2/29

PART ONE

C MT

CONFIDENTIAL FILING

Space Policy.

AEROSPACE.

PART ONE:
JUNE 1980.

NEW COVER 1/2/86.

Referred to	Date	Referred to	Date	Referred to	Date	Referred to	Date
29.11.85 PART 1 ENDS							

PREM 19/1413

PART ONE ends:-

NOTE ON HERMES + HOTOL U/D

PART TWO begins:-

SIR R. NICHOLSON TO MS/DTI 4/2

TO BE RETAINED AS TOP ENCLOSURE

Cabinet / Cabinet Committee Documents

Reference	Date
E(80) 129	05/11/80
E(80) 135	19/11/80
E(80) 41st Meeting, Minute 1	26/11/80
E(A)(85)3	14/01/85
E(A)(85) 2nd Meeting, Minutes	28/01/85

The documents listed above, which were enclosed on this file, have been removed and destroyed. Such documents are the responsibility of the Cabinet Office. When released they are available in the appropriate **CAB** (CABINET OFFICE) CLASSES

Signed C Wayland Date 14 November 2013

PREM Records Team

Published Papers

The following published paper(s) enclosed on this file have been removed and destroyed. Copies may be found elsewhere in The National Archives.

Cmnd. 8200: Convention on the Establishment of a European Space Agency, HMSO, June 1981

Signed A Wayland Date 14 November 2013

PREM Records Team

DTD

Charles (Powell)

A toutes fins ... As you know, the Germans still have major reservations.

Colin Budd 21/1

Hermes

Background:

Hermes is a "mini-shuttle" to be launched by Ariane V and capable of staying on-orbit for up to 30 days. When France raised the matter at the Rome Conference in January, Ministers though interested, indicated that they thought Europe had insufficient resources to develop such a project in parallel with Ariane V, Columbus and the items just agreed in ESA's long term plan. They asked to be kept informed of CNES studies and suggested that CNES might wish to have bilateral discussions with ESA Member States.

= French Space Agency

Since January, CNES has toured most European Capitals and now claims that it has strong support for the Hermes programme, to the extent that if the programme were to be Europeanised, there is little doubt of the option being fully subscribed. They have also brought forward the date of the first flight from 1997 to use the third development flight of Ariane in 1995. (This may be as a result of the UK's HOTOL). This advancement of the programme exacerbates the resources problem which cover manpower and facilities as well as financial aspects.

Private information from the Bonn & Rome Embassies shows that there has been little change in those two Governments from the views expressed in Rome. That is though Italy seems prepared to make early commitment at modest level to Hermes studies, the Germans have strong doubts about timescales and have Cabinet decisions which limit their funding in general and particularly regarding Hermes. The Germans also see dangers in allowing Hermes to follow the Ariane philosophy of becoming formally an ESA programme but managed by CNES. Further there are also German fears that once the Ariane/Hermes combination is underway, the French would seek to undermine Columbus on technical and economic grounds.

Amongst the smaller Member States, Switzerland is probably the strongest supporter, but this is predictably in line with the strong Swiss support for Ariane. Nevertheless, in terms of cash, the dominating non-French interest remains with Germany (hoped by France to accept some 20%) and Italy who might take 10-15%.. These contributions if committed with a French 50% would ensure the acceptance of the programme into ESA.

In the meantime France is seeking ESA commitments for Hermes to be included in the Ariane V/Columbus package for start of work in Spring 1987 - (decision at end of 1986). Even before that, ESA is calling a meeting of its Long-Term Space Transportation Preparatory Programme Committee on 16 October to consider amongst other things extending the study programme to include Hermes-related studies until the formal agreements come into force.

Hotol:

Background:

The UK's position is further complicated by HOTOL. RAE is currently assessing a proposal submitted by BAe for Proof of Concept Studies which if undertaken will be designed to provide preliminary data before the end of 1986 and in time for the decisions associated with the major ESA package.

HOTOL is not technically in competition with either Ariane or Hermes as it is intended to have a short stay on orbit (1 to 2 days) and to provide a single satellite launch function. The recent German studies leading to their new proposal to extend the Ariane V family downwards in size lend credibility to the justification of HOTOL, which is targetted to have a similar payload capability to LEO (7-10 tonnes) as the smaller Ariane V they seek.

The HOTOL studies would probably extend to cover a two-year period after which we would probably be in a position to seek partners for a collaborative programme.

It is possible to envisage a scenario which contains Ariane V as the heavy lift vehicle and launcher for HERMES which acts as a "mini-shuttle". These complement HOTOL which with its low operational costs would be the commerically attractive launch vehicle for satellites.

The major difficulty arises with funding. As noted, Ministers have already commented that resources in Europe may not be sufficient for Hermes/Ariane V and the ESA Long Term Plan, so to add HOTOL exacerbates this problem, and points to one or more of the elements needing to be delayed.

Current Status Summary

CNES is likely to wish to learn of the UK's likely reaction to its proposals for HERMES both towards early bilateral studies, and later as an ESA optional programme. If we are to avoid the uncertainties in CNES thinking that have arisen in relation to the Ariane V programme where CNES still seems to doubt our intentions, we need to give an impression of wishing to be involved. This will need to be tempered by strong doubts on timing in view of the problem on funding both at home and in Europe generally. Some technology aspects are common to both HOTOL and HERMES and these might be useful candidates to put forward. Items such as guidance, new structural materials, communications, data management, trajectory calculations, thermal modelling and test facilities etc could be suitable candidates for early studies.


21. I.
AM 86

WO809

MR POWELL - No.10

29 November 1985

With reference to the attached, I would like to ask that, if at all possible, Mr Pattie and I have 20 minutes on HOTOL with the Prime Minister sometime before Christmas. Things may well begin to move quite quickly on the European front and I think she would like to have the background and give a steer at an early stage.

SIR ROBIN NICHOLSON
Chief Scientific Adviser

001/110

APPOINTMENTS IN CONFIDENCE

CCBG

Treasury Chambers, Parliament Street, SW1P 3AG

Geoffrey Pattie Esq MP
Minister for Information Technology
Department of Trade and Industry
1 - 19 Victoria Street
London
SW1E 6RB

19th November 1985

Dear Geoffrey,

BRITISH NATIONAL SPACE CENTRE
DIRECTOR GENERAL

I have seen your letter of 31 October to the Prime Minister. I am content that subject to security clearance, Mr Roy Gibson should be appointed as the first Director General to the British National Space Centre initially to a new Grade 2 (Deputy Secretary) post, the grading to be subject to review when the Centre is operational.

I am copying this letter to the Prime Minister, The Secretary of State for Education and Science, the Secretary of State for Defence, the Chancellor of the Duchy of Lancaster, Sir Robert Armstrong, Sir Robin Nicholson and the First Civil Service Commissioner.

Yours ever,

JOHN MacGREGOR

APPOINTMENTS IN CONFIDENCE

Aerospace: Space Policy June 80.

APPOINTMENTS IN CONFIDENCE

PRIME MINISTER

BRITISH NATIONAL SPACE CENTRE: DIRECTOR GENERAL

When agreeing Sir Robin Nicholson's proposals about the British National Space Centre in August, you asked that I should be responsible for their implementation, particularly in respect of the appointment of the Director General.

In agreement with Michael Heseltine and Peter Brooke, acting for Sir Keith Joseph, I therefore seek your agreement for the appointment of Mr Roy Gibson as the first Director General, subject to the necessary security clearance. Following consultation with Denis Trevelyan at the Civil Service Commission, who have been involved throughout, and the consideration of a shortlist by a panel of Permanent Secretaries (DTI, MoD, DES) there has been a unanimous recommendation for the appointment of Roy Gibson. He is the former Director General of the European Space Agency and would command wide respect in Europe and America. I attach a background note on him.

The appointment would, with the agreement of Treasury, be initially to a new Deputy Secretary post in the Department of Trade and Industry pending the formation of the Centre which, subject to clearance procedures, I hope to announce during November. Sir Robert Armstong has been informed of these proposals and I understand that he has no objections.

I am copying this minute to the Chancellor of the Exchequer, the Secretary of State for Education and Science, the Secretary of State for Defence, the Chancellor of the Duchy of Lancaster, Sir Robert Armstrong, Sir Robin Nicholson and the First Civil Service Commissioner.

GEOFFREY PATTIE

31 October 1985

OC5/OC5ABE

MANAGEMENT IN CONFIDENCE

MR ROY GIBSON

Born: 4 JULY 1924

Company director and independent consultant in the space field.

Roy Gibson became the first Director General of the European Space Agency on its inception in 1975 and managing with great insight, ability and integrity very large (£500 million a year) and demanding European space programmes (Ariane launcher, the ECS and MARECS communications satellite programmes, METEOSAT and SPACELAB). In a very real way he was responsible for creating a vigorous, capable and successful European space industry and most of all for Britain. The high standards and goals he set for the European Space Agency have made it a model for successful European collaboration in science and technology. He served too as Director General at a difficult period with money in short supply and a number of major countries (France and Germany in particular) still pursuing their own national space programmes. He served as Director General longer than any incumbent before or since, and before that had been one of the principal architects of the European Space Agency. His departure was more a feeling that a new broom was needed to face the future than any questioning of Mr Gibson's abilities.

Since relinquishing his position with ESA in 1980, Mr Gibson has remained extremely active in the space field as an adviser to governments (China, Finland etc) and as a space consultant to and director of British and International companies. He has been President of the International Astronautical Federation (1979-81) and is a member of numerous committees concerned with space activities. He has chaired many international conferences concerned with space matters.

Mr Gibson was educated at Wadham College, Oxford; London School of Economics and the School of Oriental and African Studies. After war service in India, Burma and Germany (Captain, Royal Signals) he was in the Colonial Administrative Service for 10 years and served in Malaysia. He subsequently spent 7 years as an Administrator with the United Kingdom Atomic Energy Authority. He has remarkable language abilities.

(4)

10 DOWNING STREET

From the Private Secretary

27 August, 1985

BRITISH NATIONAL SPACE CENTRE

The Prime Minister has seen your Minister's minute of 8 August, covering Sir Robin Nicholson's report on the organisation and funding of the proposed British National Space Centre.

The Prime Minister has endorsed the proposals in Sir Robin Nicholson's report, and has asked that your Minister should take forward their implementation, after circulating them to colleagues.

On the appointment of the Director General, the Prime Minister believes that Mr. Pattie should go ahead on the basis that if he could find a high quality person in the United Kingdom, also acceptable to the other Ministers, who could take up the post in the autumn, then such a person should be appointed. She believes that only the Ministry of Defence need have a special reporting line from the Director General, in view of the highly classified space work in MOD. Finally, the Prime Minister has agreed that April 1986 should be adopted as the target date for setting up the trading fund.

I am sending a copy of this letter to Richard Mottram (Ministry of Defence), Rob Smith (Department of Education and Science), Rachel Lomax (HM Treasury), Paul Thomas (Chancellor of the Duchy of Lancaster's Office), Dennis Trevelyan (First Civil Service Commissioner), Sir Robin Nicholson and Richard Hatfield (Cabinet Office).

(Mark Addison)

T.Abraham, Esq.,
Department of Trade and Industry.

PRIME MINISTER

SPACE

Mr Pattie is seeking your endorsement of Robin Nicholson's proposals for the setting up of a British National Space Centre.

Robin Nicholson's report is at Flag A. Geoffrey Pattie's covering minute is at Flag B. Robin Nicholson has provided a useful summary of the main points in the report, at Flag C.

Robin's own note, at Flag D, identifies the key points for your decision. Are you content, as Robin proposes:

(i) to endorse the proposals and ask Mr Pattie to implement them, after circulating them to colleagues.

(ii) That Mr Pattie should try and find the right person in the UK to appoint as Director General, who could take up the job in the Autumn;

(iii) agree that only Defence need have a special reporting line from the Director General, in view of the highly classified space work in MOD.

(iv) agree that April 1986 should be adopted as the date for setting up the trading fund?

Mark Addison

MARK ADDISON

23 August 1985

WO616

MR ADDISON - No.10 21 August 1985

SPACE.

Mr Pattie has asked for the Prime Minister's endorsement of the proposals (summary attached) that I have made for the British National Space Centre following the remit given to me by E(A) on 28 January. these have been considered informally by Mr Pattie, Mr Heseltine and Sir Keith Joseph. I recommend that the Prime Minister does endorse the proposals and asks Mr Pattie to proceed to implement them after circulating them for comment amongst other Ministerial colleagues.

2. There are one or two points of disagreement amongst the three Ministers which need resolution. Firstly Mr Pattie proposes to seek a Director-General by secondment from UK industry whereas Mr Heseltine suggests head-hunting in the USA. While Mr Heseltine's approach has superficial attraction, I believe it will be difficult to attract the right person back from the USA at this early stage in the operation of the Centre. It will certainly take some time and will probably delay the operation of the Centre until next spring at least. I believe that Mr Pattie should be asked to go ahead on the basis that if he can find a high quality person in the UK, also acceptable to the other Ministers, who could take up the reins in the autumn, then such a person should be appointed.

3. Secondly Sir Keith Joseph wishes to have a reporting line from the Director-General to him as well as to Mr Heseltine alongside the main reporting line to Mr Pattie. I think this view arises from a misunderstanding of the reason for my proposal for the MOD. This is solely due to the special relationship between the Centre's work and the highly classified space work in MOD. There is obviously no analogue to this in DES and I therefore believe there is no need for an analogous reporting link.

4. I am also somewhat concerned at the guarded nature of Sir Keith Joseph's acceptance of the proposals. The matter has been under intensive discussion at official level for six months but, with the exception of the point outlined above, Sir Keith has put forward no specific amendment to my proposals. I would hope therefore that the Prime Minister could support my view that we should now move to the implementation phase.

5. Finally, although this correspondence has not been copied to the Prime Minister, there is some concern in Treasury on whether a Trading Fund can be set up by April 1986. This date was put in at Mr Heseltine's suggestion on the basis that if we did not aim for that date, we certainly would not meet it and if it proved impossible, we would at least get the Fund set up as quickly as possible. I believe this is right and, again, I hope the Prime Minister would support April 1986 as a target date.

6. I am copying this minute to Richard Hatfield.

SIR ROBIN NICHOLSON

THE FORMATION OF A
BRITISH NATIONAL SPACE CENTRE

An Outline of the Main Points in the Report

The Space Centre will develop space policy for the UK and enable Government Departments and industry to generate a space technology base and exploit this in commercial and defence applications of space.

2. The Centre contains two main arms, one dealing with policy and applications (which are closely linked, particularly on the international side) and the other dealing with the development of a common technology base. The Centre's overall management is provided by a Board of Management drawn from contributors to the Centre together with others whose knowledge and expertise is considered valuable. The Board of Management, including the Centre's Director-General who acts as Chairman, are appointed by and report to the Minister with responsibility for space in the Department of Trade and Industry.

3. The Space Technology and Applications work of the Centre will be decided by and funded by the participants themselves. The work will be carried out by people seconded from the participating organisations but will operate independently of these organisations and in the best interests of the UK overall. The Policy Group will be funded by Government, one of its main tasks will be the preparation of an Annual Plan for the Centre, to be agreed by Ministers in an E(A) meeting suitably enlarged to include Ministers from all Departments involved in the Centre.

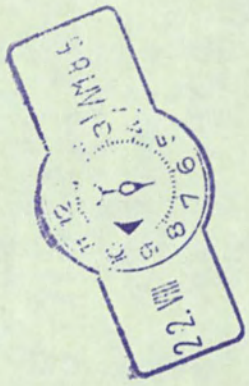
4. The Ministry of Defence is in a special position with respect to the Centre, because of the agreements on the transfer of highly-classified technology which exist with the USA, and I have consequently made special provision for this in reserving the post of the Director (Technology), who oversees the work on the common technology base, for a secondee from MOD. The individual concerned will have an adequate security clearance to allow a clear view of the work within MOD which has to remain outside of the Centre and to

ensure the maximum possible benefit from MOD's invovement in the Centre. For similar reasons, I have provided for a "dotted line" of responsibility from the Board of Management to the Secretary of State for Defence, for defence-related matters only.

5. I have considered several options for the funding mechanism for the Centre and have concluded that a Trading Fund is the most approriate arrangement because it provides the right combination of equity for the participants, incentives for the Director-General and his staff to develop the Centre's activities, and freedom from requirements for new legislation. However, the existing legislation is drafted to transfer an **existing** activity to trading fund status and I therefore recommend that the Centre be set up with funding from the existing votes of participating Departments, with costs lying where they fall and PES transfers avoided, wherever possible. Transfer to trading fund status can then be carried out as quickly as possible thereafter - April 1986 is the date I propose.

6. Finally, to encourage wider participation by Government Departments and industry, I suggest that those who are potential users of space should be allowed to join until the end of the next full financial year at a cost of £250,000. Since the Centre will operate on a commercial basis and will charge outside organisations (including non-participating Government Departments) accordingly, I anticipate that the benefits of access to the results of the Centre's work for this trial period will encourage permanent involvement of these organisations and accelerate recognition of the relevance of space and its applications generally.

Aerospace : Space Policy 6/80.



MO 11/8/2V

cc Richard Hatfield

PRIME MINISTER

BRITISH NATIONAL SPACE CENTRE

1. As you know, I strongly support the creation of a British National Space Centre (BNSC) as a means of securing better co-ordination of UK space policy and bringing together the various strands of space technology research in the UK. I have accordingly agreed that, subject to security constraints (which are important in a number of areas of MOD space involvement), the space-related technical research activities of my Department should in future be carried out under the auspices of the BNSC and thus co-ordinated as closely as possible with the civil space programme. I am content with the way ahead proposed in the Minister of State for Information Technology's minute to you of 8th August, but with one qualification.

2. The appointment of Director-General in the new organisation will be a most exciting challenge. I strongly believe that we should employ head hunters to comb the high technology world of US industry for British citizens who might be prepared to come back for a job such as this. The opportunity is a unique one and I am not convinced that a few months delay at this stage

would be critical. I think it would be wrong to accept the home bred solution in this case without a thorough look at the whole field of possible candidates.

3. I am sending copies of this minute to the Chancellor of the Exchequer, the Secretary of State for Education and Science, the Chancellor of the Duchy of Lancaster, the Minister of State for Information Technology, Sir Robin Nicholson, and the First Civil Service Commissioner.

J. D. Dugdale (Approved by the Secretary of State) and signed in his absence

Ministry of Defence
14th August 1985

CR's ?

RESTRICTED

cc Richard Hatfield

PRIME MINISTER

CF - await advice from RH & Sir RN. BF in 2 weeks.

BRITISH NATIONAL SPACE CENTRE

Sir Robin Nicholson's report (copy attached) on the organisation and funding of the proposed British National Space Centre provides a clear way forward. I hope that you will endorse the main principles of Sir Robin's recommendations.

We still have much to do before we can set up the Centre: on its financial status we should explore how quickly the centre could move to trading fund status and the degree of accountability to be carried by the Director-General or by Departments. Relations with SERC and with Government Departments also need to be worked out as well as details of location and staffing etc.

We are not likely to make effective progress in establishing the Centre until a Director-General brought in from industry is in place. We envisage a period appointment of 3-5 years at Grade 2 (Deputy Secretary) level. In making an appointment we have a clear choice. We might use headhunters to search internationally for a candidate - possibly one of the expatriates working on space matters in the USA. This course is unlikely to result in a Director-General being in post before next spring. Alternatively, we might second from a British company an industrialist who would be able to take up his appointment in the autumn. In my view it is a matter of priority that we should set up the Centre as quickly as possible: for this reason I recommend we take the latter course. I hope that you and my ministerial colleagues will agree. It will, of course, be necessary for the Civil Service Commission to be involved in the selection process.

I am copying this minute to the Secretary of State for Defence, the Secretary of State for Education and Science, the Chancellor of the Exchequer, the Chancellor of the Duchy of Lancaster, Sir Robin Nicholson, and the First Civil Service Commissioner.

will be offering advice. MEH 12/8

TPA

...

PP GEOFFREY PATTIE

8 August 1985
(Approved by the Minister
and signed in his absence)

AU1/AU1AAS

THE FORMATION OF A BRITISH NATIONAL SPACE CENTRE

A Report by the Chief Scientific Adviser, Cabinet Office

INTRODUCTION

1. The purpose, organisation and funding of a British National Space Centre have been examined by a Space Centre Working Group meeting under my chairmanship. The terms of reference of this Working Group set out two main objectives for the Centre.

a. The development of a competitive technology base in the UK for the common use of the participants in the Centre.

b. The formulation of proposals for Ministers for future policy on space and the implementation, or co-ordination of implementation, of this policy.

2. The Working Group consisted of representatives drawn from the Departments with major existing interests in space: DTI, MOD and, in association with DES, SERC and NERC. In addition, representatives from FCO, Treasury and MPO/MoG participated throughout the discussions. Industrial views were sought through consultations with the main manufacturers and users of space technology and its applications, and other Departments, with existing or potential interests in space, were involved in the Working Group discussions towards the end of the process.

3. Throughout the discussions I sought a role and a structure for the Centre which could bring maximum benefit to those who participate and to the space-related activities of the UK as a whole. Each potential participant brought with them individual views on the aims which the Centre should adopt and each had individual objectives to be satisfied through the Centre (see Annex A) in addition to those covered in the Working Group's terms of reference. To the extent that it as been possible in the time available, these have been taken into account in the proposals set out here, but I believe the detail of participants requirements, and particularly the interaction between these, is a matter for further negotiations between a Director General designate and the participants once the overall structure has been accepted by Ministers as a basis on which to proceed. Much of what is proposed is acceptable to those involved and they have indicated the contributions which they would be willing to make to a Centre organised along the lines proposed (see Annex B). However, in the absence of firm commitments on contributions to the Centre, these proposals must be regarded as representing my own views as Chief Scientific Adviser, Cabinet Office, and the extent of Departmental support for these will be expressed through the reactions of Ministers.

4. The proposed Centre contains two main arms, each dealing with one of the Centre's major objectives (see Figure 1). Provision is also made for other activities, such as consultancy services, to be carried out by the Centre, although these are matters to be agreed between the participants in the Centre and its Director-General, in due course. One arm of the Centre contains a Technology Group which is organised so that influence on its work is related to the scale of contribution made by participants , whether financial or in resources (personnel, facilities, etc) to be used in carrying out this work. This should encourage participants to maximise their involvement, but all those taking part will enjoy the benefits of scope and scale to be expected in a shared endeavour of this kind. The Centre's other arm contains a Policy Group and an Applications Group. The applications group is organised along similar lines to the technology group, with participants jointly determining the work which is carried out, and will deal with major areas of interest in the applications of space (eg science, remote sensing, communications, etc). The

policy group, however, will be independent. Participants will second individuals to the policy group but will not, through these individuals, exert any direct influence on space policy. Instead, the Centre will develop a co-ordinated UK policy for space, taking into account as far as possible the different interests involved. It will also have responsibility for implementing this policy through national and international programmes.

5. Clearly, if the Centre is to be successful the benefits of participation should not be freely available to outside organisations, or the incentive for contribution to its work will be much reduced. It is therefore envisaged that access to data and research results from the technology and applications work carried out by the Centre will only be automatically available to participants. Other organisations (including non-participating Government Departments) would have access to such information at the discretion of participants in the Centre, but this would be on a commercial basis.

THE POLICY ROLE OF THE CENTRE

6. It has become clear, especially through industry's input, that the Centre should develop a strong coherent policy and implement it vigorously. The Policy Group will be composed of the Centre's own staff, seconded from participating organisations, and will operate under a Director (Policy and Applications) reporting to the Director-General of the Centre. Individuals in this group will not function as representatives of their originating organisations but must work in the best interests of the Centre and UK space activities as a whole. The group's policy work will include the preparation of an annual corporate plan for the Centre, for approval by Ministers (see para 21), to include consideration of R & D and application programmes, including those undertaken through ESA, for the Centre.

7. The role of the Centre is to provide a co-ordinated, overall policy for space in the UK but it cannot replace the responsibilities of participants to their Ministers, Councils or Boards of Directors. Therefore Government Departments and other organisations will need to retain a capability to assess their own position in relation to the Centre's policy. The Centre will, of course, seek to consider the policy needs of participants in creating its policy framework, but there will inevitably be some incompatabilities in the detailed needs of all those involved which will necessitate that participants still examine how their detailed objectives can be met within, or associated with, this framework.

8. The Centre will take the lead in representing UK interests in international discussions and negotiations in space, particularly within ESA. The space policy developed within the Centre will have to recognise the UK's international commitments in this area and will have to balance national and international objectives in space. The Centre will seek to establish participation by the UK in collaborations with other countries which maximise the benefits to those contributing to the Centre, and to the UK overall. The likely areas of involvement include industrial support, scientific and

commercial applications programmes and the development of specific areas of technology seen to be of immediate or growing relevance to the needs of participants. ESA funding and ESA programmes form the central core of the UK civil space science and applications programmes, and they are likely to continue to do so since the UK alone cannot afford the full range of space activities which are necessary for a successful space programme and industry. Effective participation through ESA requires detailed and continuous steering of each ESA programme through its programme board (as well as the industrial, financial and administrative committees of the Agency and a variety of other international meetings), if cost control is to be maintained and if the choicer elements of ESA programmes are not to be lost to other countries and costs to rise. In the past, the UK has been conspicuously successful in its selective involvement in Agency programmes and it has been possible to build up, at relatively modest cost, complementary domestic scientific and industrial space programmes which optimise the UK benefit from ESA. The Centre, working within the context of its wider policy framework, should be even better positioned to continue this work in the future.

9. The Centre's space policy can be seen as a national space plan, developed through iterative consultations with participants to find a "best fit" of national policy with the individual requirements of those involved including the UK's international interests and commitments. But the final decision on the overall policy will be primarily based on national needs and objectives within the international scene, rather than the immediate individual interests of the participants, and the Centre will also need to look for information and advice from appropriate individuals and groups outside of the Centre, where this is considered appropriate.

THE COMMON TECHNOLOGY BASE

10. The Centre, through its Technology Group, will work to develop a common technology base of interest to the participants, including scientific research support which contributes to the development of space technology, and the use of space technology for scientific research. In contrast with the Centre's policy role, where it will be necessary to take a broad view not limited to the direct interests of the organisations concerned with the Centre, the technology work will be determined by the participants themselves. Participants will each propose projects in which they are interested and which they consider may be of interest to other participants. After combining these proposals and establishing common themes within the Centre, the resulting programme of work can be examined and modified by the participants until, with sufficient iteration, a satisfactory package is agreed. It is likely that some of this work will involve collaborations extending outside of the Centre, for example where joint development through ESA is involved. The needs of other organisations will have to be taken account of in such cases, when the programme of work is being constructed, and allowance made for the constraints which then apply to the final package.

11. Given the spread of interests amongst potential participants in the Centre, it is likely that the technology work of the Centre should be developed through a number of Technology and Research Support Programmes, each of general interest to a significant subset of the participants. This will allow each participating organisation to concentrate its involvement in the areas of maximum relevance to its interests. The programmes, each of which will be overseen by a Programme Director within the Centre, may range from enabling technology, through to application-specific developments (for example, in antennae or solar cells).

12. The detailed arrangements for sharing results of the work carried out under Technology Programmes are a matter for later consideration, but it should be recognised that there will be restrictions on access to this information. All

participants in a particular technology programme should have access to the results of work carried out under that programme, but if they do not all contribute equally to the programme then they cannot all have the same rights. Participants in each technology programme can, of course, negotiate an acceptable arrangement amongst themselves, but other Centre participants (ie not involved in the relevant technology programme) will have to negotiate access to these results and non-participants (ie outside the Centre) can be expected to have limited access at full commercial costs, if at all.

