protests by environmentalist groups stopped development and commercialization plans dead in their tracks.

Thus, despite Mitterrand's description of the channel tunnel project as a "grandiose vision of the future," the chosen design is a relatively conservative proposal for two parallel 50-kilometer rail tunnels. Put forward by a consortium of British and French firms known as the Channel Tunnel Group/France Manche, and scheduled for completion in 1993 at a cost of $6 billion, the proposal was selected from more than ten separate projects that had been submitted by the closing date last October.

Two important political decisions lay behind this choice for what is destined to become by far the largest civil engineering project ever undertaken in Europe: that financing will be left entirely in private hands, and that, apart from parliamentary debates, there will be no major public enquiries into its broader impact on either side of the channel.

The condition that there should be no public investment involved was strongly insisted on by Thatcher, despite initial reservations from the French government. As a result, the choice between technological solutions has been heavily based on analysis, both by the two governments concerned and even more so by teams from the rival consortia, on the accuracy of proposed cost estimates and related calculations of technical feasibility.

The first casualty among four selected finalists, for example, was an imaginative plan to build a huge bridge with seven spans, each 4.5 kilometers long. Too little was felt to be known about the characteristics of "parafil," a plastic-based compound being proposed for the cables. It has the same weight as steel but is claimed to be six times as strong.

Similarly, the proposal apparently preferred by Thatcher, as well as a large proportion of the British public, which would have included a two-lane highway in each direction, is said to have lost out primarily because of continuing technical uncertainties over the proposed ventilation scheme. These uncertainties led to claims that the costs being quoted for meeting the strict safety conditions laid down by the two governments were highly speculative.

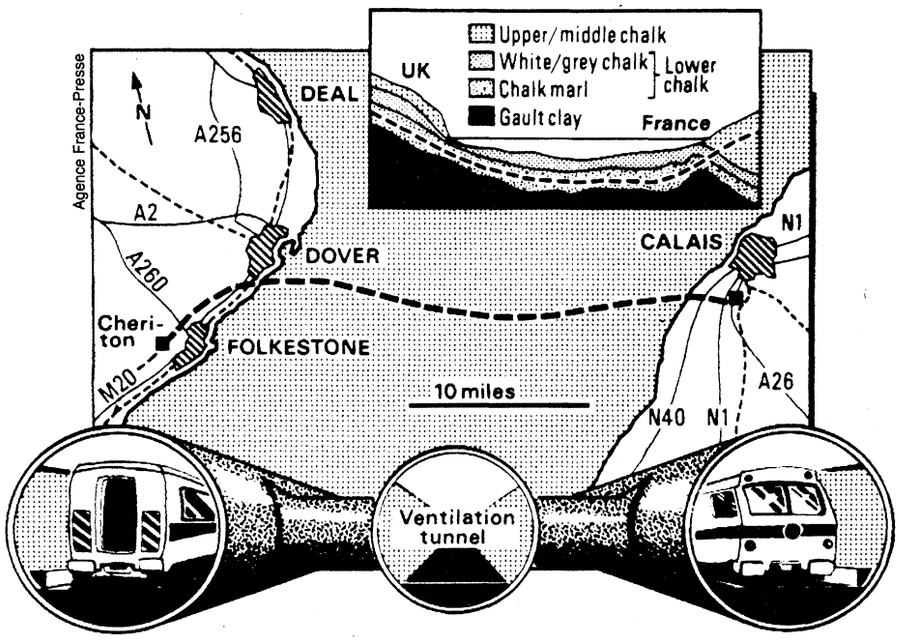
Further uncertainty was added by the lack of detailed geological knowledge of the chalk bed through which the various tunnels would have had to be dug.

Critics also made much of the high price tag and technical awkwardness of an ambitious scheme proposed by the Euro-route consortium, which was planning to build two artificial islands in the middle of the channel linked together by a 10-kilometer steel tunnel laid on the seabed, and to their respective shorelines by bridges. This scheme is said to have impressed Mitterrand with its grandeur.

Plans for a road link have not been abandoned. Indeed, the winning consortium has been told that it will lose its monopoly if it does not eventually add this to the rail tunnel. However, it has until 2000 to do so, and a spokesman for the company—which had previously rejected the idea of a road link largely because of the technical uncertainties—said last week that even then it would only be done "if the technology is there."

Both governments appear to have agreed to limit the scope of any technology assessment of the project carried out prior to it being given the green light. Such assessment has been confined on one hand to an evaluation of the tunnel's economic and technical viability, and on the other to its impact on the immediate surrounding environment. In contrast, there has been little detailed study of its impact on broader issues such as transport policy or regional employment.

