

possible for the project to get underway.

The study should be carried out by a commission made up of appointees from all African nations committed to the realization of the project. This "Zaire River-Sahel Water Diversion Project Commission," composed of appointees who will report back routinely to their respective governments, will amass a fund to finance the study. The study will require hiring experienced engineering experts comfortable with utilizing the problem-solving approach who will draw up three alternative routes for the water to flow from the Zaire River into the Lake Chad basin. It will also require hiring analysts who provide cost, regional impact, and other estimates in some detail.

(In the United States, a similar method was undertaken to study the feasibility of diverting water to the High Plains region, where water for irrigation was tapped from the Ogallala Aquifer and was found to be diminishing rapidly. The U.S. Congress funded a \$5 million project in 1976 to produce a study of detailed options within a five-year period. A "High Plains Study Council" was created, composed of two individuals appointed by the governors of each of the five states involved, which oversaw the study in a manner similar to what is being proposed here. In this case, however, the study was doomed to failure from the outset, because the mandate was flawed. Had there been no constraints on their efforts to find new water, they would have looked to the northward-flowing rivers of Alaska, with their massive volumes of fresh water, and the feasibility of diverting them, southward and downhill, onto the High Plains. Instead, they were prohibited, for parochial political reasons, from looking outside the immediate area of the High Plains for new water, and thus, the study was destined to fail.)

The commission would meet on a regular basis to hear reports on the progress of the study and make ongoing evaluations and any decisions as needed about changes in the way the study is being undertaken. Commission members would then report back to their respective governments, and to meetings of larger regional bodies as requested. The commission would have the primary responsibility for assuring the best possible detailed and comprehensive study emerges from their work within a reasonable period of time, which should not exceed three years.

Once the study is completed, the commission makes its recommendations on which of the three alternative routes it considers the best, and passes the study on to be approved by all the affected and cooperating nations, who would then act with a consensus to seek bids on the beginning of construction of the various components of the project. Also, the cooperating nations could form a cooperation which would seek investment in the project, and subcontract the construction. With the aid of the most modern construction methods, yields from the project could come within the first years after startup, beginning with hydroelectric surplus, and then, the water itself.

Space budget cuts protests in British

by Mark Burdman

A British government commitment to place strict limits on state funding of space research, while phasing out British participation in the European Space Agency, has provoked both angry protests and an impassioned defense of the importance of space exploration from influentials in Britain's political and defense establishment. The unusually vociferous rallying behind scientific-technological progress may be read as a signal that powerful factions in the British establishment are trying to foster a shift away from the destructive, mystical cult of "privatization" and the "post-industrial services economy," which has so damaged Great Britain over past years. It also signals concern about the increasingly dangerous challenge to the West posed by the Soviet space program and the past years' disarray in the American space program.

Speaking at a conference on space industrialization in Brighton during the week of Oct. 12, John Butcher, the British minister responsible for information technology, announced that Britain, at a critical meeting of the European Space Agency (ESA) in The Hague, Netherlands on Nov. 9-10, would insist on a cutback in the European space program. In the course of his remarks, he made clear that the government's policy was to view space as a purely "economic" matter, in the way a "free enterprise" quack views economics. Said Butcher: "The time has come for Europe to take stock and review its space activity against the likely future demands of the market."

British Minister of Trade and Industry Kenneth Clarke had earlier denounced the entire array of European aerospace manufacturing companies, as an "expensive club" that would drain necessary resources from other areas of the economy.

Such attitudes drew an immediate protest from Jack Leeming, recently appointed head of the British National Space Centre. On Oct. 19, he briefed a subcommittee on space created by Britain's Advisory Council on Science and Technology (ACOST), a group of scientists, industrialists, and representatives of government departments headed by Rolls Royce chairman Sir Francis Tombs. Leeming insisted on the necessity of Britain boosting government funding for space research, from the present annual level of £100 million up to the £300 million range.

provoke angry defense circles

It was immediately after Prime Minister Margaret Thatcher, acting on the advice of civil servants in the Department of Trade and Industry, turned down such a funding request in July of this year, that Leeming's predecessor at the Space Centre, Roy Gibson, quit his post. Gibson was a former ESA director who was appointed first head of the Centre when it was created two years ago. He had expressed concern that the level of government funding for space exploration was far below France and West Germany, and even less than Italy and India.