13. Participants will require confidence that their involvement in the Centre and in particular technology programmes will not be compromised by the sudden withdrawal of a partner. It will therefore be necessary for each participant to guarantee their involvement and contributions for, say, 3 years ahead. If the Centre proves to be successful, of course, participants may later entrust it with further responsibilities and support. Equally, if it fails to meet their objectives in some area they may gradually withdraw their support there, within the constraints of their rolling commitment. It is important to recognise that the technology work of the Centre will be determined, at least initially, by the resources allocated to it by the participants and the technology programmes which they themselves agree. The exact nature of this work therefore awaits detailed negotiations on contributions to the Centre, and this will reflect the individual interests of the participants themselves.

14. Individual participants will contribute unevenly across the range of programmes supported, and the size of their contributions, both within individual programmes and across the Centre's activities as a whole, will vary considerably. It is therefore proposed that influence on the Centre's technology work should be at the programme level through Technology Programme Boards, each associated with a particular technology programme, to advise the relevant Programme Director. The major contributors to a programme (ie providing more than 10% of costs) might each have a representative on this Board, while the minor participants might elect, say, two representatives to support their collective interests.

15. Overall management of the technology work of the Centre will be the responsibility of the Director (Technology) who will report to the Centre's Director-General. The Director (Technology) should be seconded from MOD in order to promote effective liaison with the MOD research activities in this area, even where this involves classified work. As with other secondees, the Director (Technology) will not operate under direction from MOD, but will have security clearance sufficient to gain an informed perspective of MOD priorities and to ensure that the maximum mutual benefit can be gained by MOD and the Centre, from their respective areas of work.

16. The technology programmes will be located at the major technology centres of the participants since it is not intended that, at least initially, there should be a major relocation of facilities or researchers. Clearly the location of the programmes with a major element of public funding will remain RAE, Farnbrough and the Rutherford Appleton Laboratory of SERC.

APPLICATIONS

17. There is also a need for the Centre to recognise and cater for the individual interests of participants in space applications. Each participant in the Centre has particular reasons for involvement in space and this is reflected in the different uses which they make of it and of space technology. There is a strong link between these application areas and the various strands of space policy which the Centre must consider and, consequently, the Applications Group is placed under the control of the Director (Policy and Applications). The applications group is organised in the same way as the Technology Group, with a number of Application Programmes developed iteratively with participants, each with a Programme Director and an Applications Programme Board composed of participants' representatives.

18. The nature of the applications programmes to be developed within the Centre will be matter for the participants themeslves, but it is likely that remote sensing and the ESA Science Programme, in particular, could be each be represented by one or more applications programmes. Other project-oriented developments undertaken by participants might be accommodated more easily here than within the Technology Group. The decision on locating a particular programme within the Technology Group or the Applications Group is not clear-cut, but I would suggest that one important criterion should be its relevance to the policy function of the Centre, to ensure that the link between the Policy Group and the Applications Group which is provided by the Director (Policy and Applications) works to best effect.

19. Applications programmes will be located, like technology programmes, at participants own facilities and, again, RAE, Farnborough and RAL are likely major centres for publicly-funded work.

OTHER ACTIVITIES

20. The work of the Centre may include other activities, such as consultancy, promotion or project management, where the participants require these services. The proposed structure of the technology and application programmes also provides a means for establishing a particular programme oriented along any of these lines, or for providing these functions in association with a programme which is concerned with the relevant area of interest. Services of this kind could also be provided for external users, though this is not seen as an initial function of the Centre and further consideration of this opportunity is left for the Director-General and the Centre itself in due course.

DIRECTION OF THE CENTRE

21. The Director-General of the Centre will chair a Board of Management for the Centre. The Director General and his Board will be responsible to the Minister for Space (currently Mr Geoffrey Pattie) who will also appoint the members of the Board and the Director-General after consultation with Ministers . Major participants in the Centre will be able to nominate candidates for the Board for consideration by the Minister for Space who will also have discretion to include additional members. The Minister will report to colleagues in an enlarged E(A), chaired by the Prime Minister, which will approve the Centre's corporate plan annually. He will also take Departmental advice through an officials-only committee derived from the existing Misc 46 and chaired by the Cabinet Office.

22. MOD have substantial space interests to which special military and security cconsiderations apply. These special needs of MOD make it necessary to have a functional reporting link between the Board of Management (and the Director-General) and the Secretary of State for Defence, for defence-related matters only. There is obviously some potential difficulty with conflicts between this reporting line and that to the Minister for Space, but there are Whitehall precedents for this sort of arrangement and it appears to be workable in practice.

23. The Minister for Space will be responsible for PQs, etc, relating to the Centre and, where appropriate, to space in general. However, individual Secretaries of State will remain responsible for Parliamentary and Departmental business relating to the space involvement of their Departments and, in particular, for the spending of their Departments in the Centre.

LOCATION OF THE CENTRE

24. There are obvious advantages in locating the Centre's policy group in London where it can interact with Government Departments and with the London headquarters of the space industry. In addition, travel to and from London may be somewhat easier than elsewhere and this could affect the need for relocation with seconded staff. But there are greater advantages in co-locating the policy, applications and technology groups because their interaction will be critical to the success of the Centre. I believe the best location for the Centre is RAE, Farnborough and I have satisfied myself as to the likely availability of appropriate accommodation there. My principal reasons for this recommendation are the existence of the current MOD/DTI space activity, the location of the National Remote Sensing Centre, the location of several major space facilities and the proximity to much of the classified work of MOD, I do not believe that the real cost of the Centre should be significantly different at this site than in other possibilities. However the accounting cost may well be different so my recommendation is subject to MOD offering accommodation at a cost to the Centre which is competitive with other options. The final decision on location should be a matter for the Director-General designate on appointment.

SCOPE OF THE CENTRE'S WORK

Annex B is a list of contributions which potential participants have suggested they might make to the Centre.

25. But I believe that the Centre will have the best chance of success if participants make the maximum possible contribution to the Centre, and to assess others' contributions in the same light, during the iterative development of a programme of work for the Centre (see paras 8 and 11). For this reason, I feel that the following areas of space-related work should be included in the Centre and would form an excellent basis for the initial scope of the Centre's work.

a. The space R & D sponsored by DTI at RAE, Farnborough and RSRE, Defford.

b. The UK's international commitments and interests in space, including the ESA programmes (science and applications *, transportation, etc), general interaction with ESA and bilaterial interaction with other space agencies.

c. Industrial sponsorship and industrial policy implementation presently undertaken by DTI Space Branch.

d. MOD's space R & D, where not highly classified.

e. Industrial space R & D funded or part-funded by DTI or MOD (again, where not highly classified).

f. Non-proprietary space R & D fully funded by industry

g. The space research support programmes of SERC and NERC

h. Any space science and space applications programmes of SERC and NERC, in addition to the ESA programmes covered under b. *

i. Any appropriate University research programmes other than those funded by SERC and NERC.

* The Research Council committees which currently control these programmes can also form the relevant Programme Boards of the Centre (with appropriate additional representation where other organisations participate in funding the relevant programme).

FUNDING OF THE CENTRE

26. I have considered three possible funding arrangments: funding through existing Department votes, a trading fund and a company limited by guarantee. I have concluded that a trading fund is the most appropriate arrangment because it provides the right combination of equity for the participants, incentives for the Director-General and his staff to develop the Centre effectively and efficiently, and freedom from requirements for new legislation.
A company limited by guarantee offers few, if any, advantages over a trading fund and has significant disadvantages, especially in respect of legislation and accountability to Parliament. Funding through existing Departmental votes is the simplest arrangement but gives the Centre least coherence and provides no real incentives for efficient operation of the Centre. Nevertheless the existing trading fund legislation is drafted to transfer an **existing** activity to trading fund status. For this reason and in order to set up the Centre quickly I recommend that it be initiated on a vote funded basis on the principle that, as far as is possible, costs remain where they currently fall. with no PES transfer. An outline of the way in which the vote funding arrangements might operate has been provided by Treasury and is given in Annex C. Once the Centre is underway, the Director General, in consultation with the Centre's participants, will examine the basis for transfer to trading fund status and make appropriate recommendations as part of his Corporate plan. It should be the aim of the Director-General designate to achieve trading fund status by the beginning of the financil year 1986/87.

27. The funding of the Technology Programmes and Applications will be derived from the participants as a whole , including any overheads associated with the Centre in these areas. It is, of course, expected that the process of developing technology and applications areas of common interest to participants will result in overall savings and/or increased benefits for those concerned. Some support will be in the form of personnel, facilities or other resources put at the Centre's disposal by participants, but other support will come in the form of finance, especially from user organisations (inside and outside Government)

whose main reason for participation is to gain access to the results of work carried out by the Centre.

28. The policy group will be funded by Government. Members will be seconded from participating organisations, which will remain responsible for their career administration etc. These funding arrangements are necessary because the Centre will interact with other Government agencies, like CNES and NASA, and will represent the UK at ESA. This requires a clear association with Government to establish the Centre as an acceptable body to these agencies.

29. It is proposed that existing accounting officer reponsibilities within Government Departments will be maintained with respect to the money, manpower and other resources which are contributed by these Departments to the Centre. The Centre's Director-General will, however, be accountable (although not an accounting officer) to the Minister for Space for the way in which the Centre disposes of these. He will also be responsible (through an annual report) to private sector organisations for the Centre's use of their contributions to its work. Public sector personnel seconded to the Centre will remain on the headcounts of their originating Departments.

30. Government departments other than DTI, MOD and (with DES) SERC and NERC have, as yet, no clear involvement in space but are potential users. Their interest will develop, however, and I believe it is right to encourage their early participation in the Centre so that they may quickly assess its relevance to their needs and so that they may then play an appropriate part in the work which it does. I therefore propose that they should be allowed to join the Centre at a cost of £250K each. This sum will allow them to participate until the end of the next full financial year, at which time they will have to decide whether to join the centre on the same basis as other participants. In the meantime, they will have access to the results of work which the Centre carries out. The same option can be extended to industry participants, especially users of space, other than companies with major space interests. If Departments and other users do not join the Centre on these terms, they should be charged for all services they currently receive and any they wish to receive in the future

at a full commercial rate.

ANNEX A

SUGGESTED OBJECTIVES FOR THE SPACE CENTRE

A. DTI Suggested Objectives

i. provide a readily identifiable focus and clearinghouse for all national and international British space activities;

ii. have a strong policy and planning function capable of formulating plans for the medium and long-term reflecting the inter-relationship of defence, industrial, commercial and scientific interests, and the contribution each could make to the other;

iii. establishment of a common technology base by bringing under common management all civil space programme execution and development and space facilities in the United Kingdom, including technology programmes other than those of a highly classified defence nature;

iv. be capable of comprehensively fulfilling the industry sponsorship and related space-focus responsibilities of Space Branch, DTI.

If the Centre is to carry status and respect, both nationally and internationally, it will be important that the Director General should be the UK lead delegate to the ESA Council, since ESA funding and ESA programmes form the central core of the UK's space activities both in civil applications and in science. This should not exclude other representatives (eg from the Research Councils) attending the ESA specialised committees (particularly the Science Programme Committee) as they do at present: but it probably does mean that the DG and his staff should lead on the main programme boards and steering

committees.

B. MOD Suggested Objectives

On the assumption that the BNSC will consist of a policy arm and a technical arm the MOD would look to the policy arm to:

a. provide a focus for civil and scientific space interest both nationally and internationally.

b. by bringing together as many UK space interests as possible, enable UK space policy and the industrial base to benefit from greater co-ordination and exchange of information.

c. provide a forum which, while it would not be able directly to formulate military space policy (not least for security reasons) would, where appropriate, be able to offer an input to the formulation of military policy (eg on industrial or scientific aspects), and would be able to formulate a soundly and broadly based civil and scientific space policy, taking defence interests into account.

d. more specifically, provide a forum which would enable MOD to gain best value for money, in defence terms, from its contribution to ESA programmes eg the ESA science programme and Columbus.

MOD would look to the technical arm of the BNSC to:

a. provide MOD in a timely and cost-effective manner which such research work as it requires in support of defence space interests, recognising that this would be limited by security considerations. This to be done with the minimum demands on scarce staff resources so as to ensure that other defence interests, eg project support and non-space research, do not suffer.

b. develop a co-ordiated programme of space scientific and technical research to the maximum advantage of all participants in that programme, encouraging synergy and civil spin off, and eliminating duplication between existing research programmes.

C. SERC Suggested Objectives

The SERC believes that if the Centre is to be effective, it must have a broad capacity both to develop a national space plan and to command the means of implementing such a plan in technical, managerial and administrative ways. The Centre should be organised to provide these functions by having two "arms": a policy arm and a technical/technology arm. SERC proposes that the basic functions of these two arms should be as described below.

Policy Arm: the Space Plan

A crucial function of the policy arm of the Centre should be to develop a rolling 5-10 year UK space plan, which will be the key overall policy instrument for UK space. Such a plan would be developed by an iterative process between the policy arm and the partners, and would be finally agreed by the partners meeting in the Centre's "Management Board". Such a plan must recognise that the potential participants in such a Centre have different prime objectives. Therefore, the centre should have as its main aim to enable the participants to achieve these various objectives, for which they are paying, in the most cost-effective way. For the SERC, the prime objective is to support **university** research science and engineering, and the use of the Council's peer review system is central here, both in judging overall scientific priorities (for example as between space and terrestrial means of achieving scientific objectives), and in assessing scientific priorities between the proposals put to SERC by university groups to do research using space techniques. However, by providing the programmes' support primarily through the Centre, there should be great potential for synergy, for example in enabling the science programme to benefit HMG's industrial policy objectives

and vice versa.

Technical Arm

The technical arm of the Centre should command the means for implementing the space plan. The SERC considers that for the technical arm to work effectively, it must be based on the principle of each partner agreeing to draw on the Centre for its space support functions, excepting only the minimum needed to ensure proper influence over its prime objectives. The SERC would therefore expect to look to the technical arm of the Centre to provide the current space support activities now provided by RAL, in support of the SERC's University research programmes using space techniques, as follows:

- project management

- satellite control and operations and their management

- technical support for space research projects

- scientific support

D. NERC Suggested Objectives

i. To define and regularly review in conjunction with the users of space systems a medium to long term national strategy for the development and use of space technology for science and applications.

ii. To conduct a balanced national space programme based on identified user requirements and comprising national and multilateral elements in addition to the contributions to ESA programmes.

iii. To provide a focus for the co-ordination of space activities in the UK.

iv. To develop and promote the applications of space technology.

v. To transfer efficiently and speedily the results of the Centre's developments to the user community, and to encourage the creation of service industries concerned with data exploitation.

ANNEX B

POTENTIAL CONTRIBUTIONS TO THE SPACE CENTRE

It is still too early for potential participants in the Centre to make firm commitments concerning the contribution which they will make to its work. However, there are some indications of the scale of participation which may be possible by those already consulted, providing that their detailed objectives (see Annex A) can be adequately met. These contributions are set out below.

A. DTI Contribution

(i) Transfer to the Centre of the national space technology programme, carried out for DTI by RAE and RSRE, together with the further element undertaken directly with industry.

— 25 SSPs, with supporting staff
— total cost to DTI: £10m pa approx

(ii) Secondment to the Centre of its headquarters staff (ie Space Branch) working on national and international space technology and industry, and related space sponsorship activities. This would include the policy and management of the UK contribution to the ESA space technology programmes.

— 20 staff (including 11 senior staff)

— £55m pa approx

B. MOD Contribution

(i) Transfer to the Centre of available programme and staff at Space Department RAE, together with some staff at RSRE, depending on the level of classification of work involved.

—— DTI funded staff (or equivalent man/years per annum)

—— 12-15 MOD funded staff (or equivalent man years/annum)

—— cost to MOD: £1.5m pa approx

(ii) Secondment to the Centre of a staff member to work with the policy arm

(iii) Make available to the Centre accomodation and some facilities at RAE Farnborough and RSRE Defford, providing this does not result in cost or loss to the Defence Budget.

C. SERC Contribution

(i) SERC will put at the Centre's disposal technical staff and facilities at RAL currently devoted to space work (mainly project support for University groups). This function will instead be provided by the Centre using these, or other, staff.

—— 100+ staff (or equivalent man years/annum)

—— Cost £ [ ] pa

(ii) Secondment to the Centre of a small number of staff (including senior staff) to work on the policy side.

—— [ ] staff

D. NERC Contribution

(i) NERC will put at the Centre's disposal technical staff to work with its proposed Remote Sensing Applications Development Unit, intended to promote links with the remote sensing user community.

—— 10-15 staff (including the Unit's Director)

(ii) Secondment to the Centre of a staff member to work on the policy side and another on the technology side as Director of any proposed Remote Sensing Technology Programme (if acceptable to other participants).

—— 2 staff

(iii) Transfer to the Centre of its Satellite Receiving Station at the University of Dundee, if continued availability of services and facilities are guaranteed.

—— Cost £ 80k pa

E. Other Contributions

INDUSTRY

The manufacturers and users of space technology (eg BAe, Marconi, Logica, BT, BBC) will commit some of their resources to the Centre on a basis similar to Government, in return for the benefits of the technology work carried out by the Centre, and may also contribute to its policy side.

UNIVERSITIES

Individual University research groups active in the field may wish to play a direct part in the work of the Centre (eg Mullard Space Centre, Leicester, Surrey).

CONSULTANCIES/CONTRACT RESEARCH ORGANISATIONS

Organisations like PA Technology or UKAEA may wish to participate.

ANNEX C

ACCOUNTING AND ACCOUNTABILITY FOR THE FINANCING OF THE NATIONAL SPACE CENTRE

DTI Vote

Salaries and expenses of Director General and Board of Management.

Salaries and expenses of administrative staff of the Centre (ie those allocated from the existing space directorate).

Expenditure on space projects and grant to ESA (ie those items already on the DTI Vote).

Appropriations in aid of the DTI Vote

Such receipts as cannot be allocated to technological centres financed elsewhere.

MOD Vote

Salaries and expenses of staff allocated4to Centre.

Project costs associated with staff above and any further contributions to project work MOD wishes to support.

DES (Research Council) Votes

Such proportion of the grants in aid to the research councils as is required to meet the cost of staff and project costs allocated to the

Centre.

Contributions from private sector

These may be either in kind (eg. staff on free loan to the Centre) or cash by way of contributions to specific projects. Staff on free loan need not go through the book but would add to the Centre's resources and would be taken into account as part of the financing of the total programme.

Cash contributions would be appropriations in aid if used to finance projects within a Government establishment (eg RAE) or as an offset to project costs to be financed out of grant in aid in the case of the research councils.

Contributions from other Government Departments

Nominal contributions not associated with specific projects would be taken as appropriations in aid of the DTI Vote to offset administrative or other DTI space costs.

Contributions which are project related would be treated in the same way as contributions from the private sector.

Accountability

Departmental Accounting Officers would be responsible for all expenditure appearing on their own Votes. The Director General of BNSC would be responsible for efficient effective and economical running of the Centre.

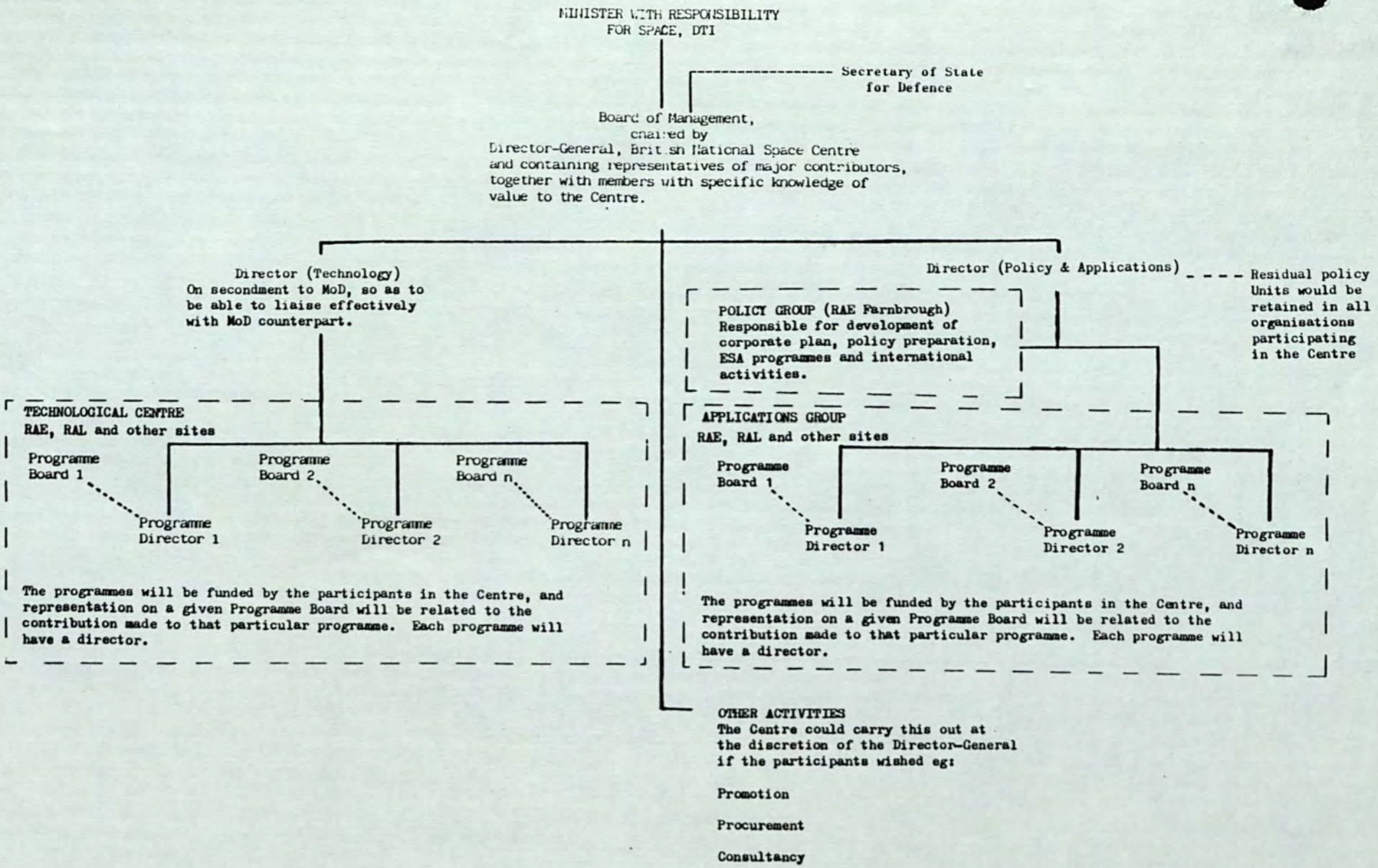


Figure 1. Proposed structure for the British National Space Centre

and help to gain their co-operation in making the Centre a success. If you, and Sir Robin, share this view I hope you might be prepared to agree.

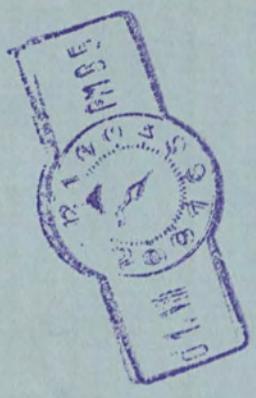
I am copying this letter to Geoffrey Pattie, Michael Heseltine, Peter Rees, Sir Robin Nicholson and Sir Robert Armstrong.

KJ.

1 August 1985

AEROSPACE: Space Policy

6/80



RN will, as agreed, discuss with Mr Pattie before deciding on paper. MLG 31/7

PPs for him please. CC NO

Can you arrange

MR ADDISON - No. 10

29 July 1985

BRITISH NATIONAL SPACE CENTRE

I have now completed the task given me by E(A) on 28 January to produce a plan for the British National Space Centre. I discussed this with the Minister with coordinating responsibility for space, Mr Pattie, and with the Secretary of State for Defence and the Parliamentary Under-Secretary for Science on Friday. They reached the broad agreement on my plan but Mr Pattie would like to have five minutes on the plan with the Prime Minister, the Secretary of State for Defence and the Secretary of State for Education and Science after the E(A)/OD meeting on Wednesday afternoon. Is this possible? If so I will provide an outline of the plan and a brief for the Prime Minister.

2. I am copying this minute to Richard Hatfield.

RBN

SIR ROBIN NICHOLSON
Chief Scientific Adviser

Space Policy : Aerospace

June 1980

DEPARTMENT OF TRADE AND INDUSTRY
1-19 VICTORIA STREET
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From the Minister of State
for Industry and Information Technology

GEOFFREY PATTIE MP

Rt Hon Michael Heseltine MP
Secretary of State
Ministry of Defence
Main Building
Whitehall
LONDON
SW1 2HB

20 March 1985

Dear Michael

NATIONAL SPACE CENTRE

Thank you for your letter of 12 March. I doubt that we really differ on my proposed terms of reference for the Working Group: like you, I had not seen the new Centre as the sole policy-making body for British space, and the terms of reference were not intended to imply such exclusivity.

As you suggest, the policy and co-ordination roles of the Centre can be considered by the Working Group itself. The important thing is not to lose the momentum we have generated, and Sir Robin Nicholson should now press ahead with his Working Group.

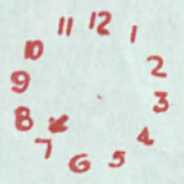
I am copying this letter to members of E(A), Sir Robert Armstrong and Sir Robin Nicholson.

Yours ever

Jeffrey

GEOFFREY PATTIE

MA4/MA4AAD



BG19B01

CONFIDENTIAL

cc NO.

DEPARTMENT OF EDUCATION AND SCIENCE

ELIZABETH HOUSE, YORK ROAD, LONDON SE1 7PH

TELEPHONE 01-928 9222

FROM THE SECRETARY OF STATE

Geoffrey Pattie Esq MP
Minister of State for
Industry and Information Technology
Department of Trade and Industry
1-19 Victoria Street
LONDON SW1

N bpm MH 20/3

20 March 1985

Dear Geoffrey,

will request if nec

UK SPACE DIRECTORATE

I have belatedly received my copy of your letter of 28 February to Michael Heseltine on this subject; and have seen Michael's reply of 12 March. I welcome the proposal of Sir Robin Nicholson as a neutral Chairman for the interDepartmental discussions and would be content with the joint DTI-MOD Secretariat. As you recognise, DES and the Research Councils (notably SERC and NERC) have a potentially strong interest in the Directorate and should be involved in these deliberations. We would wish to play an active and constructive part in this preparatory work and, if it proves possible and sensible, in the new body itself. I also welcome your recognition that the private sector and the scientific community will need in some way to be involved in these preparatory discussions.

Like Michael I have some detailed points on your proposed terms of reference and desiderata, and on the senior staffing question. In particular the point about the Directorate's role in policy making will want careful exploration. But - not to delay matters - I would be content for this and other questions to be pursued in Sir Robin's group itself. That is, your text would be regarded as giving broad guidance to the group's discussions rather than laying down prior conditions.

I quite understand the reasons for naming Norman and Michael in the terms of reference as the recipients of the recommendations, many of which will fall to them to consider. I would only ask that if, as I would expect, the report addresses matters within my sphere of responsibility I should receive a copy at the same time.