In addition to the French government's desire for a definite decision prior to the general election, which it faces at the beginning of March, British Transport Minister Nicholas Ridley has said that he is anxious



The winning design

At $6 billion, Europe's largest civil engineering project.

to avoid a situation similar to that in which discussion over plans for London's third airport have been dragged out over more than 10 years.

The decision to impose strict limits on public participation in debates over the relative merits of the different technological proposals has brought sharp protests from environmentalist and public interest groups on both sides of the channel.

At the beginning of January, for example, a group of British organizations ranging from the Town and Country Planning Association to Friends of the Earth issued a joint statement describing the Transport Ministry efforts to hear their views as a "cosmetic operation." They pointed out that a Parliamentary committee which had given its approval to the project had spent only 31 working days hearing witnesses and preparing its report. This was "pitifully inadequate" in view of the importance of the project, the groups claimed.

In France, a similar statement produced by a coalition including the National Federation of Associations of Transport Users said that it had not been consulted at all, and complained that this was "an unacceptable situation" since, once the choice of design had been made, it would be too late to change.

Discontent at the shortness of public debate has even been expressed within the ranks of Thatcher's own Conservative Party, some concerned about its impact on investment and employment in Kent, others upset that the less imaginative technology has been chosen. One Conservative Member of Parliament has promised that there will be a "grim uphill battle" when the bill authorizing the tunnel is presented to Parliament.

In defending their decision not to mount any further public inquiry, British officials point out that the technical solution chosen had already been identified as the optimal choice by the House of Commons Transport Committee in December, and was also the one which had provoked the least opposition from environmentalist groups on both sides of the channel. ■

DAVID DICKSON

Europeans Embrace Technology Assessment

The U.S. Office of Technology Assessment is seen as a model; so many European versions are being proposed that it may be "difficult to find new topics" says one official

Paris.

In the early 1970's, the British government decided to order an early-warning aircraft from its own aerospace industry rather than buy off-the-shelf from the United States. Ten years later, a succession of unforeseen technical problems has meant that the aircraft, Nimrod, is currently 4 years overdue and incurring cost overruns that have put a major strain on the whole of the British defense budget.

"If we had had an Office of Technology Assessment at the time, we might have been able to save British taxpayers several hundred million pounds," says Conservative member of Parliament Ian Lloyd, former chairman of the House of Commons Select Committee on Science and Technology and currently a prominent member of the Parliamentary and Scientific Committee.

Lloyd is one of a growing number of European politicians, coming from all points on the political spectrum, who are pushing for the creation in their different countries of technology assessment institutions with comparable goals—though not necessarily an identical structure—to those of the agency set up by the U.S. Congress in 1973.

The task is not proving straightforward. Because of the strong constitutional links between legislative and executive branches of European governments, European parliaments find it much more difficult to act autonomously from their governments than the U.S. Congress does from the Administration.

Nevertheless, several different projects and proposals are already under way:

■ The French Parliament has set up an Office for the Evaluation of Scientific and Technological Choices (Office Parliamentaire d'Evaluation des Choix Scientifiques et Techniques) which published its first report—on acid rain—at the beginning of December.

■ West Germany's Federal Parliament has set up an all-party committee to suggest what form a similar body should be given in Bonn.

■ In the Netherlands, a bill is expected to be passed shortly setting up a technology assessment committee with half of its members nominated by the Royal Dutch Academy of Science and the other half by the government's Council for Science Policy.

■ The Austrian government has added technology assessment to the responsibilities of a research institute attached to the Academy of Sciences.

■ The leader of Britain's Labor Party, Neil Kinnock, has promised to create a British version of the American OTA if it defeats the current Conservative government in the next general election, due to be held in 3 years (the proposal is already being studied by the Parliamentary and Scientific Committee, where it has generated substantial support); and

■ The European Parliament, whose elected members oversee the work of the Commission of the European Economic Community in Brussels, has also adopted a resolution committing itself to setting up a similar office. No funds have yet been appropriated for it, however.

The U.S. agency is widely quoted in Europe as the basic model, but different countries favor individual variations. A wide spectrum of motivations lies behind the current moves. For some, a strong parliamentary office is seen primarily as a way to provide elected politicians with an independent voice in political issues that have a high technological content.

"Whenever either of the two Houses of Parliament considers a major technical issue, we have nothing like the OTA to prepare our briefs," complains Lloyd. "Take the Strategic Defense Initiative, for example. The OTA has published two fat reports; we have had absolutely nothing."

A member of the Luxembourg-based staff of the European Parliament suggests that the enthusiasm shown by those referred to as "Euro-MP's" is similarly linked to the increasing technical complexity of issues dealt with by the EEC commission, ranging from automobile-emission standards to the impact of computers on jobs. "The idea that science and technology are political is slowly pervading the Parliament," he says, adding that "committees in general are slowly wak-