The government, including Mrs. Thatcher, with some ideological fervor, insisted that the bulk of funding for space research should come from the "private sector." According to one British aerospace-industry insider, "This proposal went over like a lead balloon, especially because everybody knew that the City of London institutions were not about to lend money to industry for space."

One noteworthy rebuttal of the government's position was made by Adm. Sir James Eberle, director of the Royal Institute of International Affairs, also known as Chatham House. He wrote in the *Times* of London Oct. 15: "If we want to preserve a strong defense policy, we must take into account the contribution space-based systems can make to a credible nuclear deterrent. It is no coincidence that France has an 80% increase in its military space budget."

Eberle added, caustically, "British history is littered with examples of lack of political vision in matters of technical judgment. At the beginning of the 19th century, their Lordships of the Admiralty stated that they regarded it 'their bounden duty to discourage to the utmost of their ability the employment of steam vessels.' Their successors in the 1920s 'saw no use for aeroplanes.'" He added that space exploration "requires, and can stimulate, many other leading-edge technologies. Too few people in Britain seem to realize to what extent space has already altered our lives."

He criticized Thatcher government plans to "privatize" space research funding, warning: "If the government will not take the lead, Britain's position as a space power and serious producer must be seriously threatened. The alternative, to be a user only, means dependence on the rest of the world, on their terms."

Sir James is one of the co-signers of a new report being issued by five European foreign policy institutes on the political, economic, scientific, technological, security, social, and cultural aspects of space. On Nov. 4, Eberle will be chairing a conference at Chatham House on Anglo-German-French cooperation in space.

The irony of Sir James's position is that Chatham House/RIIA, created by the Freemasonic British Round Table earlier in this century, and itself the creator of the New York Council on Foreign Relations, has been a key architect of the liberal "New Age" policies of hostility to technology and industry. This was particularly due to the influence of the late Arnold Toynbee, research director at RIIA from the 1920s through the mid-1950s. Historian Toynbee was a fanatical gnostic, hostile to the Judeo-Christian idea of progress. He was a guru-figure to many of the key operatives in both Britain and North America, who mobilized intensely during the 1960s to sabotage the U. S. space program.

'The next great industrial revolution'

Eberle's critique was echoed on Oct. 19 in Sheffield, at the inaugural meeting of the Institute for Bio-Medicine, a private agency, established with aid of government funding. There, former Minister of Space Sir Geoffrey Pattie charged that a "curious fog of myopia seems to be descending on the Government on the issue" of space exploration and research. He exclaimed, "Can a country which depends utterly on trade and whose trade must depend crucially on developing new products based on materials and processed technology, afford to opt out of a field which represents the most important concentration of advanced technologies anywhere in the world?"

Similarly, Sir John Curtiss, director of the Society of British Aerospace Companies, Ltd., wrote to the *Times* of London Oct. 19, warning that statements made by Minister Kenneth Clarke, flatly rejecting proposals by the British National Space Centre for an increase in the space budget, "will have dismayed British space scientists and space workers alike. . . . Britain cannot afford to be a mere spectator while other nations make the running in space. At the present rate of advance in technology, making up lost ground is immensely expensive and, in the space business we are, indeed, losing ground.

"Our present Government prides itself on its innovative thinking, yet it appears to have a blank spot when it comes to appreciating the huge potential of space. . . .

"I believe that the British people are dismayed at our Government ministers' lack of vision when it comes to space. The British people see the exploitation of space heralding the next great industrial revolution. They look to Government for leadership."

The Society of British Aerospace Companies, Ltd. comprises 300 companies, including British Aerospace Ltd., Rolls Royce, and others.