With SERC and NERC, my officials have been giving some preparatory thought to the subject. I assume that the next step will be for Sir Robin Nicholson to convene a first meeting.

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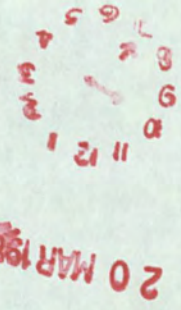
I am copying this letter to recipients of yours; and am keeping Sir John Kingman (SERC) and Mr Hugh Fish (NERC) in touch with these developments.

Yours,

Ken.

AEROSPACE: Space Policy:

June 1980



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10 DOWNING STREET

From the Private Secretary

28 February 1985

Preparation for a National Space Centre

The Prime Minister was grateful for Mr. Pattie's minute of 15 February. She agrees that Sir Robin Nicholson should be invited to chair the proposed working group on the establishment of a British National Space Centre.

I am sending a copy of this letter to Richard Hatfield (Cabinet Office).

(David Barclay)

Tim Abraham, Esq.,
Mr. Pattie's Office,
Department of Trade and Industry

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From the Minister of State
for Industry and Information Technology

GEOFFREY PATTIE MP

Rt Hon Michael Heseltine MP
Secretary of State
Ministry of Defence
Main Building
Whitehall
LONDON
SW1 2HB

28 February 1985

Dear Michael

Following the meeting of E(A) on 28 January, the public announcement of the decision to establish a British National Space Centre, and the successful outcome of the ESA meeting in Rome, it is time to set up the Working Group to make recommendations on the detailed arrangements for the Space Centre.

The Space Centre will only work effectively if Departments have complete confidence in the arrangements. I believe it would be best if these were to be devised by a Working Group with a neutral Chairman and I suggest that Sir Robin Nicholson be asked to take on this task with a joint Secretariat from our Departments. I have asked the Prime Minister whether she would be content with this arrangement.

I further propose that there should be a 'core' membership of the Working Group which would comprise our own Departments, DES/ Research Councils, Treasury, the FCO and the Cabinet Office Machinery of Government Department. The Working Group would also need to meet in extended form which would then involve other Whitehall Departments with an actual or prospective interest in space, the private sector and scientific community.

I think it is important that we build on the Ministerial consensus on the way forward in space by giving the Group a rather clear 'steer'. Thus I suggest the following terms of reference:

> "To make recommendations to the Secretaries of State for Defence and for Trade and Industry for the implementation of the decision to set up a British National Space Centre. The Centre's primary objectives will be:

a) the development of a competitive technology base in the UK for the common use of the participants in the Space Centre;

b) the formulation of proposals for Ministers for future policy on space and the implementation or co-ordination of implementation of the policy.

The recommendations for the administrative, financial, technical and legal arrangements for the Centre should be made with the following desiderata in mind:

i) full involvement of the private sector from both the manufacturing and user sides of space;

ii) the harnessing and further development of the expertise of the scientific community;

iii) maximum use of existing facilities;

iv) no net addition to public expenditure in the creation of the Centre;

v) the safeguarding of the security requirements of the Ministry of Defence;

vi) the need for equity in the input and output of the Centre in relation to its various participants;

vii) effective liaison with our European partners, with ESA and with NASA."

Two models have been suggested for the Centre, one a corporate model and the other a partnership basis. Both models have their attractions and I think we should allow the Working Group to consider these and any further models they may devise as options.

As far as timescale is concerned, I think it will pay us to make maximum use of the current momentum and the will which clearly exists to make space a success in Britain. I suggest we ask for a final report from the Working Group by the end of April.

M12/M12AES

Finally, it may not be too early to mention the question of the senior staff of the Space Centre. My initial thoughts on this lie in the direction of strong representation by people seconded from the private sector who would of course need to have the confidence of Whitehall and credible credentials in the eyes of the scientific community. Perhaps we can ask our officials to start thinking of suitable candidates.

I am copying this letter to Ministerial colleagues who attended the E(A) meeting on 28 January and to Sir Robert Armstrong and Sir Robin Nicholson.

Yours ever

Geoffrey

GEOFFREY PATTIE

M12/M12AES

Space Policy

Ref. A085/595

MR BARCLAY

Preparation for a National Space Centre

Thank you for your minute of 18 February to Mr Hatfield.

2. I think that Mr Pattie's judgment that the proposed Working Group will need a neutral chairman is right. Sir Robin Nicholson is in my judgment the best person available for that purpose. I have confirmed that he is content to take it on, though he is worried about the amount of time it will involve.

3. I think, therefore, that the Prime Minister can accept Mr Pattie's proposal.

ROBERT ARMSTRONG

26 February 1985

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From the Minister of State
for Industry and Information Technology

GEOFFREY PATTIE MP

Rt Hon Peter Rees QC MP
Chief Secretary to the Treasury
Treasury Chambers
Parliament Street
LONDON
SW1P 3AG

25 February 1985

Dear Peter

ESA MINISTERIAL COUNCIL

Thank you for your letter of 15 February and your kind references to the success of the ESA Council. In the light of your questions about the spaceplane HOTOL (Horizontal Take Off and Landing) it may be helpful if I amplify my earlier report to the Prime Minister so far as this point is concerned.

As you rightly say, the reference in the Council Resolution was primarily designed to counter French demands for endorsement of their Hermes project. Late in the day, they had mounted a major diplomatic effort in an attempt to force this proposal through at a rate of development which would have significantly increased the ESA expenditure profile which I had shown to colleagues as the basis for our own decisions. They were unsuccessful and irritated most other Member States, who then welcomed the opportunity to express interest in the possibility of there being alternative and technologically more advanced ways of achieving the objectives of the Hermes proposal.

However, I do not think you should be too alarmed by the way the Press have taken this up.

The HOTOL reference was in fact deliberately low-key. The text records that Council merely "Takes note of the studies underway in the United Kingdom of the future generation HOTOL project and following Annex IV of the Convention invites the United Kingdom to keep the Agency informed. A similar invitation is also extended to other Member States undertaking studies in this area".

FE3/FE3ABN

CONFIDENTIAL

Estimates of development costs must be very speculative at the moment. More studies would be needed to validate (or otherwise) the concepts involved in this revolutionary proposal before costs could be forecast with any degree of certainty.

I agree that if the UK were to take the lead in a new launcher development, such as HOTOL, it would be a major change in Government policy requiring full discussion by all concerned. But we are not close to reaching that position. Most of the study work carried out to date has been funded by private money and the initiative to take things further rests very clearly with the companies. You may be sure that neither I nor my officials will allow the Department to be put into a position in which either industry or our partners in the ESA have reason to expect the Government to invest substantial sums of money in the HOTOL project, without there first being the fullest discussion between our Departments, including the Ministry of Defence.

I am sending copies of this to the Prime Minister and to those on the attached list.

GEOFFREY PATTIE

M12/M12AES

Secretary of State for Education and Science

Secretary of State for Energy

Secretary of State for Defence

Secretary of State for Wales

Secretary of State for Environment

Lord Privy Seal

Secretary of State for Employment

Minister of Agriculture, Fisheries and Food

Secretary of State for Transport

Chancellor of the Duchy of Lancaster

Sir Patrick Mayhew QC MP
Solicitor General

Mr John Gummer MP
Paymaster General

The Rt Hon the Lord Gray of Contin

Minister of State, Scottish Office

Mr Timothy Renton MP

Parliamentary Under-Secretary of State, Foreign and Commonwealth Office

Mr John Cope MP
Deputy Chief Whip

Sir Robert Armstrong

Sir Robin Nicholson

SPACE Policy

COVERING CONFIDENTIAL

JR(43)

10 DOWNING STREET

From the Private Secretary

MR. HATFIELD

PREPARATION FOR A NATIONAL SPACE CENTRE

I attach a copy of a minute to the Prime Minister from the Minister for Information Technology about preparations for an international space centre.

I should be grateful to know whether Sir Robert Armstrong would be content with Mr. Pattie's proposal that Sir Robin Nicholson should chair an inter-departmental working group on this subject.

(DAVID BARCLAY) 18 February 1985

~~CCNO~~

? RTA

CONFIDENTIAL

Prime Minister (1)

PRIME MINISTER

Yes NO Robin Nicholson confirms that he would be willing to take this on.

PREPARATION FOR A NATIONAL SPACE CENTRE Content ?

Dmb 27/2

You will recall ~~that~~ Attached. it was decided at the meeting of E(A) on 28 January to establish a British National Space Centre. This I announced on the following day just before attending the Ministerial European Space Agency (ESA) Council in Rome.

It is now time to set up the Working Group to make recommendations on the detailed arrangements for the Centre. As you may recall, the interdepartmental working group which met so successfully prior to the ESA Council was chaired by Sir Robin Nicholson and I would be glad of your agreement that he should chair this follow-up group. In view of the fact that both the Department of Trade and Industry and the Ministry of Defence have a strong interest in the Centre, the presence of a strong neutral chairman will, I think, be a great asset and help the working group come to its conclusions within a fairly tight timescale.

GEOFFREY PATTIE

15 February 1985

FE2/FE2ABM

014/106

CONFIDENTIAL

Treasury Chambers, Parliament Street, SW1P 3AG

Geoffrey Pattie MP
Minister of State for Industry and
Information Technology
Department of Trade and Industry
1 - 19 Victoria Street
London
SW1

15th February 1985

Dear Geoffrey

ESA MINISTERIAL CONFERENCE: ROME 30 - 31 JANUARY 1985

I was pleased to see that the ESA Council went so well and at the reception your success received in the media. Your minute of 5 February to the Prime Minister reported a satisfactory outcome on all the policy areas we discussed at E(A) and the funding implications can now be settled by officials on the basis agreed at E(A).

One thing gives me pause though, and that is the space-plane HOTOL. In the papers prepared for your presentation on space in December and for E(A) in January we were told that there was no need to give consideration to the place of launchers in the ESA Long Term Plan because "we have not recently had a major involvement in launchers and it is not suggested that we should change that position now." This was in line with our established policy of concentrating on space applications in the most immediately commercially promising areas - namely telecommunications and now remote sensing.

We have now, after thorough consideration, widened our policy focus by embarking on Phase B of the space station. But in reaching that conclusion we acknowledged that there is still a long way to go before we can be sure that it would be right - judged against the agreed criteria - to participate in the later, development, stages of the space station. The economic and commercial aspects of the project, for instance, will be a vital factor in that decision and my officials have already been in touch with yours about starting work on the assessment of the cost-benefit criterion. This major policy decision and all the work involved concern a project which could cost the UK somewhere around £250 million.

CONFIDENTIAL

Reports in the press put the cost of HOTOL at £4 billion at a first estimate though I understand that it could be as high as £5 billion. This is a different matter. I can see why you might have wished to use, as a matter of tactics, the idea of HOTOL as a counter to French demands on Hermes. But I think it may have been premature to use Hermes to push HOTOL in ESA. It would be dangerous to arouse expectations at home and among our partners in ESA about what might follow the future studies of the project in which I understand your Department would wish to share.

If you are thinking of any change in policy and becoming involved in HOTOL I would be glad of an opportunity to consider the implications before any irrevocable decisions are taken. I would also be grateful for your assurance that what you might propose will be funded from within your own programme.

... I am copying this to those on the attached list.

PETER REES

Aerospace; Policy: June '80

10 DOWNING STREET

From the Private Secretary

11 February 1985

ESA Ministerial Conference

This is just to record that the Prime Minister has seen and noted Mr. Pattie's minute of 5 February.

David Barclay

Tim Abraham Esq
Department of Trade and Industry.

file ECL

cc Sir R Nicholson

10 DOWNING STREET

THE PRIME MINISTER

11 February 1985

Dear Sir John,

I was most grateful for your letter of 6 December about co-ordination of British space policy, which was a valuable input to our recent discussions on this subject within Government.

As you will now know, Geoffrey Pattie announced before he left for the Ministerial Council of the European Space Agency in Rome that the Government has decided to establish a British National Space Centre. This Centre will be charged with improving the development of space technology in the UK and ensuring the effective co-ordination of national space policy. I am sure that you and your colleagues in the scientific community will have welcomed this announcement.

We now need to make sure that the Space Centre works, and that we achieve an appropriate reward for this country from the talents of our scientists and engineers and from the tax-payer's money which will be spent on space. I look forward to the positive response from the scientific community which you promise in your letter, and I hope that you will have further valuable discussions with the Government in the coming months as the Space Centre takes shape.

Yours sincerely

Margaret Thatcher

Sir John Mason, CB, FRS.

GR

Please type.

W.0121 8 February 1985

MR DAVID BARCLAY, NO 10

DMB 8/2

- A revised draft for the Prime Minister to send to Sir John Mason, in case she wants something more effusive than the DES offering.

RBN

ROBIN NICHOLSON

12

DRAFT LETTER TO SIR JOHN MASON

NATIONAL POLICY ON SPACE RESEARCH

I was most grateful for

~~I have delayed responding to~~ your letter of 6 December about co-ordination of British space policy, ~~while the issue was still under discussion in~~ which was a valuable input to our recent discussions on this subject within Government. ~~However, I understand that you had a constructive meeting with officials earlier this month during which you were able to elaborate your views. The outcome of this meeting has been valuable input to our discussions in Government.~~

As you will now know, before he left for the Ministerial Council of the European Space Agency in Rome, Geoffrey Pattie announced that the Government ~~have~~ has decided to establish a British National Space Centre. ~~This~~ The Centre will be charged with improving the development of space technology in the UK and ensuring the effective co-ordination of national space policy. I am sure that you and your colleagues in the scientific community will have welcomed this announcement.

~~Now~~ we now need to make sure ensure that the Space Centre works, and that we achieve an appropriate reward for this country from the talents of our scientists and engineers and from the tax-payer's money which will be spent on space. I look forward to the positive response from the scientific community which you promise in your letter, and I hope that you will have further valuable discussions with the Government in the coming months as the Space Centre takes shape.

Aerospace : Space Policy 6/80.

CONFIDENTIAL

Prime Minister (4)

To note. The Conference seems to have gone quite well, though we had to concede 5% p.a. growth in the ESA science budget.

PRIME MINISTER

ESA MINISTERIAL CONFERENCE: ROME 30-31 JANUARY 1985

You will I am sure have seen from press and television reports that the Rome meeting of the ESA Council went remarkably smoothly. In fact Robin Nicholson and I, thanks to the decisions at E(A) last week, were able to present the British stance in a much more positive way than has been possible in the past. This was widely noted, both by the press and by the other delegations. I am confident that we are now perceived both within ESA and in the US as being back with some force and influence in European space policy.

As to detail, we were able to accommodate the French requirement for expressions of ultimate European space autonomy without any real changes of substance or danger of causing offence to the US. Indeed I understand that NASA are pleased with the European response. I was able to use the French insistence on recognition of their decision to proceed with their Hermes manned spaceplane to incorporate similar recognition of UK studies of the future generation HOTOL project: this excited considerable interest and the recognition that, if the technology works, this totally reusable runway-to-orbit space-plane could be a world-beater.

As foreshadowed last week, I was able to secure the agreement of our major partners that British Aerospace would lead on the Phase B1 studies of the Columbus astronaut-tended platform elements which will take the UK well into the new technologies of robotics, docking, in-orbit repair and maintenance, and advanced data systems, and I was able to announce this publicly. The French, who are undoubtedly shrewd judges of these matters, are anxious to have as large a share as possible in the platform studies and this suggests that they too have identified platforms as the most commercially promising and useful elements of the Columbus programme. The Council meeting agreed with no difficulty a resolution welcoming and accepting President Reagan's invitation to join the space station programme which incorporated the safeguards which we have ourselves set to determine the success of Phase B.

Although we were able to contain with some difficulty the ESA general budget for the next five years to the minimum foreseen, the science budget is now set to rise by 5% a year for five years, ie the maximum we were prepared to contemplate. We did manage, however, to get rid of any reference to further rises after this period. After extensive consultations outside the meeting, Robin and I came to the conclusion that we would be

FE1AAQ

unable to shake the firm determination of some of the smaller states to stick at 5% and that the other large members were not prepared to hold out for a smaller figure.

I am copying this minute to those who attended the E(A) meeting on Monday 28 January 1985.

GEOFFREY PATTIE

5 February 1985

FE1AAQ

DEPARTMENT OF TRADE AND INDUSTRY
1-19 VICTORIA STREET
LONDON SW1H 0ET
TELEPHONE DIRECT LINE 01-215 5422
SWITCHBOARD 01-215 7877

JF7483

Secretary of State for Trade and Industry

31 January 1985

David Barclay Esq
Private Secretary to the
Prime Minister
10 Downing Street
LONDON
SW1

BF // Comments coming from Sir Robin Nicholson

Dear David,

Thank you for your letter of 16 January inviting me to revise the draft reply for the Prime Minister to send to Sir John Mason.

2 Sir John's letter centred on the need for a British Space Agency and, after Ministers' agreement to establish the 'British National Space Centre' earlier this week, the ... Prime Minister may now wish to respond as in the enclosed draft.

3 I am sending copies of this letter and its enclosure to Simon Lowe (Defence), Tim Hughes (Education and Science) and to Sir Robin Nicholson.

Yours ever,

A D Lansley

ANDREW D LANSLEY
Private Secretary

Encl

ZF 14/028/047

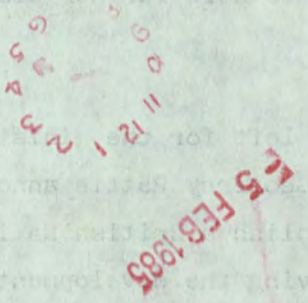
Sir John Mason CB, FRS
Treasurer and Senior Vice President
The Royal Society
6 Carlton House Terrace
LONDON SW1Y 5AG

NATIONAL POLICY ON SPACE RESEARCH

I have delayed responding to your letter of 6 December about coordination of British space policy while the issue was still under discussion in Government. However I understand that you had a constructive meeting with officials earlier this month during which you were able to elaborate your views and that you propose to hold further discussions. I welcome this.

As you will now know, before he left for the Ministerial Council of the European Space Agency in Rome, Geoffrey Pattie announced that the Government have decided to establish a British National Space Centre. This will be charged with improving the development of space technology in the UK and ensuring the effective coordination of nationalspace policy. The detailed arrangements are yet to be finalised and your continuing contribution to the discussions will doubtless prove useful.

Aerospace : Space Policy 6/80.



10 DOWNING STREET

From the Press Secretary

cc D. Powell

Dr GURNELL

Dr Pattie is doing quite a bit of media work in connection with this week's European Space Agency meeting in Rome.

I have assured him that the Prime Minister would be happy for him to be in the lead; and that policy or measures had not reached the stage where she might wish to be involved.

I urged him to go for the British National Space Centre (BNSC) - not the British Space Centre (confusingly, BSC) - at Farnborough.

Bruce 24/4

CENO

MINISTRY OF DEFENCE WHITEHALL LONDON SW1A 2HB

TELEPHONE 01-218 9000
DIRECT DIALLING 01-218 2111/3

MO 11/8/2

23rd January 1985

Blf for E(A) discussion of Space when reamyed

DwB 24/1

FUTURE BRITISH SPACE PROGRAMME

↓ with DB or in Meeting folder?

I have seen your minute of 21st January to the Prime Minister on this subject, and thought it would be useful to comment on one small point regarding the Space Directorate before tomorrow's discussion at E(A).

I share your hope that we shall be able to agree to establish a Directorate to co-ordinate a joint civil/military programme of space-related technology research. The time is certainly ripe, if not overdue, and I am confident that there is sufficient commonality of user interests in basic space technology to justify setting up such a body. I write however in the hope of heading off a potential difficulty stemming from your suggestion that the Directorate must report to a civil Department, such as DTI, because of ESA Treaty obligations. As you will know, on the defence side we rely very heavily on US assistance in space technology, and as they invest substantial sums in this area, derive very substantial benefits from this relationship. Existing arrangements work well but the Americans remain extremely sensitive about the security aspects of US sourced information and I do not believe that the US would agree to its release to a Directorate reporting only to a civil Department. This would almost certainly mean that a significant proportion of US related MOD space technology research would have to be undertaken

The Rt Hon Norman Tebbit MP

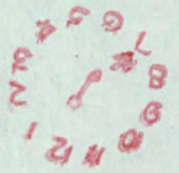
outside the Directorate, which would immediately limit the value of the new body's co-ordinating role. For this reason I believe the Chairman on the Directorate Management Board must be a Defence man - and of course traditionally D/RAE, a Defence Scientist, has overseen both MOD and DTI space technical programmes. A joint reporting line for him would then be sufficient to protect my interests and I hope to meet yours. I would be surprised if such an arrangement were precluded by ESA Treaty obligations. I can see that difficulties could arise on applications, but this should lie outside the Directorate's remit. Perhaps we shall need legal advice?

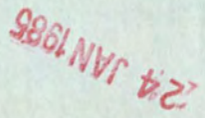
I am copying this letter to other members of E(A), Keith Joseph, Geoffrey Pattie, and to Sir Robert Armstrong and Sir Robin Nicholson.

Yours ever

Michael Heseltine

Aerospace: Policy: June 1980





CONFIDENTIAL

W.080 23 January 1985

PRIME MINISTER

SPACE POLICY - E(A) MEETING JANUARY 24

The industrial significance of space is likely to continue to increase over the remainder of this century and beyond. Commercial exploitation of space will be based on communications and earth observation. The United Kingdom will need to build on its present technology in these areas to remain competitive. Defence applications can also be expected to grow. There is a substantial commonality in space technology for civil and defence purposes. It is the technology which we should aim to develop if we participate through ESA in the US Manned Space Station.

2. UK interest in the space station project has concentrated on the development of a free-flying unmanned platform. The technology benefits of such a development (in terms of data management, communications and robotics) are good and it is complementary to the plans of both the USA and the European countries. The platform would benefit from British Aerospace's acknowledged expertise and has the advantage of leading to direct commercial applications as a cheaper alternative to self-contained satellites, in telecommunications, remote sensing and for scientific payloads, etc.

3. Participation in the space station will need additional expenditure on space (see Annex A). DTI have agreed to find the costs of phase B from their existing budget. In my paper for E(A), I have addressed the problems of the funding for phases C and D and the increases in the ESA mandatory science programme.

4. I believe it is essential that industry finds one-third of the costs of the former, both to show their commitment to the commercial value of UK participation and to emphasise the

CONFIDENTIAL

influence which they should have on its direction and nature. The Secretary of State for Trade and Industry (Annex B to his paper) has indicated some criteria against which the outcome of the phase B study over the next 2 years should be assessed and I would suggest that industry's agreement to meet its share of the cost of participation should be added to these.

5. I have also suggested that the public expenditure burden for phases C and D will be divided equally between the Departments with the major current interest in space: DTI and MoD. I believe that this expenditure should be regarded as contributory to the creation of a vital industrial infrastructure for the next century. The DTI expenditure can be favourably compared with that moderating the decline of the industrial infrastructure of the last century, eg steel and shipbuilding on which DTI still propose to spend more than £100 m in 1987/88.

6. The increased expenditure on the ESA mandatory science programme is relatively small (see Annex A) and I hope that Ministers can agree with my proposal that this sum be added to the Science Vote with offsetting savings from the lower priorities in the Government's R&D programme as a whole.

7. My paper suggests that Departments will find it possible to agree on the forming of a Space Directorate created from the existing MoD/DTI activity at RAE Farnborough and I have suggested that a Working Group prepare proposals for this following the E(A) meeting. This work will take 2-3 months and it is a matter of judgement whether the Government wishes to announce its decision on a Directorate in advance of the detailed work. There are clear political advantages in doing this, particularly in relation to our negotiations with our European partners next week.

8. I am copying this minute to Sir Robert Armstrong.

RBN

ROBIN NICHOLSON
Chief Scientific Adviser

ANNEX A

Space Expenditure

(annual figures)

	£ m
DTI current expenditure	60
Cost of participation in phase B of Space Station	7
Cost of participation in phases C-D of Space Station - average over 10 years	30
SERC current expenditure on ESA mandatory science programme	14
Cost of expected increase in mandatory science programme	3.5 - 6

ANNEX B

Glossary of international projects

USA

Space Station - the manned station itself, the orbital transfer vehicle, the orbital manoeuvring vehicle, etc.

Space Shuttle - the existing means of supplying the space station.

Germany/Italy

Spacelab - an existing manned laboratory for scientific experiments transported by Space Shuttle.

Columbus - an ESA development of Spacelab with longer life and facilities for space manufacture - proposed as the main ESA participation in Space Station.

France

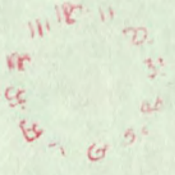
Ariane IV - the existing ESA satellite launch rocket.

Ariane V - a more powerful version of Ariane IV being developed with Germany.

Hermes - a very recent proposal for a "mini-Space Shuttle" to be launched by Ariane V.

UK

Free-flying platform (as yet un-named) - an unmanned but man-tended platform which can fly in equatorial or polar orbits - the UK contribution to the Columbus and Space Station programmes.



CONFIDENTIAL

Prime Minister

Notes below from Sir Robin Nicholson and Policy Unit.

DMS 23/1

PRIME MINISTER

Space Policy
(E(A)(85)3)

BACKGROUND

The purpose of the meeting is to consider the medium and long-term future of the United Kingdom (UK)'s space effort. Most of that effort (£61.4 million out of £80.5 million in 1983/84) is channelled through the European Space Agency (ESA), which was founded at UK initiative in 1972. Proposals for a newly increased long-term programme will be considered at a meeting of ESA Ministers on 30-31 January.

2. There are two elements in the proposed increase. The smaller is a proposal from the Agency's Scientific Advisory Committee (on which the UK is represented by the Science and Engineering Research Council (SERC)) for an increase in the science programme, contributions to which are mandatory on a fixed basis. The proposal, which may not be accepted in full, would raise the UK's current contribution to the programme by 50 per cent in real terms at a rate of 7 per cent a year over a number of years. The second, larger element is a proposal for ESA participation in the remaining phases (B, C and D) of President Reagan's space station project. Participation in phase B, the planning phase, would cost the UK about £7 million over two years, which could be found within the Department of Trade and Industry's (DTI's) budget. Participation in subsequent phases is currently estimated to cost about £250 million over eight years from 1988/89, with some expenditure in 1987/88. These estimates may change considerably but are unlikely to be reduced. The cost could not be found within the existing space budget.

CONFIDENTIAL

3. You chaired a meeting of the Ministers most concerned on 11 December 1984. It concluded that the UK should enter phase B of the space station project, provided that firm criteria were established for subsequent participation by the UK. Sir Robin Nicholson was asked to explore with officials:

i. how phases C and D could be funded within planned expenditure totals if the UK took part;

ii. the case for, and the funding of, an increase in the science programme; and

iii. the possiblity of an inter-departmental Space Directorate based at Farnborough.

FLAG A

The results of Sir Robin's discussions are in E(A)(85)3. The minute to you dated 21 January from the Secretary of State for Trade and Industry is also relevant.

MAIN ISSUES

4. The main issues are:

i. What criteria should be adopted for UK participation in phases subsequent to phase B?

ii. If an increase in the science programme is agreed by ESA, how should the UK share be financed?

iii. If it is eventually decided to participate in phases C and D of the project, how should the UK share be financed?

iv. Should a new Space Directorate be set up?

Criteria for participation in subsequent phases

5. You will want to seek the Sub-Committee's views on the proposed

list of criteria for UK participation in subsequent phases circulated as Annex B to Mr Tebbit's minute of 21 January. It is likely that the Chief Secretary, Treasury will want to suggest adding references to cost-effectiveness and contributions from the private sector.

FLAG B

Financing an increase in the science programme

6. Sir Robin Nicholson identifies three options for financing an increase in the science programme:

i. (his preferred option) to increase the Science Vote with offsetting savings elsewhere in Government Research and Development (R & D);

ii. to require the existing increase to be found from within the existing science programme; and

iii. to transfer the ESA science programme to DTI and finance it jointly with the Ministry of Defence (MoD) and the private sector.

7. The Secretary of State for Education and Science would obviously prefer i.. The offsetting savings required (at least £3.5-6 million a year , or at most twice that amount) would be small in relation to Government R & D expenditure as a whole (around £4 billion a year). There is some force, however, in the argument that SERC, having represented the UK in negotiations on the science programme, should fund at least some of any increase themselves. Moreover, experience shows how difficult it is to persuade other Ministers to transfer even small sums to the DES programme.

Financing of phases C and D and the Space Directorate

8. Sir Robin Nicholson proposes that phases C and D of the space station should be financed through a new Space Directorate, based on the existing department at the Royal Aircraft Establishment (RAE), Farnborough. He says that officials of the Departments concerned

agree in broad principle. He proposes that the lead should be with DTI, given the civil nature of the space station project, but MoD and the private sector should be involved both in the project and in the Directorate more generally. The partners' shares of the Directorate's costs would depend on the use they made of it. It is not clear at the moment what changes should result in MoD's and DTI's costs on space research, either in relative or in absolute terms. These questions will require further detailed discussion as the proposal is developed, but as far as the costs of phases C and D of the space station are concerned, Sir Robin suggests that the aim should be a one-third split between MoD, DTI and the private sector.

9. You will need to establish:

- whether the Secretary of State for Defence is prepared to accept his one-third share of the funding;
- whether the proposed one-third funding by the private sector is adequate and realistic;
- whether, as the Treasury will probably propose, MoD and DTI contributions should be absorbed within existing programmes;
- whether a working party should be set up to develop the Space Directorate as proposed on the lines of paragraph 7 of E(A)(85)3.

HANDLING

10. You will wish to ask Sir Robin Nicholson to present his paper. The Secretary of State for Trade and Industry or Mr Pattie should be asked to propose the criteria for participation in subsequent phases. The Secretary of State for Education and Science will wish to comment on the funding of the science programme and the Secretary of State for Defence on the funding of phases C and D. The Chief Secretary, Treasury will have views on funding generally.

CONCLUSIONS

11. You will want to reach conclusions on the following:

i. whether the criteria for participation in phases subsequent to phase B should be as proposed in Annex B of the Secretary of State for Trade and Industry's minute of 21 January;

ii. whether the increase in the ESA science programme should be funded by savings in the Government's R & D programme as a whole as proposed in paragraphs 15 and 16 of E(A)(85)3;

iii. whether phases C and D of the programme should be financed by a one-third MoD/DTI/private sector split;

iv. whether a Working Party should be set up to develop the Space Directorate proposal on the lines of paragraph 7 of E(A)(85)3.

PLG

P L GREGSON

23 January 1985

MR BARCLAY Prime Minister 23 January 1985

SPACE POLICY

Funding the Space Station

Robin Nicholson's division of the £250 million space station cost initially into third shares for DTI, MOD and private industry is a judgement of Solomon. If it is accepted, and not used for incremental PES bids - excellent. But beware £250 million will be the lowest price. And Robin rightly points out that further domestic expenditure will be necessary to exploit the advantages of our participation.

The space station expenditures will fall mainly in the 1990's when Government funding is likely to be even more constrained than today. The space station is desirable but not so much as to justify incremental public expenditure. We recommend that if a cost division within existing PES totals cannot be agreed now then we should not participate.

Space Directorate

The proposed space directorate could perform a useful role. The dangers of it declining into a bureaucratic spending body will be reduced if:

1. The terms of reference restrict it to only furthering our commercial (and defence?) space interests. (The SERC and NERC could continue managing the Science programme). Perhaps any new expenditure proposal should have at least 50% industrial funding before it could be advanced.

2. It entails no staff recruitment. DTI already has a Whitehall department of 25 dealing solely with space: the directorate should absorb this function either in part or whole. Private sector secondees must be paid by their employers who are also to contribute to the cost of the projects.

Mandatory Science Programme

The growth in real spending is undesirable and should be resisted: there can be no benefit in trying to compete with the US in this field.

Criteria for Success of Phase B

Annex B to Norman Tebbit's note gives criteria for determining during phase B whether the project will meet our objectives. These seem sensible subject to the following:

i. Does concentration on a free flying platform fully meet the objective of maintaining the UK lead in satellites, communications and sensing? (Point iii).

ii. The cost benefit equation on participation should be more concrete. In particular it needs to indicate how long before we would expect to earn a return on the investment. (Point iv).

iii. We need to be certain that limitations on defence use will not undermine the benefit of participation to the MOD.

Peter Warry

PETER WARRY

010

DEPARTMENT OF TRADE AND INDUSTRY
1-19 VICTORIA STREET
LONDON SW1H 0ET
Telephone (Direct dialling) 01-215)
GTN 215) 5147
(Switchboard) 215 7877

From the Minister of State
for Industry and Information Technology

GEOFFREY PATTIE MP

CF

I/es please

Dwb
23/1

Lord Young of Dartington
House of Lords
LONDON
SW1

22 January 1985

Dear Lord Young

will request if required rea' 23/1

"BRITAIN'S FUTURE IN SPACE"

Thank you for your letter of 31 December to the Prime Minister commending Professor Martin Rees' accompanying broadsheet on "Britain's Future in Space".

You mentioned in particular that you and your colleagues support Professor Rees' arguments for forming a British Space Agency.

I am glad to be able to say that the Government are looking again at the arrangements this country has for its space activities as part of the current consideration of space policy issues affecting Britain's potential involvement in the US space station and our future requirements of the European Space Agency.

I cannot at this stage predict the outcome but there are clearly good arguments both for and against forming such a body. In the past, the balance of advantage has certainly been seen to lie in allocating responsibilities, particularly in the science and defence fields in ways which ensured that the opportunities offered by space could be judged alongside corresponding opportunities developed on earth. This approach has helped Britain to the forefront of achievement in space science.

Equally, of course, there would be gains from bringing together scarce expertise in developing and managing demanding satellite programmes and we are now at a time when some reassessment of these arguments is desirable.

Yours sincerely

Geoffrey Pattie

GEOFFREY PATTIE

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B/f for mtg of E(A). 24/1/85

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PRIME MINISTER

FUTURE BRITISH SPACE PROGRAMME

On 11 December, Geoffrey Pattie gave a presentation to you and those colleagues most immediately concerned on the issues to be decided at the Ministerial meeting of the European Space Agency at the end of January, including the possible UK involvement in the European response to President Reagan's invitation to participate in the international space station project. In the discussion which followed, there was general agreement that we should not rule ourselves out of this high technology space station project at such an early stage, and that the UK should participate in Phase B feasibility stage of the proposed ESA programme. The costs, estimated at £7 million over two years, would be borne by the DTI within its existing budget.

2 I had already made clear that the cost of Phases C and D, some £30 million a year for eight years, could not be met within my Department's existing budget and Cabinet Office officials were asked to consider how, in these circumstances, contributions to Phases C and D would be funded if the UK took part. They were also invited to consider the position on the UK's contribution to the ESA science programme and the proposal for an inter-departmental space directorate at Farnborough: their recommendations on these three issues are contained in E(A)(85)3 to be discussed on 24 January.

3 By way of background for those colleagues who were not at the 11 December presentation, I attach a note which gives a short account of present space programmes and policy; describes and assesses the main elements of the proposed ESA Long-Term Programme; outlines the US space station plans and our European partners' reactions; and identifies the main options open to us (Annex A).

4 In agreeing that the UK should enter Phase B of the ESA space station programme, colleagues emphasised the need to establish firm criteria in advance, against which we shall assess the success of Phase B at the time we decide whether to participate in subsequent phases. A list of proposed criteria is given in Annex B. It will be important to make these criteria known to our European and American partners at the time we commit ourselves to Phase B.

5 On the question of the need for a Space Directorate, I agree the time is now ripe to establish such an organisation. It should improve the cost effectiveness of our space programmes, the way in which we administer them and the way we determine policy priorities. ESA Treaty obligations would make it essential for the Directorate to report to a civil department and I am content that this should be DTI, though the management Board should be shared by those Departments and other organisations (including industry) subscribing to the expenditure.

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6 I am copying this minute to members of E(A), to Michael Heseltine and Keith Joseph, to Sir Robin Nicholson and to Sir Robert Armstrong.

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N T

2 January 1985

Department of Trade & Industry

ANNEX A

CONFIDENTIAL

SUMMARY OF SPACE PRESENTATION - 10 DECEMBER

Purpose of the Presentation

Decisions are needed on the position the UK should adopt at the Ministerial meeting of the European Space Agency (ESA) to be held on 30-31 January, which is to consider proposals for a new ESA long-term programme, including a European response to President Reagan's invitation to participate in the space station project.

I Present Policy and Involvement in Space

2. Much the largest part of the UK's space effort is undertaken through ESA, which was set up in 1972 as a result of a British initiative. Of HMG's space expenditure of roughly £80 million a year (DTI - £60 million; SERC - £20 million), some 82% is channelled through ESA. Over the last ten years, the Government's civil expenditure on space has shown a slow decline in real terms and is now much smaller than that of Germany (about £200 million) and France (about £335 million).

3. We have, however, successfully pursued a selective policy and concentrated our effort on certain key aspects of space science and technology. So on the science side we have maintained the UK's position as a world authority in space astronomy and geophysics, notably x-ray astronomy. On the DTI side we have concentrated on space applications likely to result in early commercial returns - firstly communications and now including remote sensing.

4. In this way we have helped to create a highly effective communications satellite industry in the UK which is growing rapidly and in which industry is now investing heavily on its own account. The UK has the highest ratio of industry turnover to government expenditure on space in the world.

II The ESA Long-Term Programme

5. The main features of the ESA proposals for a new 10-15 year programme are:

(i) development of a new launcher by the mid-1990's;

(ii) continued development of space applications;

(iii) expansion of ESA's science programme;

(iv) European participation in the space station.

Policy decisions for the UK relate primarily to (ii), (iii) and, especially, (iv) above. We have not recently had a major involvement in launchers and it is not suggested that we should change that position now.

6. The applications programme could be funded on the same selective basis as at present, provided that present funding levels are maintained in real terms. To maintain the relative commercial advantage we have obtained for the UK space industry, it will be important to ensure that this element in the ESA programme continues to be given sufficient priority, particularly in the areas of telecommunications and remote sensing. UK industry regards this aspect of the ESA proposals as the highest immediate priority for future space expenditure and would be seriously concerned if funds were diverted to other purposes.

7. Participation in ESA's space science programme is mandatory, so we must contribute at the required rate if we are to remain ESA members.

III The Space Station Project

8. We must assume that the space station will be built, irrespective of whether or not the UK joins the project. In the long-term it could have a profound effect on space technology, both in extending the use of space as a resource and in transforming the economics of existing space applications. For example, the station will provide a new infrastructure from which astronauts will be able to repair, modify or refuel satellites in orbit without bringing them back to earth; and large structures will be assembled in orbit before being boosted to higher orbits.

9. Germany and Italy have put forward the Columbus proposal as a positive European response to President Reagan's Space Station invitation and they have the support of France, who in return have obtained German/Italian backing for future substantial development of the Ariane launcher. The Columbus proposal is that Europe should build a manned module to be associated with the station and also a free-flying platform (either in orbit near to the station or in polar orbit). Our present assessment is that if the UK were to take part in Columbus our main interest would be in a man-tended polar-orbitting platform as a vehicle for remote sensing payloads.

IV Options

10. The immediate decision to be taken is whether the UK (through ESA) should take part in the next planning phase (Phase B) of the space station project. This is intended to define the aims of the project much more closely and to provide more reliable forecasts of likely costs. Participation in Phase B would cost us some £7 million over the next two years; this could be accommodated with some difficulty in the DTI's existing space budget.

11. The draft Memorandum of Understanding between ESA and Nasa which has been proposed by the USA makes it clear that entry into Phase B 'does not commit either Party to co-operation beyond the design phase of the programme'. We should establish in advance with the Americans and our European partners strict criteria by reference to which we should judge the outcome of Phase B and reach our final decision on whether to take part in later stages of the project (Phases C & D). The US and the Europeans can be expected to agree that the end of Phase B in late 1986 will be the genuine decision point regarding further participation.

12. Nevertheless, we must obviously be concerned that by entering Phase B we should be 'stepping on an escalator'. Unless further developments and negotiations with NASA during Phase B were to show clearly that participation in the full project would be disadvantageous to ESA as a whole, we should face strong political pressure, internationally and domestically, not to withdraw at that point.

13. Present indications are that full UK participation in an ESA contribution to the full space station project (ie our normal 15 per cent GNP share) could cost us about £250 million over 10 years, requiring an increase of £30 million per annum from 1988 in the forecast space budget. Phase B is not likely to produce any lower figures. Moreover, the DTI's assessment is that the industrial case for participation in Phases C and D is unproven - the opportunity cost of devoting such large sums to procure such long-term and uncertain benefits for the UK space industry is too high for the DTI budget to bear: there are higher priorities both within our total Departmental provision and also within the allocation for expenditure on space.

14. The choice to be made seems to lie between:

(i) refusing to take part even in Phase B;

(ii) taking a small token part in Phase B (and probably also in Phases C and D);

(iii) taking a full part in Phase B, with the intention of deciding in 1986 whether or not there is a case for participation in Phases C & D.

V Industrial and Commercial View

15. At a 1 day conference in October attended by representatives from industry and potential scientific and commercial users, the general consensus was in favour of participating in the space station with priority given to involvement in a free-flying platform and in the communications and data handling technologies. However, as at the beginning of December, industry has not shown any willingness to make a financial contribution to a UK involvement in the Space Station.

VI Organisation in HMG

16. If we decide to go ahead with participation in Phase B (and possibly in any case) we ought to review existing Whitehall arrangements for co-ordinating space policy. The lead is currently taken by the DTI, but insufficient weight is given to the renewed Defence interest in space (for surveillance, high capacity data links and data processing etc). We should examine the possibility of converting the present space department at RAE Farnborough into an inter-departmental space directorate, including seconded representatives from industry.

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CRITERIA FOR MEETING SUCCESS OF PHASE B

Entry to Phase B does not commit either ESA or NASA to proceed with the space station. At the end of Phase B a decision will have to be taken with ESA on whether to undertake the more substantial commitments of the construction phase. But if we are to enter Phase B and retain a genuine decision point at the end of this Phase, the UK must formulate and make known to its partners its criteria for a successful conclusion.

(i) UK participation must buy access on a continuing basis to all space station facilities
- this implies that the Columbus programme will be acceptable to the US as part of the initial operating capability.

(ii) The UK financial contribution to overheads must be limited and fully predictable
- charges for using the services of the US station must be agreed in advance, related to use, similar to charges made to US-based users, and valid for the duration of co-operation; the ideal would be a 'no exchange of funds' basis between Europe and the US but this depends on providing hardware which the US will find useful.

(iii) There must be a satisfactory role for the UK in the Columbus project
- preferably the lead on a polar-orbiting platform with elements affording access to advanced US technology and meeting UK technological and user aspirations.

(iv) The prospective technological and economic benefits to the UK must be rigorously substantiated and commensurate with the development and operating costs.

(v) Intellectual property rights must be fully protected, and there must be no scope for discrimination against UK commercial users
- we shall be aiming at a treaty to enshrine such rights.

PACE 84

10 DOWNING STREET

From the Private Secretary

16 January, 1985

Thank you for your letter of 14 January, with which you enclosed a draft interim reply for the Prime Minister to send to Sir John Mason about space.

Since Ministers are to consider the issues which Sir John raised in his letter of 6 December at a meeting next week, it would seem to us preferable to await their decision before sending a reply. I understand from Sir Robin Nicholson that Sir John is aware in general terms of the way in which this subject is being handled within Government.

Could you therefore please provide as soon as possible after next week's meeting a revised draft reply to Sir John Mason which takes account of the decisions reached by Ministers.

BF

DAVID BARCLAY

M. C. McCarthy, Esq.,
Department of Trade and Industry

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Secretary of State for Trade and Industry

14 January 1985

David Barclay Esq
Private Secretary to the
Prime Minister
10 Downing Street
London SW1

Dear David,

On 6 December you sent Neil McMillan a letter the Prime Minister had received from Sir John Mason of The Royal Society. We have delayed responding until after the meeting Sir John said he was arranging to discuss his proposals with the relevant officials.

2 The meeting was attended by officials from DTI, MOD, SERC and NERC as well as a few members of The Royal Society with special knowledge of space science. The meeting covered much of the ground on the space station and the ESA programme which was covered in Mr Pattie's presentation to the Prime Minister. No new points arose. Sir John concluded that he should call another meeting about a possible space directorate after Ministers have announced the results of the ESA Ministerial meeting.

3 The Prime Minister may care to respond to Sir John as in the enclosed draft.

Yours ever,

Callum

M C McCARTHY
Private Secretary

JH5APP

DRAFT FOR PRIME MINISTER

Sir John Mason CB FRS
Treasurer and Senior Vice President
The Royal Society
6 Carlton House Terrace
LONDON
SW1Y 5AG

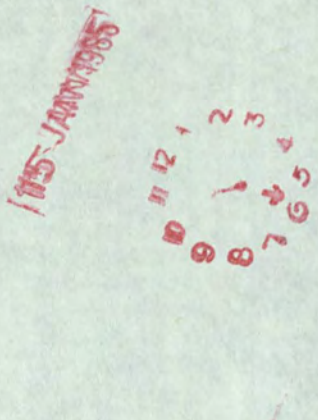
NATIONAL POLICY ON SPACE RESEARCH

I have delayed responding to your letter of 6 December about space policy until after you had your meeting with officials.

I understand that you had a constructive discussion and that you propose to call a further meeting about the need for an interdepartmental space directorate after the ESA Ministerial meeting, by which time we shall have announced our future space policy in respect of ESA and President Reagan's space station proposal.

I shall be interested to hear your conclusions in due course but in the meantime I welcome the interest The Royal Society is taking in space matters.

Aerospace: Space Policy: June '80



MJ

10 DOWNING STREET

From the Private Secretary

SIR ROBIN NICHOLSON

The Prime Minister has now seen your minute of 10 January to David Barclay covering a paper prepared for E(A) on space policy. She has agreed that this paper may be circulated to E(A) in the form proposed.

11 January 1985

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Covering CONFIDENTIAL

W.034 10 January 1985

MR DAVID BARCLAY, NO 10

Attached is a copy of the paper I have prepared for E(A) in accordance with the remit given to me by the Prime Minister recorded in your letter of 12 December to Neil McMillan. I have come under great pressure, from MoD especially, to prepare a different type of paper, namely one which summarises the views of Departments on each of the three issues. But I have taken the position that the Prime Minister wished to have clear proposals from me for dealing with these issues which as far as possible met the views of Departments and this is what I have done. Where Departmental officials have continuing reservations which their Ministers regard as substantial, these will no doubt surface as Ministerial correspondence before the meeting or as oral comments at the meeting itself.

If the Prime Minister is content with the paper, I will have it circulated, under cover of a Note from the Secretaries, to E(A) members and other Ministers invited to the meeting on 24 January.

I am copying this minute and the attachment to Peter Gregson and Richard Hatfield.

Prime Minister (4) PBN

The most difficult of Robin's proposals, from your point of view, is likely to be the ESA are on the mandatory/science programme. He recommends an increase in the science budget to find this.

But the paper would go round in his name, without prejudicing your position in the E(A) discussion. Agree circulation to E(A)? Yes

ROBIN NICHOLSON

DMB 10/1

SPACE POLICY

Paper by the Chief Scientific Adviser, Cabinet Office

Following the Prime Minister's meeting on Space Policy on 11 December, I was asked to explore the three issues listed below with officials from interested Departments and circulate proposals to members of E(A).
The issues are:

(i) the funding of phases C and D of the proposed US Space Station project, in the event that the UK decided to take part in the programme;

(ii) the case for, and funding of, the proposed increase in the UK's contribution to the ESA Mandatory Science Programme;

(iii) the proposal for an inter-Departmental Space Directorate, to be based at RAE Farnborough.

2. I have discussed these issues with officials from MoD, DTI, DES, FCO and the Treasury. The factual background to the issues is broadly agreed by Departments but officials do not necessarily agree with my conclusions and recommendations on the issues.

A Space Directorate

3. The primary purpose of a Space Directorate would be to provide a world-competitive space technology base at minimum cost for common use by private sector industry and the public sector. It would do this by co-ordinating the technology and science programmes of the participants in the Directorate and by implementing agreed joint programmes. The viability of such a Directorate rests with the commonality of the technology and science required by space users and by suppliers of space hardware and software; this technology

and science is developing rapidly and is expensive to obtain. These arguments relate not only to participation in the US Space Station but to UK space activities as a whole. The UK's present approach to space technology tends to be fragmented and not sufficiently well co-ordinated - a luxury which we cannot afford either in financial terms or in terms of likely effectiveness.

4. The constitution of a Space Directorate could take the form of a partnership in which a partner's influence on the policies and joint programmes of the Directorate would be in proportion to the partner's annual expenditure on programmes co-ordinated by or implemented by the Directorate and the partner's ability to contribute to the technology and science base of the Directorate through expertise or through making available technical facilities. The partners in the Directorate could include the major private sector hardware and software companies in the UK, Government Departments such as DTI and MoD, but also MAFF/DAFS, DoE, DEn, ODA and DTp, Research Councils such as SERC and NERC, and Universities with major expertise in space.

5. For some years the MoD and DTI have jointly funded the Space Division at RAE Farnborough. A Space Directorate could be developed by uprating this activity with staff seconded from private sector and public sector partners in the Directorate. Because the Directorate would be the vehicle through which the UK participated in some international civil space activities such as the US Space Station, the Directorate would need to report to a civil Department, viz. DTI. The direct cost of the Directorate would depend on its scope and responsibilities but, in net terms, it should cost no more than the alternative arrangements because of the improvement in cost-effectiveness.

6. The reaction of officials from MoD, DTI, DES and the relevant Research Councils to the proposal for a Space Directorate is positive although they caution that Departments will have different views on much of the detail and these differences will need to be resolved before a Directorate is established.

7. My conclusion is that a Space Directorate would make a significant contribution to the UK establishing a competitive

position in space technology and applications. I suggest that a Working Group of officials be set up with representatives of private sector industry to make recommendations on the purpose, size, constitution and funding of a Space Directorate.

Funding phases C and D of the US Space Station project

8. If the UK participates in phases C and D of the Space Station project via ESA and at GNP level, the estimated cost at 1984 prices is £250 million over 8 years from 1988-89 with some expenditure in 1987-88 (a refinement of this estimate will be made during phase B of the project). The purpose of participating would be to develop the UK's space technology base and space industry. Currently the main Government users of the space technology base are MoD on their own account and DTI as a proxy for industrial users, especially in communications. The main private sector suppliers of space hardware and software are companies like British Aerospace, Marconi and Logica and the main private sector users are companies like British Telecom and the DBS consortium.

9. It would be desirable to have a 50/50 split of phases C and D costs between Government and the private sector but because of the long-term payback compared with other arrangements where there has been 50/50 financing, the infrastructure nature of the project, and the substantial uncertainty, an agreement from the private sector to find even 33 per cent of the costs will not be easily achieved but should be possible to obtain during phase B.

10. Currently, the two Government Departments which are substantial exploiters of space technology are MoD and DTI. This situation is unlikely to change over the remainder of this decade and hence these Departments will be the initial beneficiaries of the space technology bases which will be developed in the UK through participation in the Space Station.

11. I therefore recommend that the aim should be to split the costs amongst private sector interest, MoD and DTI so that the average burden would be (in 1984 prices):

Private sector interests	£10m pa
MoD	£10m pa
DTI	£10m pa

If this funding is arranged through a Space Directorate, it would be possible to broaden the base of both the Government and private sector contributions in the later years of the programme as the non-defence/non-communications uses of space become more clearly delineated and the commercial benefits more readily defined.

12. Past experience of international scientific and technological projects has shown that the full benefits of participation can only be obtained if Departments carry out appropriate complementary programmes designed to exploit the results for national benefit. This is not taken into account in the costs above and proposals would need to be made by Departments and approved in the normal way. One example would be NERC programmes on data reduction, transmission and processing from satellite-borne instruments which is a key technology in the commercial exploitation of earth observation platforms.

The ESA Mandatory Science Programme

13. Membership of ESA and hence participation in any of the ESA optional programmes (like Space Station) requires participation in the ESA Mandatory Science Programme. For the UK, the current cost of this (£14m) is met by SERC who also provide the UK input to ESA decisions on the nature of the programmes which are, of course, an integral part of SERC space activities. The January ESA Council will consider a proposal to increase the size of the mandatory programme by 7 per cent pa in real terms for several years, so that eventually it will have increased by about 50 per cent. The scientific justification for this kind of growth, which is acknowledged by the SERC space scientists, is that the low rate of launch of scientific satellites (one every two years) is becoming uncompetitive with the USA and Japan. ESA Ministers are likely to settle for a 3-5 per cent pa increase in real terms for at least 5 years. Over this period, a growing additional cost would be generated reaching, at 1984 exchange rates, £2.5 - 4.0 m in 1988-89. A further £1-2m pa arises from the requirement in the ESA financial regulations to maintain the Mandatory Science Programme in real terms against an index of European science costs. Thus the total additional cost burden by 1988-89 will be £3.5 - 6.0 m pa.

14. Although the SERC Council have concluded that the future of UK space science lies primarily with participation in the ESA science programme, they do not feel that they can divert resources from other research programmes to meet this additional cost, given their other priorities and the present pressure on their budget. While it is technically possible for the UK to veto the proposed increase in the ESA programme, this action would jeopardise the UK's participation in the Space Station and, indeed, our whole involvement in European space technology and science.

15. Thus there is a need to decide how to fund the additional cost and to recognise any consequential changes in responsibility for the UK input into the ESA science programme. There seem to be three options:

(i) to increase the Science Vote and earmark the increase for expenditure on space science at ESA, this increase to be offset by savings from other parts of Government R&D expenditure which are of a lower priority;

(ii) to direct that SERC or ABRC fund the increased space science expenditure from existing resources at the expense of their other research;

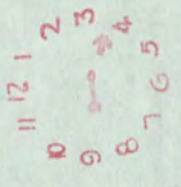
(iii) to transfer responsibility for the whole ESA Mandatory Science Programme to DTI with an appropriate PESC transfer. The additional cost would then become, effectively, an additional cost of participating in phases C and D of Space Station and would be shared in accordance with paragraph 11 above.

16. In assessing these options, it should be borne in mind that SERC's past space science programme has provided an essential base for current MoD and DTI user activity and for the UK space industry's expertise in satellites and associated equipment. Future SERC and NERC programmes should further enhance DTI's and MoD's capability but, more importantly, they should open up the great potential for the use of space in agriculture, fisheries, environment, transport, energy and mineral resources.

17. For these reasons I believe that the ESA science programme provides a national benefit and is a proper charge on Government R&D as a whole; hence I recommend option (i).

AEROSPACE: Space Ashtray

June 80



To Mr. Nicholas.. | copies to
For ADVICE (AND DRAFT REPLY IF APPROPRIATE)
PLEASE BY: 14/1/85
Mr Leeming

10 DOWNING STREET

From the Private Secretary

4 January, 1985

Dear Neil,

I enclose a letter which the Prime Minister has received from Lord Young of Dartington, with which he enclosed a broadsheet on "Britain's Future in Space".

I should be grateful if you would arrange for a Minister from your Department to reply to Lord Young on the Prime Minister's behalf, with a copy to us for our records in due course.

Yours ever,
David

DAVID BARCLAY

Neil McMillan, Esq.,
Department of Trade and Industry

HOUSE OF LORDS

R 4/1

31 December 1984

Dear Prime Minister,

I am sending you the enclosed broadsheet by Professor Martin Rees, a former Chairman of the European Space Agency Science Advisory Committee, in the hope that you and your advisers will be able to take it into account in deciding whether to pull the people who are at present scattered between several Departments into a single British Space Agency. I and my colleagues in the newly formed Argo Venture hope you will so decide.

Yours sincerely,

Young of Dartington

Young of Dartington

The Rt Hon Margaret Thatcher MP
Prime Minister
10 Downing Street
London SW1

BRITAIN'S FUTURE IN SPACE

MARTIN REES

ARGO VENTURE

ARGO VENTURE

The Argo Venture was launched in a speech to the British Association by Michael Young on 11th September 1984. His paper A History of the Future introduced a project designed to test, by research both in the natural and social sciences, proposals that would eventually lead to permanent human settlements in space, including the planet Mars.

After a first seminar in December 1984 at Churchill College, Cambridge, the aims of the venture are being pursued through further conferences, publications and the formation of a network of supporters. Two space simulation projects are also being promoted.

The Argo Venture will publish a quarterly Newsletter and occasional pamphlets. Membership is open to everyone - not just the scientific fraternity.- A year's subscription costs £10.00 and will bring you all the publications. For further details write to:

Dr Tony Flower
Argo Venture
18 Victoria Park Square
LONDON E2 9PF

Preface

Michael Young

The Argo Venture was set up in order to raise the level of interest in space exploration, first in Britain and then in Europe and elsewhere. In a country and in a world which have suffered so many setbacks, the further objective of Argo is to rekindle some hope for the future. Peaceful collaboration in space could prompt more peaceful collaboration on Earth.

This first Argo broadsheet by Professor Rees is therefore much to be welcomed. If people in Britain are to have an influence upon the course taken by space exploration there will amongst other things need to be more of a concerted effort by our government than there has been so far. In particular, we are calling on Mrs. Thatcher to set up a British Space Agency as one of the first acts of her Administration in 1985. The best way to counter moves like the Star Wars proposals of President Reagan and the development of anti-satellite weapons by the Russians is to press on with peaceful collaboration in space through the European Space Agency. It could be the special role of Europe to resist the militarisation of space by showing another and more benign way forward.

There is to my mind little doubt about the value of an expanded European effort, in which Britain with a new British space agency would engage with vigour. My hope is that on the issues that now have to be faced by the ESA the British Government will support the push for greater autonomy in Europe, with the co-operation of Japan and of Commonwealth countries. This means support for the French proposal for a mini-shuttle, which at least does not foreclose

on the possibility of Europe eventually having its own space station. My hope is also that, on British prompting, the ESA will declare that its long-term goal is to establish human colonies in space not for military but for civilian purposes, not for Star Wars but for the furtherance of collaboration for peace. Nothing else will in the long run enlist the necessary level of public support. Robots in space have a chill ring to them, unlike men in space. The Argo Venture has taken a special interest in the prospects of human colonies on Mars in the hope that such projects will eventually be taken up by ESA and its partners. Long-term ambition is the best underpinning for short-term effort.

BRITAIN'S FUTURE IN SPACE

MARTIN REES

In the 25 years since the first Sputnik we have seen men on the Moon, and probes to the planets. Aside from these 'space spectaculars', satellite technology is paying practical dividends in telecommunications, navigation, and weather forecasting. Space offers an immense potential and an open frontier. There can be little doubt (barring nuclear catastrophe) that activities in space will eventually be pursued on a vastly expanded scale - that operations in near-Earth orbit will become almost as routine as aeronautics now is, and that the entire Solar system will one day be fully explored. Obviously these activities will stretch out for many decades and from decades to centuries.

The key question - basically a political one - is what priority (and what emphasis) should be given to such enterprises? How many of the futuristic potentialities are we keen to see realised in our lifetimes? Or would we, contrariwise, be content for them all to be deferred for (say) 50 years?

Such immensely longterm (and 'non-immediate') issues naturally tend to get squeezed off the political agenda. But there are some issues of the same type whose importance <u>is</u> already recognised: for instance, decisions on energy policy (fusion research, etc.) require an equally long-range perspective. Policies on energy and on space have other resemblances: both sometimes involve investments that may not pay off soon enough to be justified by normal commercial criteria; in both there is a need for international collaboration, coupled with a concern not to become too dependent on other countries; and in both sectors we already have cause, especially in Britain, to regret unduly delayed decisions and missed opportunities.

Commercial profits can now be made from space (especially in telecommunications), and an increasing amount of effort can, one hopes, be privately funded. But public funding is appropriate - even essential - for applications such as meteorology, and for the initial scientific or exploratory stages of every enterprise. Moreover, there is no activity better suited to international collaboration. We in the UK should therefore be preparing ourselves to play a bigger part than we have so far in future space projects, especially the European ones in which we have so far lagged behind both France and Germany.

THE SUPERPOWERS

Space has long been, and still is, dominated by the USA and the USSR. Their programmes have been driven primarily by superpower rivalry. Each country has launched several thousand spacecraft, more than half having a military purpose. In the 1960s, the US non-military effort was focussed on the Apollo programme to land men on the Moon - the most complex and challenging technical project ever accomplished. Through the 1970s the worldwide applications of space for communications, remote sensing, meteorology, and navigation burgeoned; but the largest single element in the US programme has been the development of the Shuttle - a manned re-usable launcher for both military and civilian spacecraft. During the last decade the USSR has conducted a programme aimed at enabling men to work in space for long periods - a logical preliminary to manned missions to the Moon and to the planets.

The USA is now committed to construction of a large manned space station in low Earth orbit. This would provide a 'service station' for satellites, a microgravity environment (with important potential applications for manufacture of some pharmaceuticals and other high-value products), and a staging post

for launches into deep space. NASA is seeking international participation in this venture. Within NASA serious discussions have been renewed about establishing a permanent manned base on the Moon within 20 years.

Looming over all this is a much more ominous prospect: President Reagan's proposed Strategic Defence Initiative, an arsenal of beam weapons capable of destroying enemy missiles in flight, and thereby providing the US with an 'invulnerable shield' against ICBM attack. This so-called 'Star Wars' scheme has been subjected to a barrage of authoritative criticism: the basic technical problems may be insurmountable; the system could be vulnerable to countermeasures (and would in any case be ineffectual against missiles travelling at low altitude); and the decision to embark now on such a development (whether or not it eventually worked) could in itself be destabilising, and give a further impetus to the arms race. Even the staunch advocates of 'Star Wars' (few of whom come from outside the US weapon laboratories or aerospace industry) accept that its development would take more than 20 years, and consume resources on a scale vastly larger than the Apollo project. If 'Star Wars' nevertheless went ahead it would entail the massive deployment of weapons in satellites. The consequent militarisation of space might well dash any prospect of international collaboration in the peaceful exploration of the Solar System. I greatly hope the American and also the Russian governments will not proceed any further with the militarisation of space.

WESTERN EUROPE IN SPACE

The scale of space activities in Europe is much lower than it is in the superpowers, amounting overall to less than 20 per cent of the American effort. International collaboration has consequently played a dominant role, though its success and cost-effectiveness

has been mixed. In the 1960s there were two separate European organisations: the European Space Research Organisation (ESRO) and the European Launcher Development Organisation (ELDO). The former, whose aims were primarily scientific, enabled Europeans to participate in a small way in space research. The aim of ELDO was to construct a rocket capable of launching satellites, using the UK Blue Streak as the first stage, and with the second and third stages made within Europe. This project proved abortive, with the result that until a few years ago, Europe depended on American launch vehicles.

In the 1970s, a new organisation, the European Space Agency (ESA), was established, whose aim was to foster both space science and space applications. ESA has carried out a generally successful programme of satellite launches, in which the 11 European member countries have participated roughly in proportion to GNP. It has also engaged in two major 'special projects': (i) Development of the Ariane launcher, and (ii) Construction of Space Lab, a large cylinder which can be launched in the Shuttle's cargo bay. The prime movers in these two projects have been the French and Germans respectively, the UK having had little more than token participation in either.

Ariane and Space Lab now being complete, the ESA member nations face crucial decisions about the level and thrust of ESA's activities during the next decade. An ongoing programme of application satellites for remote sensing, etc., seems assured, and a somewhat expanded science programme is now being considered. The major controversial issues now being debated, however, are:

(i) Should Europe engage in further launcher development? Ariane could be upgraded so as to launch heavier payloads; and there is a new French proposal for

a mini-shuttle ('Hermes') which could offer Europe the capability for manned spaceflight in the 1990s.

(ii) The US is keen to secure international participation and funding in the Space Station, and is therefore seeking to attract European and Japanese interest at an early stage, the incentive for early involvement being that the foreign partners would then have some say in the final design. ESA has to decide how to respond to this American pressure. A specific proposal, spearheaded by German and Italian industrial interests, is that ESA might develop 'Columbus' - a large spacecraft which could, as it were, 'plug in' as an annex to the US space station. Construction of Columbus would offer Europe beneficial access to the general technology of space station development. But there is a strong feeling that ESA should not risk becoming merely a dependent minor partner of NASA, but should spend its funds in a way that might lead to an autonomous space station, irrespective of long-term US plans. For similar reasons, the French would wish the space station to be compatible with Hermes as well as with the Shuttle.

There is also a body of European opinion which (while favouring some large-scale efforts in space) believes that ESA could make a more distinctive contribution by channelling its limited resources into an unmanned programme, pursuing advanced concepts in robotics, etc. There would then be a real prospect of gaining a world lead in these key technologies.

THE UK IN SPACE

Blue Streak gave the UK, 20 years ago, a clear leading position in launcher development within Europe; but this lead was eroded by our decision to join ELDO, which then failed. There was a successful series of British-built (but US launched) satellites in the late 1960s and 1970s, including the Ariel

series of experimental scientific satellites. Through involvement with these, the British aerospace industry gained valuable experience, which enabled it to secure contracts to provide subsystems for other satellites (including many of the highly successful commercial communication satellites operated by the Intelsat international consortium). But the Ariel series has been discontinued for financial reasons; there is a risk that the low level of current activity will jeopardise the UK aerospace industry's competitiveness, thereby wasting a national resource of skilled manpower built up over the last 20 years.

Although we remain members of ESA, and pay our share of the mandatory part of ESA's programme, our overall level of space expenditure has fallen behind that of our major European partners such as France and Germany. Elsewhere in the world, Japan and India now have programmes on a scale much surpassing our own. The UK government spends about £80m per year on civilian activities in space (of which about £60m per year goes to ESA - about £10m coming from the Department of Education and Science via the Science and Engineering Research Council for the science programme, and the rest from the Department of Trade and Industry). The DTI also spends about £20m per year directly in UK industry. Ministry of Defence spending for military applications is probably similar to the overall civilian space budget. But these figures, though substantial, must be compared with the more than £500m per year of the French space budget, which is itself, even as a fraction of GNP, far below the US expenditure.

Space activities within the UK have also suffered for years from fragmentation and poor coordination: we have no organisation analogous, for instance, to the French space agency (CNES). In particular, this hampers our efforts to relate effectively to

ESA. A UK space agency is therefore needed, to provide better coordination and to act as an effective interface with the ESA decision-making structure. If such an agency already existed, it would ease the immediate task of formulating a UK view at the ESA ministerial conference this month, but it would still be very much worthwhile having after that. There is certainly substantial support for an expansion in ESA's applied programmes: UK industry is keen to participate in space station and launcher development. On the other hand, the proposed concomitant increase in ESA's science programme (currently a charge on SERC) is unpopular because it comes at a time when there are strong competing claims on a science budget which has been severely and shortsightedly squeezed by the present government.

A UK space agency should emphatically not be a big new bureaucracy, but a small and compact directorate, drawing together existing experts and advisers from DTI, MoD, the aerospace industry, and the scientific community. It should be the responsibility of a single identifiable minister. The advantages would be, as follows:

(a) Unless we adopt an administrative structure whose efficiency parallels that of our European partners Britain will fail to derive its due share of the broad benefits of European collaboration, and our ESA subscription may end up benefiting the more purposeful efforts of France and Germany rather than our own.

(b) Not only does space itself involve many different interests; often even a single project does. In particular, the effectiveness of UK projects could suffer if there were not good liaison between the satellite builders and those (such as space scientists) who can assess the quality of the data. This kind

of liaison is particularly crucial, for instance, with regard to meteorological or remote sensing satellites, whose primary purpose is practical, but which can nevertheless yield data of fundamental scientific interest. At the moment, those with genuine expertise do not have sufficient of a voice in decision-making.

(c) There is now no effective way in which the growing public interest in all aspects of space - and the concern that the UK should be favourably poised to play a full part in more ambitious future projects - can be channelled into an influential body of opinion. The minister with specific responsibility for space should be responsive to this general view as well as to the advice of the experts.

Europeans are becoming more aware of the opportunities offered by space: it is a technological activity where, in the long run, we cannot afford not to invest. The scale of individual projects is such that the UK can best do this via an expanded ESA programme (and the ESA contract system guarantees that the industry of each member country gains a financial return roughly commensurate with the national contribution). The larger our involvement, the more crucial becomes the need for better coordination of space activities within the UK; but the case for a UK space agency is extremely strong, irrespective of the level of our actual space effort.

LOOKING MORE THAN 10 YEARS AHEAD

The gestation period of space projects is so long that successful planning requires a rare degree of farsightedness. The international investment in launchers in the 1960s is only now paying off commercially; the Shuttle will not, in retrospect, seem a well-judged investment unless it heralds large-scale manned space activities (linked to the space station) in the next decade. By the same token,

any major decisions taken now - on the Space Station, for instance - will be vindicated (or otherwise) only in the 21st century.

The Apollo programme, perceived and supported by many in the 1960s as the first step in a long-term exploratory endeavour, turned out instead to be a one-off spectacular, whose momentum fizzled out in the 1970s. A whole generation is now growing up for whom the 'men on the Moon' belong to a dim and distant historical episode, all over before they were born. But enthusiasm for space exploration has revived in the US, and it is now echoed by a similar interest in Europe.

There is, after all, no reason why Europe - a match for the superpowers in population or when judged by economic or cultural criteria - should not play as large a role as the US in future space programmes motivated by non-military aims. For it would surely be to Europe's eventual detriment if we went on investing only a fifth as much as the US, and failed to acquire autonomy in technologies of such potential significance. It is therefore not unrealistic to urge a dramatic increase, between now and the end of the century, in European space efforts. To generate and sustain the requisite political support the broad European public must be inspired with an awareness of the potentialities of space; and ESA must be enabled to pursue an efficient expanded programme that yields economic, technical and scientific returns at every stage, but which leads consistently towards a long-term goal.

ARGO VENTURE

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BRITAIN'S FUTURE IN SPACE

In this first pamphlet published by the ARGO VENTURE Professor Martin Rees urges the British Government to support an ambitious, far-sighted and above all peaceful space programme. He argues the case for full British commitment to the European Space Agency.

The purposes and aims of the Argo Venture are outlined in a preface by Michael Young.

Martin Rees is Plumian Professor of Astronomy at Cambridge University; a former Chairman of the European Space Agency Science Advisory Committee and Regents Fellow of the Smithsonian Institute.

Michael Young - Lord Young of Dartington - is the Founder Chairman of the Argo Venture.

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10 DOWNING STREET

From the Private Secretary

17 December 1984

BMD: Research and Development

Thank you for your Personal and Confidential letter of 14 December to Charles Powell on the above, which the Prime Minister has seen and noted.

David Barclay

Colin Budd Esq
Foreign and Commonwealth Office

CD

PERSONAL AND CONFIDENTIAL

Foreign and Commonwealth Office

London SW1A 2AH

14 December 1984

Prime Minister

CDP

16/XII

Dear Charles,

BMD: Research and Development

When the Prime Minister saw the Canadian Foreign Secretary Mr Clark (your letter of 12 December), she argued that the Americans must have the knowledge to develop a defence system if the need ever arose; that the crucial decision to be taken was that of moving from research and development to production; and that the potential costs of doing so led her to presume that such a decision would not be taken.

The precise point at which research enters the development process is of course difficult to establish; no doubt this will be a major point of contention in US and Soviet attempts to reach any agreements on constraints on defensive systems. You may however find it useful to bear in mind that Article V of the 1972 ABM Treaty commits both countries "not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based"; nor "to develop, test or deploy ABM launchers for launching more than one ABM interceptor missile at a time from each launcher" ... nor "to develop, test, or deploy automatic or semi-automatic or other similar systems for rapid re-load of ABM launchers". In short, the ABM Treaty draws a distinction between research, which is permitted, and development of a number of BMD-related systems, which is not permitted.

Yours ever,

Colin Budd

(C R Budd)
Private Secretary

C D Powell Esq
10 Downing Street

PERSONAL AND CONFIDENTIAL

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cc: HMT CDLO MOD
NIO DIEmp DES
DIEn MAFF Mr Renton, FCO
SO CSO, HMT Dr Nicholson
WO D Transp.
DOE CO
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DTI M.W. Portfolio

10 DOWNING STREET

From the Private Secretary

12 December, 1984

Space Policy

The Prime Minister chaired a meeting on 11 December to consider space policy, against the background set out in the paper which you circulated with your letter to me of 6 December. Also before the meeting were minutes from the Foreign and Commonwealth Secretary (dated 7 December) and the Secretary of State for Trade and Industry (dated 6 December), together with a letter to the Prime Minister dated 6 December from Sir John Mason of The Royal Society. Those present at the meeting, in addition to your Minister, were the Secretary of State for Defence, the Secretary of State for Education and Science, the Chief Secretary, Treasury, Mr. Renton (Foreign and Commonwealth Office) and Dr. Nicholson (Cabinet Office).

Mr. Pattie described briefly the UK's present stance, and the proposals for a new long term ESA programme which would be considered at an ESA Ministerial meeting in January. The UK had spent much less than, say, France and Germany on its space effort, with results which were commercially very satisfactory. Our decision to concentrate on communications satellites had been vindicated, and we obtained reasonable value from our current public expenditure on space (£80.5 million in 1983/84, of which £61.4 million was channelled through ESA).

Now, however, ESA was likely to be looking for increased funds. The major element in this new demand was the so-called "Columbus" programme, under which ESA would co-operate with the United States in its manned space station project. The most likely form of participation was the construction of a manned laboratory and a free-flying space platform. The immediate issue was whether the UK, through ESA, should commit itself to Phase B of the programme - a feasibility study expected to last about two years. If we were to do so, we should establish from the start strict criteria for judging the merits of participation in later stages. The ultimate objective of the programme was an operationally manned space station by 1992.

The cost of Phase B to the UK was estimated at

CONFIDENTIAL

£7 million over two years. Your Minister confirmed that this amount could, with difficulty, be found from within your Department's existing budget. On balance, he believed that there were insufficient grounds for not proceeding with Phase B.

In discussion of the Columbus programme, general support was expressed for entering Phase B, provided that the UK established firm criteria for subsequent participation. It would be wrong to rule ourselves out of a high technology project of this sort at such an early stage. Further consideration would, however, need to be given to the question of how the money for Phases C and D might be found from within planned public expenditure totals, if the UK decided to play a further part. Account should be taken of the likely escalation in the costs of programmes of this nature. There was a prima facie case for contributions from several Departments.

The Secretary of State for Education and Science expressed concern about the scope for funding the proposed increase in ESA's science programme from within the science budget. Although the initial increase proposed by some of our ESA colleagues was small, the amounts involved could rise rapidly.

Summing up the discussion, the Prime Minister said that the UK should indicate its willingness to participate in Phase B of the proposed ESA manned space station programme. The costs of Phase B, which were estimated at £7 million over two years, would be borne by the DTI within their existing budget. Further consideration would need to be given by E(A) early in the New Year to:

i) the funding of Phases C and D, in the event that the UK decided to take a further part in the programme;

ii) the case for, and funding of, the proposed increase in the UK's contribution to the ESA science programme;

iii) the proposal for an inter-departmental space directorate, to be based at Farnborough.

In preparation for the E(A) discussion, the Prime Minister invited Dr. Nicholson to explore these three issues further with officials from interested Departments, following which the Cabinet Office should circulate proposals to members of the Committee. In considering funding, officials should not restrict themselves to possible shifts in priorities within the science budget: they should look at Departmental programmes, and Government expenditure on research and development as a whole. The Prime Minister would defer her reply to Sir John Mason until after the meeting of E(A).

I am sending copies of this letter to Private Secretaries to members of E(A) and to Richard Mottram

(Ministry of Defence), Elizabeth Hodkinson (Department of Education and Science), Alistair Harrison (Mr. Renton's office, Foreign and Commonwealth Office), Dr. Nicholson (Cabinet Office) and Richard Hatfield (Cabinet Office).

DAVID BARCLAY

Neil McMillan, Esq.
Department of Trade and Industry

Prime Minister: The issues are summarised in Mr Pattie's paper at flag A. You will also wish to see comments (in the folder) from Sir Geoffrey Howe, Mr Tebbit, and Sir John Mason of the Royal Society.

MR BARCLAY

7 December 1984

DMB 7/12

SPACE STATION

The UK cannot afford to dabble in purely scientific and explorational ventures in outer space, interesting as these are. There is little other than prestige to be gained but vast sums of money to be lost. We are already involved in other "prestige" projects (eg CERN, JET). A clearer strategy and ranking of such projects would be sensible in the longer term.

Industrial goals can be the only justification for involvement in the Space Station. Britain already leads Europe on satellites and telecommunications and the Space Station could extend our involvement into robotics and remote sensing.

Defence considerations are also relevant. DMB 7/12

Even so the political gains through involvement will not offset the commercial cost and we should only consider it if:

a. it will actually help us maintain our edge in inudstrial satellites;

b. these benefits will accrue before the year 2000;

c. there will be no US Department of Defense restrictions on technology or information transfer;

d. it would not be cheaper to buy our way in later.

The cost is estimated at £250 million over ten years but this is how Concorde started. DTI are not prepared to find the money and would prefer to drop it than do so - this could be best.

E. R.

For it to proceed other programmes would have to cut. DTI are spending £400 million per annum on scientific and technological asssistance - some of this could surely be done cheaper in the EC. Alternatively the MOD's £2 billion budget on R&D could be tapped: the Space Station must have strong defence connotations.

Peter Warry

PETER WARRY

2

W.926 7 December 1984

PRIME MINISTER

MEETING OF MINISTERS ON SPACE: TUESDAY, 11 DECEMBER, 10.15

This meeting has been called at the request of Mr Pattie to consider two critical decisions on space policy:

(a) whether and how to respond positively to President Reagan's invitation to participate in the US Manned Space Station programme;

(b) whether to respond positively to the proposal by the European Space Agency (ESA) to increase substantially the mandatory (scientific) part of its programme.

2. Mr Pattie has circulated a background paper for the meeting (Annex A). Other Ministers who will be present are the Secretary of State for Defence, the Chief Secretary, the Secretary of State for Education and Science and the Minister of State at the Foreign and Commonwealth Office representing the Foreign Secretary who has circulated a letter (Annex B). The Secretary of State for Trade and Industry has also circulated a letter (Annex C).

FLAG A — FLAG B FLAG C

3. Other Departments, eg Agriculture, Environment have an interest in this subject but will be able to give their views at the E(A) meeting arranged for 8 January. The purpose of the present meeting is to allow a smaller group of the Ministers most closely concerned to gain an in-depth understanding of the factors influencing the critical long-term decisions on space policy.

Background

4. In January 1984 President Reagan announced his decision to go ahead with a NASA proposal for a Manned Space Station at a cost

of $8 bn to be operational in 1992 - the 500th anniversary of Columbus' voyage. At the same time he invited other nations to take part in the project at their own expense. Since then his envoy has been active in Tokyo, Ottawa and European capitals with the expectation of raising additional funding of up to $4 bn. President Reagan himself brought a model of the Space Station to the Economic Summit in London.

5. Congress and the Office of Technology Assessment have been critical of some aspects of the proposal, eg the large manned component of the station, and Congress have specified a larger share of funding for automation and robotics. Nevertheless, it seems almost certain that the programme will go ahead, possibly in modified form.

6. The next phase of the project, for which international participation is being invited, is a feasibility study "phase B" for which the cost to the UK at GNP participation would be £7 m. DTI are prepared to finance this from their existing resources. Phases C and D of the project are the construction and operation of the station and the cost to the UK, again for participation at GNP level, would be about £250 m over 8 years from 1987-88. Mr Tebbit has indicated that he cannot find these resources from within his Department's current PES line.

7. Canada and Japan seem likely to take part in phase B and the signs in Continental Europe are also positive. European nations are agreed that they should respond through ESA and there is a Ministerial Council on 30/31 January in Rome where Mr Pattie will represent the UK. Participation in phase B does not commit any country to participation in phases C and D.

8. ESA was formed in 1972 on the initiative of Mr Heseltine. It receives its funds in three tranches, a mandatory science programme (paid for by SERC, £11 m pa), a mandatory contribution to overheads (paid for by DTI, £4 m pa) and an optional applications programme (available to countries which participate in the mandatory programmes) into which DTI currently pay about £48 m pa mainly for telecommunication satellite development.

The UK has had minimal involvement in other optional programmes such as the French-led Ariane launcher and German-led Spacelab pressurised module for scientific experiment.

9. ESA has proposed an increase of about 60 per cent over 10 years in its mandatory science programme (from 120 mecu to about 200 mecu) because the current funding only covers one satellite launch every 2 years which they regard as too infrequent to be competitive. Individual European nations (including the UK) have also carried out non-ESA scientific experiments in space, sometimes in association with NASA.

10. A SERC Committee recently reviewed SERC's participation in ESA's science programme and concluded that, despite some problems, "the way ahead for UK space science lies in increased involvement in ESA." But SERC itself in evidence to ABRC has indicated that an increased expenditure on space science can probably not take priority over their current activities. The additional cost to SERC of ESA expansion of the science programme would eventually be some £7 m pa.

11. Other member countries of ESA are likely to agree some increase in ESA's science programme but probably less than requested, say 30-40 per cent over 10 years.

FLAG D 12. You have received a letter from Sir John Mason (Annex D) stressing the important scientific contribution to the successes of the UK's space programme and emphasising the need for a coherent science plus industry approach. He raises the question of a Space Directorate which is also referred to in the last paragraph of Mr Pattie's paper.

FLAG E 13. My own assessment of the situation is given in Annex E.

Handling

14. Mr Pattie has prepared a slide presentation which will take about 20 minutes. The discussion should concentrate on the scientific, commercial, industrial and financial aspects of the two decisions. The Secretary of State for Defence will want to

indicate the rising defence interest in space and the degree to which civil and military programmes can be based on common science and technology. The Secretary of State for Education and Science will want to recall the key role which the Research Councils have played in the UK's current space capability but warn of the problem of accommodating more space science research within current budgets. The Chief Secretary will wish to draw attention to the fact that at present no Department is prepared to accommodate the cost of phases C and D within its present resources. You will wish to avoid a detailed discussion of the future PES situation between the Chief Secretary and Ministers from the spending Departments since this will deflect the meeting from its more strategic purpose. The Minister of State for Foreign Affairs will wish to comment on the foreign policy implications of participation/non-participation.

15. If phases C and D are to be funded, the most likely arrangement seems to be a three-way split between MoD, DTI and the private sector. You may wish to ask the Secretary of State for Defence whether he is prepared in principle to consider this and the Minister of State for Trade and Industry whether he can have serious discussions with the private sector on their contribution before the E(A) meeting. You will also wish to ask him for his view on the robustness of the current financial estimates from NASA/ESA.

Conclusions

16. If there is no prospect of financing phases C and D, you may wish to conclude that there is no point in entering phase B (option (i) on page 8 of Mr Pattie's paper). The ESA science programme decision can then be put back to SERC since it would no longer have wider implications. The matter could then be cleared with E(A) by correspondence.

17. If there is a prospect of financing phases C and D, you will wish to conclude that:

(a) the Secretaries of State for Defence and for Trade and Industry should make a clear recommendation to E(A) on whether it should be a GNP participation (option (iii) of Mr Pattie) or a token participation (option (ii));

(b) the Secretaries of State for Defence, Trade and Industry, and Education and Science should reach agreement with the Chief Secretary before E(A) on the PES treatment of the costs involved;

(c) the Minister of State for Trade and Industry should obtain a clear commitment before E(A) from the private sector for a substantial (say 33 per cent) contribution for phases C and D;

(d) The Secretary of State for Education and Science should decide whether he will direct ABRC to provide additional resources to SERC to meet the cost of the increased ESA science programme or whether he will direct SERC to use part of their existing resources in this way.

18. I am copying this minute to Sir Robert Armstrong.

RBN

ROBIN B NICHOLSON
Chief Scientific Adviser

Cabinet Office
7 December 1984

SPACE PRESENTATION - 10 DECEMBER

Purpose of the Presentation

Decisions will be needed early in the New Year on the position the UK should adopt at the Ministerial meeting of the European Space Agency (ESA) to be held in late January, which is to consider proposals for a new ESA long-term programme, including a European response to president Reagan's invitation to participate in the space station project. The purpose of the presentation on 10 December will be to set out the background to these forthcoming decisions by:

(i) giving a short account of the UK's current involvement in space and the main aims of present space policy;

(ii) describing the main elements of the proposed ESA long-term programme and our assessment of their value;

(iii) explaining what is known of the US plans for the space station and of our European partners' reactions; and

(iv) identifying the main options for the future which are now open to us.

2 The final choice made between these options (which will need to take account of political as well as industrial defence and financial factors) will very largely determine the whole future size and direction of the UK's space programme. Following the presentation a paper will be submitted to a meeting of E(A) in early January to seek formal endorsement of the proposed line to be taken at the ESA Ministerial meeting.

The main points to be made in the presentation will be:

3 Present Policy and Involvement In Space

(a) Much the largest part of the UK's space effort is undertaken through ESA, which was set up in 1972 as a result of a British initiative. Of HMG's space expenditure of roughly £80 million a year (DTI - £60 million; SERC - £20 million), some 82% is channelled through ESA.

(b) Over the last ten years, the Government's civil expenditure on space has shown a slow decline in real terms and is now much smaller than that of Germany (about £200 million) and France (about £335 million).

(c) We have, however, successfully pursued a selective policy and concentrated our effort on certain key aspects of space science and technology. So on the science side we have

maintained the UK's position as a world authority in space astronomy and geophysics, notably x-ray astronomy. On the DTI side we have concentrated on space applications likely to result in early commercial returns - firstly communications and more recently remote sensing.

(d) In this way we have helped to create a highly effective communications satellite industry in the UK which is growing rapidly and in which industry is now investing heavily on its own account. The UK has the highest ratio of industry turnover to government expenditure on space in the world.

4 The ESA Long-Term Programme

(a) The main features of the ESA proposals for a new 10-15 year programme are:

(i) development of a new launcher by the mid-1990's;

(ii) continued development of space applications;

(iii) expansion of ESA's science programme;

(iv) European participation in the space station.

(b) Policy decisions for the UK relate primarily to (ii), (iii) and, especially, (iv) above. We have not recently had a major involvement in launchers and it is not suggested that we should change that position now.

(c) The applications programme could be funded on the same selective basis as at present, provided that present funding levels are maintained in real terms. To maintain the relative commercial advantage we have obtained for the UK space industry, it will be important to ensure that this element in the ESA programme continues to be given sufficient priority, particularly in the areas of telecommunications and remote sensing. UK industry regards this aspect of the ESA proposals as the highest immediate priority for future space expenditure and would be seriously concerned if funds were diverted to other purposes.

(d) Participation in ESA's space science programme is mandatory, so we must contribute at the required rate if we are to remain ESA members.

5 The Space Station Project

(a) We must assume that the space station will be built, irrespective of whether or not the UK joins the project. In the

long-term it could have a profound effect on space technology, both in extending the use of space as a resource and in transforming the economics of existing space applications. For example, the station will provide a new infrastructure from which astronauts will be able to repair, modify or refuel satellites in orbit without bringing them back to earth; and large structures will be assembled in orbit before being boosted to higher orbits.

(b) Germany and Italy have put forward the Columbus proposal as a positive European response to President Reagan's Space Station invitation and they have the support of France, who in return have obtained German/Italian backing for future substantial development of the Ariane launcher. The Columbus proposal is that Europe should build a manned module to be associated with the station and also a free-flying platform (either in orbit near to the station or in polar orbit). Our present assessment is that if the UK were to take part in Columbus our main interest would be in a man-tended polar-orbitting platform as a vehicle for remote sensing payloads.

6 Industrial And Commercial View

At a 1 day conference in October attended by representatives from industry and potential scientific and commercial users, the general concensus was in favour of participating in the space

station with priority given to involvement in a free-flying platform and in the communication and data handling technologies. However at this stage industry has not shown any willingness to make a financial contribution to a UK involvement in the Space Station.

7 Options

(a) The immediate decision to be taken is whether the UK (through ESA) should take part in the next planning phase (Phase B) of the space station project. This is intended to define the aims of the project much more closely and to provide more reliable forecasts of likely costs. Participation in Phase B would cost us some £7 million over the next two years; this could be accommodated with some difficulty in the DTI's existing space budget.

(b) The draft Memorandum of Understanding between ESA and NASA which has been proposed by the USA makes it clear that entry into Phase B "does not commit either Party to co-operation beyond the design phase of the programme". We should establish in advance with the Americans and our European partners strict criteria by reference to which we should judge the outcome of Phase B and reach our final decision on whether to take part in later stages of the project (Phases C & D). The US and the

Europeans can be expected to take the line that the end of Phase B in late 1986 will be the genuine decision point regarding futher participation.

(c) Nevertheless, we must obviously be concerned that by entering Phase B we should be "stepping on an escalator". Unless further developments and negotiations with NASA during Phase B were to show clearly that participation in the full project would be disadvantageous to ESA as a whole, we should face strong political pressure, internationally and domestically, not to withdraw at that point.

(d) Present indications are that full UK participation in an ESA contribution to the full space station project (ie our normal 15 per cent GNP share) could cost us about £250 million over 10 years, requiring an increase of £30 million per annum from 1988 in the forecast space budget. Phase B is not likely to produce any lower figures.

(e) Moreover, the DTI's assessment is that the industrial case for participation in Phases C and D is unproven - the opportunity cost of devoting such large sums to procure such long-term and uncertain benefits for the UK space industry is too high for the DTI budget to bear: there are higher priorities both within our total Departmental provision and also within the allocation for expenditure on space.

(f) The choice to be made seems to lie between:

(i) refusing to take part even in Phase B;

(ii) taking a small token part in Phase B (and probably also in Phases C and D);

(iii) taking a full part in Phase B, with the intention of deciding in 1986 whether or not there is a case for particpation in Phases C & D.

8 Organisation In HMG

If we decide to go ahead with participation in Phase B (and possibly in any case) we ought to review existing Whitehall arrangements for co-ordinating space policy). The lead is currently taken by the DTI, but insufficient weight is given to the renewed Defence interest in space (for surveillance, high capacity data links and data processing etc). We should examine the possibility of converting the present space department at RAe Farnborough into an inter-departmental space directorate, including seconded representatives from industry.

PM/84/181

PRIME MINISTER

Space Policy

1. I am sorry that my visit to Berlin on 10 December will prevent me from attending Geoffrey Pattie's presentation on civil space matters on that day: Tim Renton will attend instead. There are several points I would have liked to make.

2. First, studies by officials on military opportunities in space are currently under consideration. It seems likely that military and civil interests will overlap to some degree - for example, in regard to communications and remote sensing satellites, and perhaps the use of space stations too. Although decisions on the civil issues are more imminent, it seems to me essential that we should as far as possible look at the civil and military aspects together, not least in order to compare the return we might get for our expenditure in each sector.

3. Secondly, our civil space programme - scientific as well as industrial - is based on the European Space Agency (ESA), in which EC countries play the major role. There would seem to be merit in examining carefully whether collaboration with allies other than the US on military space projects might also be appropriate, taking into account the possible impact on our key relationship with the US in this field.

/4.

4. We do not face decisions yet. When we do, I shall want to consider carefully the political consequences of any suggestion that we should choose to opt out of a major European and transatlantic collaborative endeavour.

5. I am sending a copy of this minute to Nigel Lawson, Michael Heseltine, Keith Joseph, Geoffrey Pattie, Sir Robert Armstrong and Dr Robin Nicholson (Cabinet Office).

(GEOFFREY HOWE)

Foreign and Commonwealth Office

7 December 1984

Sir John MASON VC.
20/12

10 DOWNING STREET

From the Private Secretary

6 December 1984

I attach a copy of a letter the Prime Minister has received from Sir John Mason of The Royal Society.

I should be grateful if you could provide a draft reply for the Prime Minister's signature, to reach me by Thursday 20 December.

(DAVID BARCLAY)

Neil McMillan, Esq.,
Department of Trade and Industry.

File

CONFIDENTIAL

DEPARTMENT OF TRADE AND INDUSTRY
1-19 VICTORIA STREET
LONDON SW1H 0ET
Telephone (Direct dialling) 01-215)
GTN 215) 5147
(Switchboard) 215 7877

Report in folder

From the Minister of State
for Industry and Information Technology

GEOFFREY PATTIE MP

David Barclay ~~7/12~~ Thurs
10 Downing Street
LONDON
SW1

For meeting folder

6 December 1984

Dear David,

SPACE PRESENTATION ON 10 DECEMBER

As requested I am enclosing a paper for the Prime Minister and other Ministers attending the presentation by Mr Pattie on Space on Monday 10 December.

It gives a broad outline of the issues Mr Pattie will wish to raise in his presentation, and on which he would hope colleagues could come to some view by the end of their subsequent discussion.

I am copying this to Private Secretaries to the Secretaries of State for Defence and Education & Science, the Chief Secretary, Mr Tim Renton (FCO) and to Robin Nicholson.

Yours

Neil

N M McMILLAN
PRIVATE SECRETARY

DE1/DE1ABA

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PRIME MINISTER

SPACE STATION

I shall not be able to take part in the discussion on Monday which you are to have with Geoffrey Pattie on the space station proposals. There are therefore a number of points which I should like to set out in writing.

2 The immediate question is whether we should enter Phase B of the space station, the planning and definition phase. But we must not delude ourselves: to participate in Phase B is to step on to a moving escalator, designed to take us into Phases C and D. Both of these phases will be expensive and, on the admittedly early and incomplete assessment we can now make, the immediate technological and industrial benefits from participating in them may well turn out to be unattractive relative to the cost. On this basis, I should have to advise that we should not enter Phase B.

3 I recognise, however, that there are strong pressures to the contrary, not least the American reaction to a decision not to go forward with the present proposal, and there may well be defence implications too. There is therefore an obvious appeal in entering Phase B, as a means of acquiring further knowledge, keeping options open, and deferring what would be a difficult and unpopular decision to say "no". If these considerations are deemed to be irresistible, I think it essential that we should only enter Phase B on the basis that very strict criteria are now established for deciding whether to take part in Phases C and D. Unless the definition stage produces surprises, it seems unlikely that short term value for money criteria would be met. Second, I believe it essential that it should be recognised that there is no scope within this Department's expenditure for the costs

associated with Phases C and D. Phase B will cost £7m, which could be met from within my Space Budget. Phases C and D will cost at least £30m a year for eight years, and cannot be met within my Department's budget. I therefore believe it essential that it should be recognised from the outset that any decision to enter the subsequent phases must be a collective decision, made in recognition that it would have to be funded from outside my PES provision as I envisage it being during the relevant period.

4 These conditions would need to be met before I would be prepared to enter Phase B.

5 I am copying this to our Ministerial colleagues attending your meeting on Monday, to Robin Nicholson and to Sir Robert Armstrong.

pp N T
(approved by the Secretary of State
and signed in his absence)

6 December 1984

Department of Trade & Industry

From: Sir John Mason, C.B., F.R.S.

For space meeting folder

The Royal Society
6 Carlton House Terrace, London, SW1Y 5AG
Telephone 01-839 5561 Ext 252 Telex 917876

Treas/DPC
6 December 1984

Dear Prime Minister,

NATIONAL POLICY ON SPACE RESEARCH

I am writing on behalf of our leading space scientists, all Fellows of the Royal Soicety, to express our concern at the apparent lack of a coherent, co-ordinated and clear-sighted national policy for space activities covering space science, technology, applications and the industrial aspects.

We understand that important decisions are imminent on the scope and scale of our future space effort, particularly in relation to a possible expansion of the ESA science programme and possible participation in the US Space Station. Whatever the decisions on these matters, we hope that the opportunity will be taken to formulate a well-conceived and co-ordinated strategy, looking to ends as well as means, and designed to ensure that the UK obtains the best overall return for its future investment in space.

Those of us who have been involved in various aspects of the UK space programme since its inception under the leadership of the Royal Society in the 1950's have seen this country gradually lose the initiative to France and Germany, not only because of our poorer economic performance, but because of our lack of a strong national space policy with clear objectives.

We do not wish to lobby for any particular project or level of funding, but only to argue for much improved methods of policy and decision making in which our leading scientists who have outstanding track records in designing, building and operating advanced satellite experiments can make an effective contribution. In the past, Ministers have been advised largely by officials with little or no real experience of either space science or the direct management of space projects and therefore with only limited insight into the problems and potentialities of new techniques. Decisions should reflect a proper balance between the interests of science, applications and industry otherwise the views of the latter will not be sufficiently challenged. The overall return from space projects depends as much on the quality of the data and their useful application as on the direct return to the space industry. The governments of the United States and France are better served by the great expertise that resides in NASA and CNES.

In the longer term we see the need for an interdepartmental Space Directorate in which government departments (especially DTI and MOD), the Research Councils (SERC and NERC), major university groups and the Royal Society would collaborate in the formulation of a programme for the next 10-15 years

/continued

that would excite the scientific and user communities and provide opportunities for industry. Similar recommendations are made by the Space Review Committee chaired by Professor Richmond and commissioned by SERC.

As far as the decisions to be made in the next few weeks are concerned, I plan to invite representatives of the Departments and Research Councils to a meeting with senior space scientists so that their views may be taken into account.

Given our talent and record in this field, I can see no good reason why we should not regain the initiative in Europe. At least we should mobilize our resources to ensure that we obtain a proper return on our investment in ESA and not finish up, in effect, subsidizing the French and German space programmes.

I am confident that a lead from you, Prime Minister, would do much to improve our performance and meet with a very positive response from the scientific community.

Yours sincerely

John Mason

Treasurer and Senior Vice-President

The Rt Hon. Margaret Thatcher, M.P., F.R.S.,
No. 10 Downing Street
London, S.W.1.

ANNEX E

The future of space

The communications and defence uses of space have advanced beyond all forecasts in the 26 years since Sputnik. Their contribution to the world economy is not just that of the aerospace hardware industry but also in ground communications, software, data processing and analysis, TV programming etc.

2. It seems unlikely that the space industry has matured and although the situation in 2010 is as hard to predict as today's situation was in 1958, I believe that a space sector comparable in size to today's aviation sector is a probability. It will be based on communications (as, of course, is civil aviation) and on earth observation in the fields of agriculture, environment, mineral discovery and oceanography. I doubt whether space manufacturing will be significant compared with these uses but it may come later as will exploitation of lunar and planetary resources.

3. Similarly, the defence uses of space may be compared with aviation at the start of World War I and the future growth in importance of space may be as great as aviation's has been.

4. I therefore conclude that if the UK is to remain a significant industrial and defence power, it will be necessary to have a competitive ability in appropriate space technology and applications.

5. We are presently No 2 in the non-communist world because of our ability in satellites, communications and science, despite the vastly greater expenditure by France and Germany, the former, of course, being No 2 in launchers. Nevertheless, our decision to abandon launchers for satellites seems to have been an excellent one in terms of cost effectiveness but somewhat damaging in prestige.

6. We would not have chosen to move forward at this stage via the US Manned Space Station but the project is going to happen,

our European partners are going to join via ESA and we cannot realistically completely change the USA line of attack.

7. Non-participation would be a courageous but possibly fatal decision for the future of our space industry and commerce. Even our present satellite capability would be threatened because the Space Station will allow in-orbit repair, refurbishment and replacement of satellite payloads and hence cut the cost of telecommunications satellites (BAe estimate by 40 per cent). We would have to be lucky and clever to avoid being frozen out of our present successful activities.

8. If we decide to participate in phase B, it should be with the intention of participating in phases C and D <u>providing tough criteria are met</u> in terms of our part of the project meeting UK commercial, industrial and scientific needs. There is a basis for this in the proposed free-flying platform for equatorial or polar orbit and I believe our technological and scientific clout with ESA and NASA should be sufficient to move the project significantly in the direction we want to go.

9. But I believe that participation only makes sense if it is on a GNP basis and on something like a one-third/one-third/one-third sharing of costs between MoD, the private sector and DTI. There <u>is</u> a lot of common technology between defence and civil application in areas such as data collection, processing and communication, satellite instrumentation and earth observation. The private sector, hardware and software, <u>must</u> contribute on a risk-sharing basis if it has any confidence at all in its own future. DTI has the most difficult choice to make in the light of the current economic scene but in terms of our future industrial infrastructure, does it really make sense in 1987/88 to be spending £120 m on British Shipbuilders and British Steel and not add £10-20 m to the planned £50 m expenditure on space?

10 DOWNING STREET

David Barclay -

your letter of 19th November asked for advice on participation in a meeting to discuss the US Space Station.

Mr Pattie's office have phoned through suggestions :-

DES
FCO
HMT
} any suitable Ministe

MoD - Sec. of State if possible

Robin Nicholson.

Mr. Pattie would also like to attend, and wants to take 1 Official with him.

CST
29/11/84

W.0904 29 November 1984

MR DAVID BARCLAY, No 10

SPACE

After discussion with Peter Gregson, Mr Pattie's office and the Space Division in DTI about the best way of handling the decision which will shortly be needed on the Space Station, I have come to the conclusion that the proposal now favoured by Mr Pattie's office offers the most sensible way forward. This is that the already-arranged 10 December meeting should be essentially one of familiarisation in depth for the Prime Minister and a small group of Ministers most directly involved. Subsequently there'll need to be a decision-taking meeting which should be E(A) and take place on 7 or 8 January which are the only days available after return to business and before Mr Pattie's departure to the USA for 10 days.

There remains the question of industrial participation in the 10 December meeting but the general view seems to be that it is up to DTI to provide convincing evidence of an industrial input at that meeting, rather than having industrialists themselves along. I suppose there is an outside chance that the discussion will go so clearly on 10 December that all that will be subsequently needed will be a round of Ministerial correspondence, but frankly I doubt that outcome.

I hope this procedure is satisfactory to you.

ROBIN B NICHOLSON


HR1 AM
29 NOV 1984

file

BF

10 DOWNING STREET

From the Private Secretary

19 November 1984

US SPACE STATION

The Prime Minister considered over the weekend Mr. Pattie's minute of 8 November, in which he proposed a Ministerial meeting in the next few weeks to discuss British participation in the European contribution to the US Space Station.

The Prime Minister is willing to hold such a meeting, but would prefer it to take place in London rather than at Chequers. I should be grateful for proposals on attendance as soon as possible.

BF

(David Barclay)

Neil McMillan, Esq.,
Department of Trade and Industry

FILE da

ccPc

10 DOWNING STREET

From the Private Secretary

16 May 1984

US Manned Space Station

The Prime Minister has noted the content of your letter of 15 May.

A. J. COLES

L.V. Appleyard, Esq.,
Foreign and Commonwealth Office.

da

CC PC

(2)

Prime Minister.

We are arranging a DTI presentation.

A.P.C. 15/5.

Foreign and Commonwealth Office

London SW1A 2AH

CC USA: US Foreign Policy PA2

15 May, 1984

Dear John,

US Manned Space Station

Thank you for your letter of 4 May about Sir Oliver Wright's call on the Prime Minister the day before. The Prime Minister asked about the attitude we should take towards President Reagan's proposal that we, other European countries, Canada and Japan should participate in the US manned space station programme.

While the Americans certainly gained the initial impression that we were cooler than the other countries they approached, this seems to have been a matter of perception rather than substance. Later US contacts with the French and Germans, for example, seem to have convinced them that the UK is not the only country that wants to look at the idea with some care. So far as we know, no other country has yet made any commitment to participation.

The need to adopt a positive tone towards the Americans, as Sir Oliver Wright urged on the Prime Minister, is nevertheless something of which we are very conscious. Mr Whitney has made this point in correspondence with Mr Baker. There seems now to be general agreement within Whitehall that the course which Sir Oliver Wright advocates is the right one.

Whether the UK will in the event be able to participate in the programme is primarily of course for the DTI. The UK space budget is not in the same league as those of France and the FRG. Nevertheless, for our part we believe that if the other Europeans decide to participate, the Americans will find it difficult to understand if the UK does not do likewise, if only in a limited way. Non-participation would also carry implications for our relations with our partners in the European Space Agency (ESA), and for the UK's standing as a technologically-advanced nation. We also believe that the potential benefits of participation - scientific, technological and industrial - deserve very careful consideration.

The Americans have been told that we are examining the possibilities of participation through ESA. We understand that the DTI are looking into the practicalities of this and its implications for their own budget.

I am copying this letter to Richard Mottram (MOD) and, with a copy of yours, to Callum McCarthy (DTI) and

/Dr Nicholson

Dr Nicholson in the Cabinet Office.

Yours ever,

Len Appleyard

(L V Appleyard)
Private Secretary

A J Coles Esq
10 Downing Street

USA Pt 2
Foreign Policy

cc PS

cc ECON PS : London Economic Summit PT 15

Ref. A084/977

MR COLES A.J.C. 25/3 T.A.

London Economic Summit

Thank you for your minute of 22 March with a copy of President Reagan's message of 20 March about the space shuttle mission.

2. The President's Personal Representative has already given notice that this is a subject which the President will want to raise at the Summit, and that was reflected in our draft thematic paper. The President will no doubt be looking for suitable words in the declaration of the Summit.

3. It is becoming increasingly clear that the President will also want the subject of state terrorism to be discussed at the Economic Summit, and no doubt to feature in some kind of statement from the Summit. One recent telegram from Washington suggested that the Americans felt that other allies in the Summit were resisting this. It has not in fact been raised as a possibility at any meeting of Personal Representatives, but there has been some discussion below that level. British representatives have not sought to resist the idea of a discussion at the Summit, though they have suggested that it might be unwise to contemplate a declaration unless it was fairly clear that there was something useful to say.

RCA

ROBERT ARMSTRONG

27 March 1984

AEROSPACE: Space Policy June 83

NB To be copied to the Summit file

10 VC

10 DOWNING STREET

From the Private Secretary

SIR ROBERT ARMSTRONG

Economic Summit: Message from President Reagan

I attach a copy of a message which the Prime Minister recently received from President Reagan. This was part of a correspondence about a British astronaut flying on a future space shuttle mission. But I bring it to your attention (it was copied to other Departments earlier) because of the President's reference to the London Summit providing an opportunity "for the participants to establish the political under-pinning for this joint venture".

I am sure that the Prime Minister will be grateful for your comments on this in due course.

22 March 1984

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file

10 DOWNING STREET

From the Private Secretary

20 March 1984

I enclose a copy of a message received tonight from President Reagan, in reply to the Prime Minister's message of 15 March (your letter to me of 14 March refers).

I am sending copies of this letter and its enclosure to Richard Mottram (Ministry of Defence), Roger Bone (Foreign and Commonwealth Office) and Elizabeth Hodkinson (Department of Education and Science).

David Barclay

Neil McMillan, Esq.,
Office of the Minister of State for
Information Technology,
Department of Trade and Industry.

CONFIDENTIAL

LST.

5068 A

PRIME MINISTER'S
PERSONAL MESSAGE
SERIAL No. T44/84

cc Master
OS

Prime Minister (2)

cc Aerospace: Presentation on US Manned Space Station Mayfly

US Declassified

OO WTE24
DE WTE £2147 0801716
O 201737Z MAR 84
FM THE WHITE HOUSE
TO CABINET OFFICE
ZEM
C O N F I D E N T I A L VIA CABINET OFFICE CHANNELS WHO2147
MARCH 20, 1984

DEAR MARGARET:

I AM GENUINELY DELIGHTED BY YOUR ACCEPTANCE OF OUR OFFER TO FLY A BRITISH ASTRONAUT ON A FUTURE SPACE SHUTTLE MISSION. I AM ALSO PLEASED BY THE WARM HOSPITALITY EXTENDED JIM BEGGS DURING HIS RECENT VISIT TO LONDON.

I HOPE YOU WILL AGREE WITH ME THAT INTERNATIONAL PARTICIPATION ON THE MANNED SPACE STATION PROGRAM CAN PROVIDE A HIGHLY VISIBLE, HIGHLY POSITIVE CENTERPIECE FOR DEMONSTRATING OUR UNITY OF PURPOSE, GOODWILL AND FRIENDSHIP. TOWARD THAT END, I AM HOPEFUL THAT THE LONDON SUMMIT CAN PROVIDE AN OPPORTUNITY FOR THE PARTICIPANTS TO ESTABLISH THE POLITICAL UNDERPINNING FOR THIS JOINT VENTURE. I LOOK FORWARD TO SEEING YOU IN JUNE.

WARM REGARDS,

RON

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SUBJECT

cc Ops. Master.

PRIME MINISTER'S PERSONAL MESSAGE SERIAL No. T41/84

CABWTE001/15

0 150955Z MAR 84

FM CABINET OFFICE LONDON
TO THE WHITE HOUSE
BT
C O N F I D E N T I A L

FROM THE PRIME MINISTER
TO THE PRESIDENT OF THE UNITED STATES

DEAR RON,

THANK YOU VERY MUCH FOR YOUR LETTER OF 2 MARCH.

KENNETH BAKER, THE MINISTER RESPONSIBLE FOR SPACE, HAS REPORTED TO ME ON THE DISCUSSIONS WHICH HE HAD WITH JAMES BEGGS ON 5 MARCH IN LONDON.

MR BEGGS LEFT US WITH MUCH TO THINK ABOUT REGARDING THE IMAGINATIVE SPACE STATION PROJECT ON WHICH THE UNITED STATES HAS DECIDED TO EMBARK, AND WE WILL BE JOINING IN EARLY DISCUSSION WITH OTHER INTERESTED EUROPEAN MINISTERS ON A SPEEDY RESPONSE TO YOUR OFFER TO PARTICIPATE IN THE PROJECT.

I WAS ALSO DELIGHTED WITH YOUR KIND OFFER TO FLY A BRITISH ASTRONAUT AS A PAYLOAD SPECIALIST IN A FUTURE SPACE SHUTTLE FLIGHT WHICH WE GRATEFULLY ACCEPT. MICHAEL HESELTINE WROTE ON 9 MARCH TO JAMES BEGGS ACCEPTING HIS EARLIER PROPOSAL FOR A BRITISH PAYLOAD SPECIALIST ON EACH OF THE TWO SHUTTLE LAUNCHES OF STAGE 1 OF THE SKYNET IV PROGRAMME. HE WILL BE MAKING AN ANNOUNCEMENT IN LONDON SHORTLY ON THE ASTRONAUTS WHO WILL BE GOING INTO TRAINING FOR THESE LAUNCHES.

THANK YOU FOR GIVING US THESE WONDERFUL OPPORTUNITIES.

WITH BEST WISHES

MARGARET THATCHER
BT

NNNN

CONFIDENTIAL

10 DOWNING STREET

THE PRIME MINISTER

Thank you very much for your letter of 2 March.

Kenneth Baker, the Minister responsible for space, has reported to me on the discussions which he had with James Beggs on 5 March in London.

Mr. Beggs left us with much to think about regarding the imaginative space station project on which the United States has decided to embark, and we will be joining in early discussion with other interested European Ministers on a speedy response to your offer to participate in the project.

I was also delighted with your kind offer to fly a British astronaut as a payload specialist in a future space shuttle flight which we accept gratefully. Michael Heseltine wrote on 9 March to James Beggs accepting his earlier proposal for a British payload specialist on each of the two shuttle launches of stage I of the Skynet IV programme.

/He will be

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E.R.

He will be making an announcement in London shortly on the astronauts who will be going into training for these launches.

Thank you for giving us these wonderful opportunities.

The President of the United States of America.

DEPARTMENT OF TRADE AND INDUSTRY
1-19 VICTORIA STREET
LONDON SW1H 0ET
TELEPHONE DIRECT LINE 01-215 5147
SWITCHBOARD 01-215 7877

JU986

From the Minister of State
for Industry and Information Technology

14 March 1984

Prime Minister.
The response to the U.S. offer to us to send an astronaut on a future shuttle has not been well coordinated in Whitehall. The Americans confused the situation by making the offer twice, first in a letter to R. Heseltine last year, then in a message to you from the President.
R. Heseltine proposes to make public our acceptance in a speech in Canberra tomorrow. Before he does so you ought to reply to the President. Agree attached message?
A.J.C. 15/3.

David Barclay Esq
Private Secretary to the
Prime Minister
10 Downing Street
London SW1

Dear David

In my letter of 5 March I promised to let you have a reply for the Prime Minister to send to President Reagan's letter of 2 March on the US proposals for a space station project costing $8bn.

2 The Prime Minister will wish to know that the US were very pleased by the reception Mr Beggs had in Britain when he was in London on 5 March, to invite Britain and other European countries to participate in the project.

3 The letter which Mr Beggs gave Mr Baker for the Prime Minister not only invites the UK to involve itself in the space station project, but also offers a place on a future shuttle flight for a British astronaut, either in connection with the launch of the Skynet defence satellites already ordered for the shuttle, or perhaps an earlier flight on a joint scientific mission.

4 This last offer has now been clarified with the Americans, who confirm that they maintain their offer to have UK defence astronauts fly with the Skynet satellites, but who have also expressed themselves open to discussions on the flying of a further astronaut for a science or other mission.

5 The offer in connection with the Skynet launch was already made to Mr Heseltine by Mr Beggs last year, and the Secretary of State for Defence has already replied accepting this offer.

6 As agreed, I attach a draft message for the Prime Minister to send to President Reagan, the outline of which I have cleared with the MOD and Foreign Office.

7 I am copying this to the Private Secretaries to the Secretaries of State for Education and Science, Defence, Foreign Secretary and Sir Robert Armstrong.

Yours
Neil

N M McMILLAN
Private Secretary

10 DOWNING STREET

Duty Clerk

This message should be
logged on the hot line
at once with immediate
copies to:-

MOD (Mr. Bottom)
FCO (Mr. Bone)
DTI (Mr. McMillan)
DES (Miss Hodkinson)

A.J.C. 15/3.

CONFIDENTIAL.

~~DRAFT~~ MESSAGE FOR THE PRIME MINISTER TO SEND TO PRESIDENT REAGAN

Dear Ron,

Thank you very much for your letter of 2 March.

Kenneth Baker, ~~my~~ the Minister responsible for space, has reported to me on the discussions which he had with James Beggs on 5 March in London.

Mr Beggs left us with much to think about ~~on~~ regarding the imaginative space station project on which the United States has decided to embark, and we will be joining in early discussion with other interested European Ministers on a speedy response to your offer to participate in the project.

I was also delighted with your kind offer to fly a British astronaut as a payload specialist in a future space shuttle flight. (which we ~~Except gratefully~~ wrote ~~Michael Heseltine replied~~ on 9 March to James Beggs accepting ~~his earlier proposal offer last year~~ for a British payload specialist on each of the two shuttle launches of stage I of the Skynet IV programme.

~~accepting this offer~~

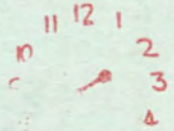
He will be making an announcement in London shortly on the astronauts who will be going into training for these launches.

Thankyou for giving us these wonderful opportunities.

MT

Yours ever

Margaret



MJC has seen
CST 14/3

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SIR ROBERT ARMSTRONG

14 March 1984

cc David Barclay - No.10
David Baltherwick - FCO
David Goodall
Neil McMillan - PS/Mr Kenneth Baker

BRITISH ASTRONAUTS ON NASA FLIGHTS.

1. We heard this afternoon from the FCO, that Mr Heseltine has decided to asnwer an arranged PQ tomorrow with the announcement of his acceptance of an American invitation to send a British astronaut on an American space mission. This announcement is in answer to an American invitation dating from last June at the time of the Skynet/Shuttle decision. Mr Heseltine also plans a major Press Conference tomorrow. A telexed acceptance by Mr Heseltine (for two astronauts) went to Washington yesterday.

2. Since the first American invitation, the position has been complicated by President Reagan's announcement of Space Station in his State of the Union speech, his invitation to the UK (and other countries) to participate in Space Station and his invitation in a message to the Prime Minister to nominate a British Astronaut for an American space mission.

3. The relationship between the first and second invitation is unclear and our Washington Embassy has been unsuccessful in obtaining a clarification from the Americans. Despite this, MOD has gone ahead unilaterally with the decision and plans outlined in my first paragraph, and other Departments (including DTI who lead in space) only heard this afternoon. No.10 heard through the Cabinet Office this afternoon.

4. I have advised No.10 to ask Mr Heseltine to cancel his PQ and Press Conference and rescind his Washington telegram for the following reasons:

a. the most recent invitation is to the Prime Minister and not to Mr Heseltine

b. the relationship between the two invitaions (in June 1983 and January 1984) is unclear.

c. to the extent that the invitation relates to the Space Station it:

i. breaks Mr Baker's promise to his European colleagues to consult with them before responding to the American proposals

ii. carries unknown contractual or moral commitments to Space Station participation by the UK at unknown costs (a single country ticket will cost around $1 billion)

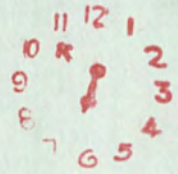
iii. ignores procedures for inter-Departmental and Ministerial discussions on Space matters (the initial thinking by Departments on Space Station participation has been regative).

d. in public expenditure terms, it will appear to be a rip-roaring extravaganza at a time when many other activities are desperately short of cash;

e. in scientific terms, it will appear strongly anti-European to announce apparently large expenditures with the Americans in space, followed a week later by a review of our participation in the high energy physics project at CERN.

RBN

Robin B NICHOLSON
Chief Scientific Adviser



DEPARTMENT OF TRADE AND INDUSTRY
1-19 VICTORIA STREET
LONDON SW1H 0ET
TELEPHONE DIRECT LINE 01-215
SWITCHBOARD 01-215 7877

From the Minister of State
for Industry and Information Technology

Prime Minister

See President Reagan's letter attached.

A.J.C. 5/3.

RT HON KENNETH BAKER MP

David Barclay Esq
10 Downing Street
LONDON SW1

5 March 1984

Dear David,

I enclose a letter which Mr Baker was handed by Mr Jim Beggs, the US Presidential Special Emissary on space matters this morning, when he met Mr Baker to discuss the possibility of British participation in the US space station project.

Mr Baker passed on the Prime Minister's regrets that she could not meet Mr Beggs due to her meeting at Chequers this morning.

The letter makes an offer of a British payload specialist to go on a space shuttle mission in the near future. This is in addition to the offer already made in connection with the launch of the Skynet satellite.

I will be sending you advice for a reply to this letter in due course. I am copying this to the Private Secretaries to the Secretaries of State for Education and Science, Defence, the Foreign Secretary and Sir Robert Armstrong.

Yours sincerely,

Neil.

N M McMILLAN
PRIVATE SECRETARY

M34/M34ABP

cc MASTER OPS

THE WHITE HOUSE

WASHINGTON

March 2, 1984

Dear Margaret:

As you know, I recently announced my intention to proceed with the development of a permanently manned space station to be operational by the early 1990s. It is my hope that the United Kingdom along with other countries in Europe will join with us in taking this next step toward making space a habitable and productive workplace for the benefit of all mankind. International cooperation has been an important part of the exploration and use of outer space from the very beginning and the partnership between our two countries has contributed mightily to an enviable record of achievement.

In this regard, I would like to invite the United Kingdom to nominate an astronaut to participate in a future Space Shuttle mission as a Payload Specialist. This flight could take place in connection with the scheduled launchings of the British Skynet satellites or could occur sooner in association with another form of payload, perhaps a joint scientific program. I believe such a flight would further demonstrate the close ties between our two peoples and underscore the important role science and technology is playing in our societies.

I look forward to having one of your citizens flying with us.

Sincerely,

Ron

The Right Honorable
Margaret Thatcher, M.P.
Prime Minister
London

USA : UK/USA relations A2.

Subject

cc Master
OPS
cch20

FILE
MY

10 DOWNING STREET

THE PRIME MINISTER

1 February 1984

PRIME MINISTER'S
PERSONAL MESSAGE
SERIAL No. T21/84

Dear Ron.

Thank you for your message of 25 January about your intention to proceed with the development of a manned space station programme.

This is an exciting development. Our people look forward to seeing Mr. Beggs when he visits London.

Yours sincerely,

Margaret

The President of the United States of America.

dh

Foreign and Commonwealth Office

London SW1A 2AH

31 January 1984

31/1

Type letter pl.
A.J.C.M/1.

Dear John,

US Manned Space Station Programme

Thank you for your letter of 26 January enclosing a copy of a message from President Reagan to Mrs Thatcher about the announcement of the US intention to proceed with a US manned space station programme. I enclose a brief draft message which the Prime Minister may like to send in reply.

The announcement is no surprise, since it has been known for some time that the US has been studying the possibility of developing such a space station as a major prestige space project for the next decade or more. The DTI and we will need to consider carefully any proposals the US may put forward for co-operation. We shall also need to take account of the extent to which they are seeking the co-operation of other, including other West European, countries.

I am sending copies of this letter to the recipients of yours.

Yours ever,

Peter Ricketts

(P F Ricketts)
Private Secretary

A J Coles Esq
10 Downing Street

DSR 11 (Revised)

DRAFT: minute/letter/teleletter/despatch/note

TYPE: Draft/Final 1+

FROM: PRIME MINISTER

Reference

DEPARTMENT:

TEL. NO:

SECURITY CLASSIFICATION

Top Secret
Secret
Confidential
Restricted
Unclassified

TO: PRESIDENT REAGAN

Your Reference

Copies to:

PRIVACY MARKING

.....In Confidence

CAVEAT.....

SUBJECT:

Thank you for your message of 25 January about ~~your announcement of~~ the US intention to proceed with the development of a manned space station programme.

This is an exciting development. Our people look forward to seeing Mr Beggs when he visits London.

M.

Enclosures—flag(s).....

US: Relations: Pt 2

CONFIDENTIAL

cc MOD
DOE
DTI
CO

10 DOWNING STREET

From the Private Secretary

26 January 1984

US manned space station programme

I enclose a copy of a message which the Prime Minister received yesterday from President Reagan forewarning her that in his State of the Union Address he would be announcing the American intention to proceed with the development of a manned space station programme.

President Reagan also states that he has asked Mr. Beggs, the administrator of NASA to hold discussions, as his Personal Emissary, with British Government officials.

I am copying this letter and enclosure to Richard Mottram (Ministry of Defence), John Ballard (Department of the Environment), Callum McCarthy (Department of Trade and Industry) and Richard Hatfield (Cabinet Office).

A. J. COLES

Roger Bone, Esq.,
Foreign and Commonwealth Office.

CONFIDENTIAL

EMBASSY OF THE UNITED STATES OF AMERICA
LONDON

January 25, 1984

Dear Prime Minister:

I have been asked to deliver the attached message to you from President Reagan, which was received at the Embassy this morning.

Sincerely,

Edward J. Streator
for Charles H. Price II
Ambassador

Enclosure:

CONFIDENTIAL

The Rt. Hon. Margaret Thatcher, M.P.,
Prime Minister,
10 Downing Street,
London, S.W1.

CONFIDENTIAL

a. Master Ops.

PRIME MINISTER'S
PERSONAL MESSAGE
SERIAL No. T 18/84

rec'd 25/1/84

Dear Margaret:

During my State of the Union Address this Wednesday, January 25, I will be announcing the United States intention to proceed with development of a manned space station program. It is my hope that we can work together on this project. To develop this cooperative effort I have asked James M. Beggs, the Administrator of the National Aeronautics and Space Administration (NASA) to act as my personal emissary and meet with senior officials of your government in the near future.

There are further frontiers to be explored in space, to the benefit of us all. I look forward to a report from Mr. Beggs from which we can formulate a plan for international cooperation in this important program.

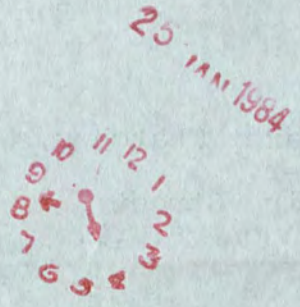
Sincerely,

//S//

Ron

The Rt. Hon. Margaret Thatcher, M.P.,
Prime Minister,
10 Downing Street,
London, S.W.1.

CONFIDENTIAL



Mr. Gill
Aerospace: 2/1

DEPARTMENT OF INDUSTRY
ASHDOWN HOUSE
123 VICTORIA STREET
LONDON SW1E 6RB
TELEPHONE DIRECT LINE 01-212 6401
SWITCHBOARD 01-212 7676

FROM THE
MINISTER OF STATE
FOR INDUSTRY AND
INFORMATION TECHNOLOGY

KENNETH BAKER MP

All Members of Parliament

5 January 1983

RZ1

Dear Colleague.

In the Autumn we arranged for a set of the enclosed posters, about Britain's activities in Space, to be offered to all secondary schools throughout the country. We decided to do this because little is known about the considerable success of the British Space Industry over the last fifteen years. For example, British companies are taking the lead in all European Space Agency communications satellites and are making major contributions to important scientific programmes including the Giotto satellite, which it is intended will intercept Halley's Comet on its next approach to the Earth in 1986. — in folder attached to file.

The industry is rapidly expanding and becoming significant in terms of its contribution to employment and the development of new technologies. The current order book stands at about £250m and the industry employs an estimated 3,000 people.

The set includes: a poster prepared by my Department giving an overall view of our space industry; a poster prepared by INMARSAT, an international organisation whose Headquarters is in London and which was established in 1979 to develop and promote a new global maritime satellite communications system; and a series of posters by Marconi Space and Defence Systems to show what they are doing in this area.

Yours Kenneth

KENNETH BAKER

M72/M72AAF

Aerospace

Ref. A03630

PRIME MINISTER

United Kingdom Space Policy

(E(80) 129 and 135)

BACKGROUND

The CPRS's note, E(80) 129, summarises the principal conclusions of their study of United Kingdom space policy instigated by the Secretary of State for Industry. Their full report is annexed. The Secretary of State has since asked Mr. Michael Marshall to chair an interdepartmental group of officials (MISC 46) to consider and monitor space policy in the light of the report. Many of the CPRS recommendations are that the Marshall Committee should examine aspects of space policy in greater depth.

2. The CPRS confined themselves to those areas of space technology which offer commercial opportunities within the next decade, i.e. satellites for telecommunication, broadcasting and remote sensing. Their report reviews in some detail the opportunities that now exist in these fields. The main points are as follows. They stress (paragraphs 49-54) the key role of Government in setting the regulatory regime for telecommunications and broadcasting; this will encourage or inhibit private investment in new satellite services. They point out (paragraph 48) the need for Government in international negotiations to have a coherent and clear-sighted view of its policy objectives in space. They consider that until now the management of Government policy for space has been diffuse and unco-ordinated (paragraphs 153-158) and they argue (paragraphs 161-166) for significant authority to be given to the Marshall Committee.

3. The CPRS also make many detailed recommendations in their concluding section (paragraphs 159-198) and identify major decisions that need to be taken shortly, notably over the European Space Agency's L-Sat programme (paragraphs 77-80), the next MOD satellite (paragraphs 93-98) and direct

broadcasting (paragraphs 102-106). These sections provide a useful survey of the main issues that will have to be faced, but are not essential to the discussion at E.

HANDLING

4. After Mr. Ibbs has introduced the CPRS note, the Secretary of State for Industry will wish to speak to his paper and to ask Mr. Marshall, who has been invited to the meeting, to say something on the work of his Committee. The other Ministers who are mainly concerned are the Secretary of State for Defence, the Home Secretary for the broadcasting and radio frequency allocation aspects, and the Secretary of State for Education and Science because of the involvement of the Science Research Council.

5. I suggest you base the discussion on paragraphs 5 and 6 of the Secretary of State for Industry's paper E(80) 135, which picks up the recommendations in the CPRS paper. The main question is what should be the remit for the Marshall Committee. A general point is that, while Ministers are likely to recognise the desirability in principle of a co-ordinated effort, they may well be nervous over the degree of authority to be given to the Marshall Committee, which includes representatives of the main Departments at official but not Ministerial level. The reassurance on this lies in paragraph 6 of the Secretary of State for Industry's paper, where he proposes that the Marshall Committee should refer back to E if necessary - or (I suggest) E(EA) as appropriate - on specific matters which affect wider policy issues. They will also make a general report to E in about 12 months' time.

6. Of the recommendations in paragraph 5 of E(80) 135, a. cross-refers to the four general points listed in paragraph 7 of the CPRS paper. In particular the Committee will need to rule on the alternatives put forward by the CPRS for dealing with public expenditure on space activities, namely:-

Either To create a single block budget for all space-related activities with the Secretary of State responsible for space advised by the Marshall Committee on the allocation of expenditure to particular activities (see paragraph 163 of the CPRS's detailed report).

Or To maintain the present system but with the Marshall Committee recommending on the distribution of spending on space and with major Departmental projects required to have the Marshall Committee's "seal of approval" before they could proceed.

It is unlikely that Departmental Ministers will accept the first solution and the Chief Secretary will want to give his views on its practicality. The second solution could work if it is understood that the Marshall Committee can recommend but not veto.

7. You will then wish to run through the other points in paragraphs 5b.-e. of the Secretary of State for Industry's paper. In particular:-

(i) The Home Secretary will wish to comment on the regulatory aspects mentioned in 5b.

(ii) You might ask the Secretary of State for Industry to clarify what he means in e. when he refers to conveying the Government's intentions to industry and the expectations of them.

8. In paragraph 199 of their report the CPRS refer to public expenditure in pursuit of space objectives, and in particular to the possibility of restoring an earlier £7.4 million cut in the Department of Industry space budget in 1982-83 and 1983-84. You will wish to make clear that this, and any other sum, must be found by reallocation of funds within the Departmental programmes now agreed by Cabinet.

CONCLUSIONS

9. In the light of the discussion you will wish to record conclusions on the points listed in paragraph 5 of E(80) 135 and, in particular, on:-

(i) the method of allocating public expenditure (see paragraph 6 above) and

(ii) the point that any public expenditure must be found within existing programmes.

10. You may like to invite the Marshall Committee to report on specific issues either to E or to E(EA) and to produce a progress report for E in 12 months' time.

RA

ROBERT ARMSTRONG

24th November, 1980

SECRET

Qa 05190

To: PRIME MINISTER

From: J R IBBS

UK Space Policy

1. The CPRS note for E Committee on this subject has now been circulated, together with our fuller report. These deliberately exclude references to two sensitive issues, the likely reactions to our proposals by British Telecom and the Post Office Engineering Union (POEU), and the question of carrying Government communications by satellite. I do not suggest that the Committee will need to discuss these issues, but it should be aware that the CPRS has given some thought to them.

British Telecom/POEU reactions

2. Neither British Telecom nor the POEU will welcome the proposal in our report that the telecommunications monopoly should be further relaxed to permit the provision by privately financed consortia of business data and other services (but not ordinary voice communications) within this country by satellite. They may well argue that the Government is allowing others to cream off the most lucrative services, and British Telecom may add that their European posts and telecommunications partners, all nationalised monopolies, could object to such a move. Both British Telecom and the POEU will worry about the longer term implications of a privately owned UK satellite system which could provide a rival network, offering rival services, to British Telecom's terrestrial one.

3. We believe that the Government should resist any such arguments. Some would in any case be misplaced or exaggerated; the report does not advocate British Telecom's exclusion from the domestic business service market, merely competition; and it does not recommend the liberalisation of European and international business services because that is not in the Government's power. But the sensitivities are such that detailed presentation of our recommendations, if approved by Ministers, will be important. The proposed Parliamentary statement on the Government's general aims and policy will be the first such occasion, and we are ready to amplify the above points in discussing the terms of such a statement in the Marshall Committee.

Government Communications

4. Industry Ministers have expressed interest in a related question, namely whether Government communications could be protected, in the event of industrial action by the POEU or civil service unions, by carrying some or all of them on Government controlled satellites. In principle satellites could carry Government communications, enciphered as necessary, between Government organisations in this country and between this country and FCO posts abroad. The latter would presumably depend on their host government's willingness to allow them to operate small dish antennae.

5. The obvious solution would have been a Government communications payload on the first Ministry of Defence satellite, due to fly in 1984. However, the volume of defence traffic and the relatively small satellite platform being considered rule out anything more than an experiment. We recommend, however, that the Ministry of Defence consider with other interested Departments ways of including a significant Government communications payload on the next satellite in the series. This is due to go into orbit around 1989, but the specifications will have to be drawn up by about 1984. There is certainly a case on national space policy grounds for procurement of a version of the L-Sat platform, for which BAe could expect to be prime contractor; its total capacity would allow payloads like limited vital Government communications alongside those needed to meet the military requirement for defence communications. The Ministry of Defence must have the right to change the satellite's orbital position and exploit all its capacity at times of military crisis. Although this limits the functions it could perform for other users in such crises, the satellite could support some civil Government communications at any other time.

6. I am sending a copy of this minute to the members of E Committee, the Secretaries of State for Defence and for Education and Science, to the Minister of State, Department of Industry, and to Sir Robert Armstrong.

M.T.

24 November 1980

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

30 September 1980

The Private Secretary to the Secretary of
State for Industry
123 Victoria Street
LONDON SW1E 6RB

Dear Ian

SPACE POLICY

I spoke to your Office on the telephone on the 30 September and mentioned that CSD will after all wish to be represented on the co-ordinating committee which was proposed in your Secretary of State's minute on the 18 July and I wish to nominate Mr G W Watson, Under Secretary and Director of the Central Computer and Telecommunications Agency as the CSD representative on the committee.

I am copying this letter to the Private Secretaries to the Prime Minister, members of E, Secretary of State for Defence, Secretary of State for Education and Science, Sir Robert Armstrong and Robin Ibbs in the CPRS.

Yours sincerely

Jeff Wattley

J R WATTLEY
APS/Lord President

Aerospace

2

Prime Minister

To note change in time-table for this report.

JR

29/9

Qa 05139

To: PRIME MINISTER

From: J R IBBS

CPRS Report on Space Policy

1. When you agreed that the CPRS should report to E Committee on the issues which face the United Kingdom in the general area of space policy it was thought that Ministerial decisions on proposals expected to come from the European Space Agency (ESA) would be needed by the end of the year. We thus agreed to try to finish our report by the end of September. In the event decisions on the ESA proposals will not now be required before early 1981 and I have eased the timetable for completion of our report which will now be ready for discussion in E early in November.

2. I am sending a copy of this minute to Sir Keith Joseph, the other members of E Committee, and to Sir Robert Armstrong.

JR

MS.

29 September 1980

HF

Aerospace

DEPARTMENT OF EDUCATION AND SCIENCE

ELIZABETH HOUSE, YORK ROAD, LONDON SE1 7PH

TELEPHONE 01-928 9222

FROM THE SECRETARY OF STATE

PL
7/8

Rt Hon Sir Keith Joseph BT MP
Secretary of State
Department of Industry
Ashdown House
123 Victoria Street
LONDON SW1

7 August 1980

Dear Keith.

SPACE POLICY

Thank you for sending me a copy of your minute of 18 July to the Prime Minister. I note that she has agreed to the arrangements which you propose for the establishment of the coordinating committee on space policy under Michael Marshall.

The Department of Education and Science's interest in space policy matters is on the scientific research side, through the involvement of the Science Research Council and, ultimately, some universities. I should therefore like to nominate Mr C M Regan, who is the Head of my Science and International Relations Branch, as the DES representative on the Committee.

I am copying this letter to the Prime Minister and the other recipients of yours.

Yours ever

Mark

MARK CARLISLE

RESTRICTED

Aerospace

HOME SECRETARY

QUEEN ANNE'S GATE LONDON SWiH 9AT

31 July 1980

Dear Keith

In your minute of 18 July to the Prime Minister, you invited colleagues to nominate representatives for Michael Marshall's inter-Departmental co-ordinating Committee for space. The Home Office interest here is both on the broadcasting policy and the radio regulatory side, and I would like to suggest Mrs Shirley Littler, the Head of our Broadcasting Department, as the Home Office representative.

I am sending copies of this letter to the other members of E Committee, the Secretaries of State for Defence and Education and Science and Sir Robert Armstrong, and also to Robin Ibbs.

Yours

The Rt Hon Sir Keith Joseph Bt MP

RESTRICTED

Aerospace

Ministry of Agriculture, Fisheries and Food
Whitehall Place London SW1A 2HH

From the Minister's Private Office

Private Secretary to
Sir Keith Joseph Bt MP
Department of Industry
123 Victoria Street
London SW1E 6RB

31/7

31 July 1980

Dear Private Secretary,

SPACE POLICY

My Minister is grateful for a sight of Sir Keith Joseph's minute of 18 July to the Prime Minister. He does not think that this Ministry's interest is close enough to warrant representation on the proposed official coordinating Committee and feels that any points we might wish to make could be covered by the representative from your own Department, if this is agreeable to your Secretary of State. It would be helpful to see the papers though, and these could best be sent to Mr M Gray of our Chief Scientist's Group.

I am copying this letter to the Private Secretaries to the Prime Minister, members of E Committee, the Secretary of State for Defence, the Secretary of State for Education and Science, Sir Robert Armstrong and Robin Ibbs.

Yours sincerely,

Geoff Waters

G R Waters
Principal Private Secretary

Aerospace

FCS/80/28

SECRETARY OF STATE FOR INDUSTRY

Space Policy

1. Thank you for sending me a copy of your minute of 18 July 1980 to the Prime Minister. I agree with the arrangements you outlined for the inter-governmental co-ordinating committee for space. I would like to nominate Mr R Q Braithwaite, the Assistant Under Secretary of State in the FCO whose responsibilities cover space matters, as my representative on the committee.

2. As I outlined in my minute to you of 30 June 1980, our interests include the opportunities that may be offered either by a further development of the European Space Agency or by collaboration with countries such as France and Germany. I would hope that these interests could be fully discussed by the committee.

3. I am sending copies of this minute to the Prime Minister, Members of E Committee, Francis Pym, Mark Carlisle, Sir Robert Armstrong and Robin Ibbs.

(CARRINGTON)

Foreign and Commonwealth Office
28 July 1980

Aerospace

Ref. A02718

MR. LANKESTER

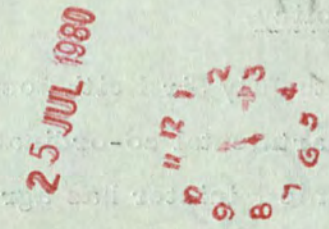
Space Policy

In his minute of 18th July Sir Keith Joseph suggests that the interdepartmental co-ordinating committee, which the Prime Minister has agreed should be established under Mr. Michael Marshall's chairmanship, should be serviced by a joint secretariat drawn from the Cabinet Office and the Department of Industry.

2. Mr. Ibbs has already minuted you about the CPRS's support for this proposal. Sir Robert Armstrong is also content. A joint secretariat is quite common. A Ministerial chairman for an official committee is a little more unusual, though by no means unique.

(D.J. Wright)

25th July, 1980


25 JUL 1980

Aerospace.

Treasury Chambers, Parliament Street, SW1P 3AG
01-233 3000

25 July 1980

The Rt Hon Sir Keith Joseph Bt MP
Secretary of State for Industry
Department of Industry

12.2.7

SPACE POLICY

Thank you for sending me a copy of your minute of 18 July to the Prime Minister.

I have no objections to the arrangements you propose for the co-ordinating committee on space policy to be chaired by Michael Marshall. I would like to nominate Mr A H Lovell, Under Secretary IA Group, as the Treasury representative on the committee.

Perhaps I could take this opportunity of endorsing (albeit belatedly) your proposal for the CPRS review. I am most anxious that any commercial opportunities spinning off from space technology should be keenly exploited and I hope that the CPRS will be able to produce their report very soon.

I am copying this letter to the Prime Minister and other recipients of yours.

GEOFFREY HOWE

Aerospace

MINISTRY OF DEFENCE WHITEHALL LONDON SW1A 2HB

TELEPHONE 01-218 9000
DIRECT DIALLING 01-218 2111/3

MO 11/8/2

25th July 1980

Dear Keith,

PZ

25/7

SPACE POLICY

Thank you for your letter of 16th July.

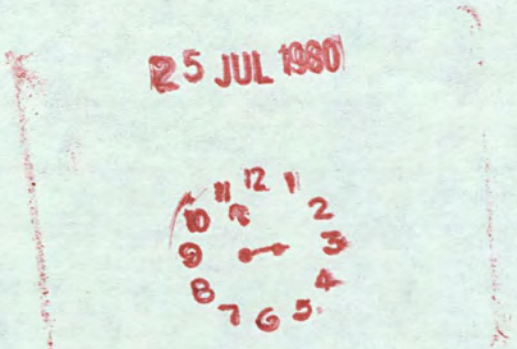
I had suggested that officials should prepare proposed terms of reference for the CPRS study in order to help focus Ministerial attention on all the main issues and help officials to react constructively to the demands which the study might place upon them. However, I do not press the point but would emphasise the need for the CPRS staff concerned to consult fully with Departments concerned at an early stage of their work.

I am sending copies of this letter to the Prime Minister and the other recipients of yours.

Yours ever

John

The Rt Hon Sir Keith Joseph Bt MP


25 JUL 1980

FILE

RH

Aerospace

E Cttee: CPRS DES
CO FCO
Chief Sec HO
DOEn DOE
DT MAFF
L.Pres MOD
Tres

24 July,1980

The Prime Minister has read your Secretary of State's minute of 18 July on Space Policy. She is content with the arrangements which he proposed for the Co-ordinating Committee which is to be chaired by Mr Michael Marshall.

I am sending copies of this letter to Private Secretaries of the Members of E Committee, the Secretary of State for Defence, the Secretary of State for Education and Science, Sir Robert Armstrong and Robin Ibbs.

T. P. LANKESTER

I K C Ellison, Esq
Department of Industry

RH

RESTRICTED

Qa 05083

To: MR LANKESTER

From: J R IBBS

Space Policy

1. Sir Keith Joseph's minute of 18 July to the Prime Minister seeks agreement to Michael Marshall chairing an official Cabinet Committee with a joint Cabinet Office and DoI Secretariat.

2. Such an arrangement will be very useful both as a way of implementing any policy decisions Ministers might wish to take following consideration of the CPRS study and as a way of keeping up the drive to obtain a commercial return from expenditure in this area.

3. I support Sir Keith and hope the Prime Minister will agree to allow Mr Marshall to proceed.

4. I am sending a copy of this minute to Sir Robert Armstrong.

JRI.

23 July 1980

RESTRICTED

JU

RESTRICTED

PRIME MINISTER

SPACE POLICY

1 I was very pleased that the suggestions in my minute to you of 20 June for a CPRS review and an inter-departmental co-ordinating committee for space met with such a favourable response.

2 Michael Marshall explained the purpose of the review in the House on 11 July, and I should now like to set in train the arrangements for the co-ordinating committee which he will chair. I visualise its main purposes will be to implement the decisions which the Government will take when we have studied the conclusions of the CPRS review in the early autumn, and to ensure that important issues are satisfactorily identified and resolved.

3 A sensible administrative arrangement would be for the co-ordinating committee to be established as an official Cabinet Committee with a joint secretariat drawn from the Cabinet Office and this Department. I hope that you can agree to this.

4 It would be helpful if colleagues who are concerned with space matters would nominate a representative at Under Secretary level before the Summer Recess so that a first meeting can be organised in September in preparation for the receipt of the

/CPRS ...

RESTRICTED

CPRS Report. At the same time, colleagues may like to mention any particular issues which they would like brought before the Committee at this meeting.

5 Copies of this minute go to the Members of E Committee, the Secretary of State for Defence, the Secretary of State for Education and Science, Sir Robert Armstrong and Robin Ibbs in the Central Policy Review Staff.

KJ.

K J

18 July 1980

Department of Industry
Ashdown House
123 Victoria Street

21 JUL 1980

JH

DEPARTMENT OF INDUSTRY
ASHDOWN HOUSE
123 VICTORIA STREET
LONDON SW1E 6RB
TELEPHONE DIRECT LINE 01-212 3301
SWITCHBOARD 01-212 7676

Secretary of State for Industry

16 July 1980

The Rt Hon Francis Pym MP
Secretary of State for Defence
Ministry of Defence
Whitehall
London SW1A 2HB

Dear Francis.

SPACE POLICY

Thank you for your letter of 2 July.

There are indeed complex issues to be addressed and I entirely recognise the need to keep your staff closely associated with the CPRS work. Specifically I recognise that your immediate defence requirements have particular significance both in operational and financial terms. They do, of course, have considerable importance for UK industry as well. For all these reasons I would certainly not want to see your clear immediate needs delayed or impeded by other perhaps less well formulated requirements.

I would, however, prefer not to confine the scope of the CPRS study, as there are many issues which need to be considered. As I have said that I am quite happy for your staffs to be closely involved and have recognised your specific requirements, I hope that you will be able to agree that the general terms outlined in my minute of 20 June to the Prime Minister adequately define the area of study.

Copies of my letter go to the Prime Minister and the other recipients of the earlier correspondence.

Yours Keith

CONFIDENTIAL

Aerospace

2 MARSHAM STREET
LONDON SW1P 3EB

My ref: H/PSO/15031/80

Your ref:

7 July 1980

Dear Keith

You send me a copy of your minute to the Prime Minister of 20 June.

As you will know it was my initiative that gave rise to the creation of ESA in 1973 and I would be most interested to participate in a review of its progress.

I am copying this letter to the recipients of your minute.

Yours ever

MICHAEL HESELTINE

The Rt Hon Sir Keith Joseph MP
Secretary of State for Industry

MT

CONFIDENTIAL

ELIZABETH HOUSE,
YORK ROAD,
LONDON SE1 7PH
01-928 9222

FROM THE SECRETARY OF STATE

1

The Rt Hon Sir Keith Joseph Bt MP
Department of Industry
Ashdown House
123 Victoria Street
LONDON SW1

7 July 1980

Dear Keith.

SPACE POLICY

Thank you for sending me a copy of your minute of 20 June to the Prime Minister on this subject.

I think that a study of the broad context of UK space policy by the Central Policy Review Staff, such as you propose in your minute, would be a useful and timely one, and one which I would welcome from the point of view of the interest which I have in space policy matters through the involvement of the Science Research Council.

I would therefore support your proposal.

Copies of this letter go to the Prime Minister, the Members of "E" Committee, the Secretary of State for Defence, Sir Robert Armstrong and the Head of the Central Policy Review Staff.

Yours ever

Mark

MARK CARLISLE

CONFIDENTIAL

CONFIDENTIAL

Aerospace

MINISTRY OF DEFENCE WHITEHALL LONDON SW1A 2HB

TELEPHONE 01-218 9000
DIRECT DIALLING 01-218 2111/3

MO 11/8/2

2nd July 1980

Dear Keith,

12/7

SPACE POLICY

Thank you for sending me a copy of your minute of 20th June about space policy. I have since noted the Prime Minister's agreement to your proposal that the CPRS should look at broader space policy issues.

There has been a rapid growth in the planned use of satellite communications by Defence and we have already identified a growing shortage of capacity throughout the countries of the North Atlantic Alliance in the 1980s, besides foreseeing an urgent UK need to fill a gap in the short term, which may require new satellite launching as early at 1983, with decisions being needed this year. We are deeply involved with NATO and the US in military satellites, and we are studying with other interested Departments ways (both national and collaborative) of meeting our short and long term defence requirements within the limited budgetary allocations available. It will be important that these military and international aspects are fully taken into account in the CPRS study and my staff should therefore be closely associated with this work.

Because of the complex background, the terms of reference of the CPRS study will need to be carefully drawn, and I suggest that officials should prepare proposals for our approval.

The Rt Hon Sir Keith Joseph Bt MP

I am copying this letter to the Prime Minister, members of E Committee, the Secretary of State for Education and Science, Sir Robert Armstrong and Mr Robin Ibbs in the Central Policy Review Staff.

Francis Pym

CONFIDENTIAL

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
WHITEHALL PLACE, LONDON SW1A 2HH

From the Minister

The Rt Hon Sir Keith Joseph Bt
Department of Industry
Ashdown House
123 Victoria Street
London SW1E 6RB

1 July 1980

SPACE POLICY

MAFF involvement in the considerations outlined in your letter to the Prime Minister on the 20 June is limited.

We are, of course, users of satellites for information transmission but our involvement in developments associated with satellites under ESA is confined to a very modest contribution towards the Remote Sensing Centre at Farnborough.

I have no objections to your proposals provided no additional financial contribution is expected from MAFF.

I am copying this letter to the Prime Minister, other members of E Committee, the Secretary of State for Education and Science, Sir Robert Armstrong and Robin Ibbs in the Central Policy Review Staff.

PETER WALKER

CONFIDENTIAL

FCS/80/106

SECRETARY OF STATE FOR INDUSTRY

Space Policy

1. Thank you for sending me a copy of your minute of 20 June to the Prime Minister. I agree that a CPRS study would be useful and we shall be glad to co-operate. As you say, there are important international considerations. On the other hand, there are the possible constraints of our present commitments to the European Space Agency. On the other, we should explore the opportunities which may be offered either by a further development of ESA or by direct collaboration with countries such as France and Germany who are active in this field but not necessarily in a position to go it alone.

2. I am sending copies of this minute to the Prime Minister, Members of E Committee, Francis Pym, Mark Carlisle, Robert Armstrong and Robin Ibbs.

(CARRINGTON)

Foreign and Commonwealth Office
30 June 1980

CONFIDENTIAL

mc

Caxton House Tothill Street London SW1H 9NA
Telephone Direct Line 01-213 6400
Switchboard 01-213 3000

2 pps

The Rt Hon Sir Keith Joesph Bt MP
Secretary of State
Department of Industry
Ashdown House
123 Victoria Street
LONDON SW1

30 June 1980

Dear Keith

12

3/7/6

SPACE POLICY

In your minute to the Prime Minister of 20 June you proposed that the CPRS should be asked to study the overall management and co-ordination of government space policy. I support this proposal. This is the sort of field on which we must increasingly depend for new employment opportunities in the future, and it is imperative that all our efforts should be combined to make the most of the opportunities open to us.

I am copying this to those to whom you sent your minute.

Yours

Jim

CONFIDENTIAL

cc CPRS FCO
CO HO
DES
MOD
HMT
DN
DOT
MAFF
DM
LPO
HMT

10 DOWNING STREET

From the Private Secretary

30 June 1980

Dear Ian.

Space Policy

The Prime Minister has now considered your Secretary of State's minute of 20 June on the above subject, and also the Home Secretary's minute of 26 June.

The Prime Minister was pleased to learn that Sir Keith intends to ask Mr. Michael Marshall to chair an official inter-Departmental group to consider the arrangements for co-ordinating the means whereby the UK can derive maximum industrial benefit from our expenditure with the European Space Agency. In this context, she feels it is most important that we do all we can to mobilise private sector funds and thus create new business opportunities. She also agrees that the CPRS should be asked to look at the broader context alcng the lines suggested with a view to presenting a paper to E Committee by the end of September. She hopes that the CPRS study will take account of the points in the Home Secretary's minute.

I am sending copies of this letter to the Private Secretaries to members of E committee, the Secretary of State for Defence, the Secretary of State for Education and Science, Sir Robert Armstrong and Robin Ibbs in the Central Policy Review Staff.

Yours Lawrence.

I.K.C. Ellison, Esq.,
Department of Industry.

CONFIDENTIAL

CONFIDENTIAL

10 DOWNING STREET

From the Private Secretary

27 June 1980

Space Policy

The Prime Minister has now considered your Secretary of State's minute of 20 June on the above subject, and also the Home Secretary's minute of 26 June.

The Prime Minister was pleased to learn that Sir Keith intends to ask Mr. Michael Marshall to chair an official inter-Departmental group to consider the arrangements for co-ordinating the means whereby the U.K. can derive maximum industrial benefit from our expenditure with the European Space Agency. In this context, she feels it is most important that we do all we can to mobilise private sector funds and thus create new business opportunities. She also agrees that the C.P.R.S. should be asked to look at the broader context along the lines suggested with a view to presenting a paper to E Committee by the end of September. She hopes that the C.P.R.S. study will take account of the points in the Home Secretary's minute.

Yours ever

I. K. C. Ellison, Esq.,
Department of Industry.

CONFIDENTIAL

CONFIDENTIAL

2 PPS

PRIME MINISTER

SPACE POLICY AND SATELLITE BROADCASTING

I have seen a copy of the Secretary of State for Industry's minute of 20 June to you about space policy.

I share his view that developments in satellite technology can offer important industrial and commercial opportunities to the United Kingdom, and this is, of course, one of the factors which will be taken into account in the satellite broadcasting study on which the Home Office, in consultation with the Department of Industry, is currently working. I also see the arguments in favour of Keith Joseph's proposal for a CPRS study, and should certainly have no objection to it though I would hope that any such study would not divert effort from the satellite broadcasting study which I am anxious should be completed by the end of the year.

I think that colleagues should be aware, however, of the present relationship, as I see it, between our satellite policy generally and the question of satellite broadcasting. It is becoming increasingly clear that the viability of a satellite project financed, as Keith Joseph suggests, mainly from private capital is going to depend heavily on the inclusion in its payload of one or more broadcasting channels of a kind which would attract the viewing public to spend the substantial sums necessary to acquire the necessary receiving equipment. The channels could only be financed from advertising, subscription-TV or a supplementary television licence fee. I need hardly say that the implications of such a development for the quality and finance of our broadcasting system (and perhaps our newspapers), for UK viewers, for advertisers, for the cable or film industry, as well as for the space industry and equipment manufacturers, are enormous - and it is, of course, for this reason that the satellite broadcasting study was started.

I see no difficulty

I accept entirely that, as Keith Joseph says, the Government must play its part if we are not to miss the industrial and commercial opportunity which satellite technology offers, and my Department will certainly contribute to this work. We shall not be forgiven for missing these opportunities; neither, however, shall we be forgiven if an ill-prepared decision on satellite broadcasting were to damage our broadcasting system seriously. Moreover, it will not necessarily help us to sell satellite technology abroad or to exploit our potential for overseas sales of British broadcast programmes if potential customers see that satellite broadcasting has damaged our own, much admired, broadcasting system.

I am copying this minute to the recipients of copies of Keith Joseph's.

Geoffrey Howe

26 June 1980

CONFIDENTIAL

Prime Minister

Are you content for me to write as at Flag B? (There is also a minute from the Home Secretary at which we need only take note).

Qa 05063

To: MR LANKESTER

From: J R IBBS

Space Policy

Flag A

1. You asked for advice on how the Prime Minister should respond to Sir Keith Joseph's minute of 20 June.

2. We agree with Sir Keith's arguments for a CPRS study and would welcome a remit along the lines he provides.

3. Policy towards the exploitation of space has not been reviewed since 1972/73. Much has changed since then. The Ministry of Defence, the Post Office, the Home Office (in respect of their responsibilities towards the broadcasting authorities), the DES (through the Science Research Council), the DoI and, of course, British Aerospace, private companies, multinational corporations (such as IBM) and merchant bankers (such as Rothschilds) have all declared interests in the past few months. In noticing this activity we have become concerned by the possibility that Ministers will be asked to take decisions, under pressure, on a number of specific issues without having had the chance of considering the broader underlying policy questions.

4. There is little that can be done in this field without international collaboration. The United Kingdom is thus likely to find itself at a serious disadvantage with respect to our major collaborators in the European Space Agency - the French and Germans - who already have a clear idea of where their long term national interests lie and know how they intend to further them. This aspect of the general problem is not emphasised in Sir Keith Joseph's minute, although it is one which we should wish to include. I believe that the FCO shares some of our concerns in this area and would welcome such a study by us.

I have remitted

5. I attach a draft letter which the Prime Minister might wish to send in reply to Sir Keith if she is content with our accepting his invitation.

6. I am sending a copy of this minute and attachment to Sir Robert Armstrong.

26 June 1980

Att.

CONFIDENTIAL

CONFIDENTIAL

Top PPs with PM

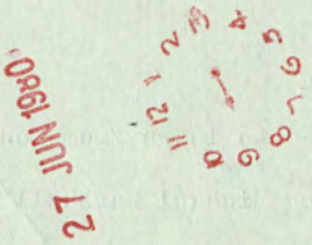
~~DRAFT LETTER FROM THE PRIME MINISTER TO SIR KEITH JOSEPH~~

SPACE POLICY

I was pleased to learn from your minute S45/1 of 20 June that ~~you~~ he intends ~~asking~~ to ask Mr Michael Marshall to chair an official inter-departmental group to consider the arrangements for co-ordinating the means whereby the United Kingdom derives industrial benefit from our expenditure with the European Space Agency. Amongst other things, the ~~We must~~ feels it is important ~~make sure~~ that we do all we can to mobilise private sector funds in the exploitation of space and thus create opportunities for novel wealth creating businesses to grow.

The PM agrees the ~~Against this background I agree with your suggestion~~ that the CPRS be asked to look at the broader context along the lines you suggest with a view to presenting us with a paper for E by the end of September. She hopes that the study will take account of the work in the Treasury, mainly.

CONFIDENTIAL


27 JUN 1980

CONFIDENTIAL

Aerospace. DSG

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cc: FCO

10 DOWNING STREET

B/F 1.7.80

From the Private Secretary

MR. IBBS

SPACE POLICY

You will have seen a copy of Sir Keith Joseph's minute of 20 June to the Prime Minister on Space Policy. The minute suggests that the C.P.R.S. should undertake a study of various aspects of our policy. I would be grateful for advice.

I am sending a copy of this minute to Sir Robert Armstrong.

T. P. LANKESTER

KRB

24 June 1980

CONFIDENTIAL

cc A. Duguid

PRIME MINISTER

SPACE POLICY

Present UK policy towards the exploitation of space was effectively settled when we were last in office. We decided to reduce to a minimum our support for a European launch vehicle, to concentrate on satellites, and to this end to rely on our membership of the European Space Agency (ESA) to promote our industrial and other interests.

total spending on the space programme is £54m in 1980/81.

On the whole this policy has served us well so far. We have derived substantial benefits from ESA and membership has helped us to develop a significant satellite capability. British industry has taken the lead in a number of European communications satellite projects but the position could change. Satellite technology is making rapid developments and as you know many new markets of potential commercial attractions seem to be opening up. The role of satellites is being extended beyond the provision of trunk circuits across oceans and difficult terrain in parallel with or in place of terrestrial systems, into the provision of new services directly to subscribers through their own individual terminals. The two most important applications to emerge so far are direct television broadcasting and business communications systems providing flexible and secure links for advanced equipment such as video-display units, facsimile machines, tele-conferencing facilities, computer terminals and so on.

/The ...

The French and Germans have already decided to take initiatives outside the ESA forum to introduce direct satellite broadcasting. In addition the French are pursuing a national telecommunications satellite programme which they are seeking to internationalise in Europe through the participation of other postal authorities including our own. We and UK industry are therefore faced with a challenge. Having put public money into an R & D programme over a number of years we must now do what we can to ensure that British industry reaps a long-term commercial benefit in an expanding but highly competitive market. In this we shall face not only the Americans and Japanese who are obviously very strongly placed, but the Germans and notably the French who have set about exploiting these opportunities in a very single-minded fashion.

Clearly the attitudes of major users of satellites such as the Ministry of Defence and the Post Office can influence the opportunities open to our space industry. Also the regulatory framework set by this Department and the Home Office in relation to telecommunications and broadcasting is important. It is my hope that it will be possible to mobilise private sector funds in the exploitation of space applications but the Government will have to play its part if this is to be brought about.

There are other questions too. Have we got the right arrangements for managing UK space policy and activities? The DOI, DES (through the Science Research Council) and MOD all have modest funds for space programmes. Are we pulling together in the right

/direction ...

direction and using public money wisely, bearing in mind the changing nature of the market? We all need to be in close touch with the FCO about the important international considerations. It is essential too that we should have as clear a picture as possible of the changes which developments in information technology will bring about: the potential new users of services transmitted by satellite, the export opportunities for use of information-based products and services, and the likely pace and cost of such developments.

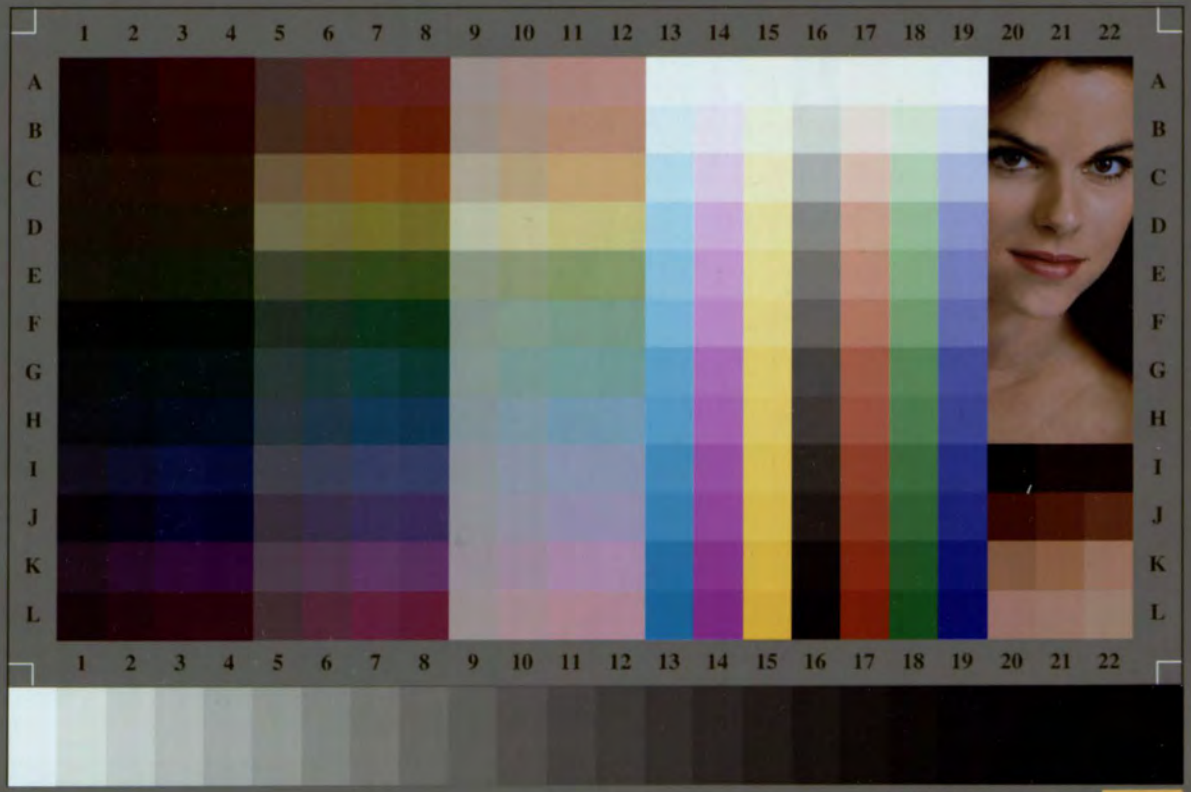
I am already considering asking Michael Marshall to chair an official inter-departmental group to consider the arrangements for coordinating the means whereby the UK derives industrial benefit from our expenditure with ESA. The Home Office study of the potential for direct television broadcasting by satellite in this country is already in progress. I think it would be useful to ask the CPRS to look at the broader context. I would certainly welcome a CPRS view on the overall management and co-ordination of government space policy, and on the extent to which developments in information technology will affect the satellite market. At a time when so many industries are under pressure, I think it is important to be seen to coordinate our efforts in respect of this enormously exciting potential growth area to ensure that maximum benefits to the UK are achieved. It would be helpful too to look into the major public purchasing decisions that we may well have to consider in the near future.

If, therefore, you and other colleagues agree I should like the CPRS to begin a study along these lines as soon as possible, consulting other departments and outside interests as necessary. From my point of view a report to colleagues collectively by about the end of September would be helpful and this might also be useful background for the subsequent consideration of the Home Office study on direct broadcasting. I am sending a copy of my minute to the Members of E Committee, the Secretary of State for Defence, the Secretary of State for Education and Science, Sir Robert Armstrong and Robin Ibbs in the Central Policy Review Staff.

Yours

K J
20 June 1980

Department of Industry
Ashdown House
123 Victoria Street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