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DEFENCE
Part 1: Dec 1979
Part 6: June 1989

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10 DOWN ING STREET LONDON SWIA 2AA

From the Private Secretary

27 July 1992

Dea Chittiphe,

GPALS

Thank you for your letter of 22 July which the Prime Minister has seen.

The Prime Minister agrees with the approach taken by officials and with the issues which officials are now working on.

I am copying this letter to Simon Webb (Ministry of Defence) and Sonia Phippard (Cabinet Office).

(J. S. WALL)

Christopher Prentice, Esq., Foreign and Commonwealth Office.

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Foreign

Foreign & Commonwealth Office

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22 July 1992

Dear Stephen,

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GPALS

er at Camp American

President Bush suggested to the Prime Minister at Camp David in June that we should discuss with them the American proposals on GPALS to be put to the Russians. Officials did so before an American team travelled to Moscow on 13 July to follow up the agreement at the Bush/Yeltsin Summit on 16/17 June to explore the scope for cooperation on missile defences.

We draw three main conclusions:

- (i) the Russians want to cooperate with the US, especially to remedy the gaps in their own early warning radar coverage following the break-up of the Soviet Union and to sell (and later obtain) technology. They see political appeal in a multilateral system involving them and the rest of the CIS with NATO. But they still oppose any major changes in the Anti Ballistic Missile Treaty, which would give the Americans opportunities which the Russians, for technical and financial reasons, would find it difficult to emulate;
- (ii) the Americans are prepared to go a long way to persuade the Russians to amend the ABM Treaty so that GPALS can go ahead. The Pentagon is keen to offer as bait a cooperative defence system, exchange of early warning data, technology exchanges and contingency planning for joint antitactical missile systems. But State assume the Russians will proceed cautiously and will, at most, agree to ABM Treaty amendments only by stages;



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(iii) there is a serious risk that the Americans will neglect the position of the Alliance and treat it merely as a sub-set of a Russian/American deal. The Americans say that the Alliance remains central to their thinking and that they want allies to be involved in any structures they set up with Russia. But the Alliance is not in the forefront of US thinking. The Americans have told us bluntly that they will not allow the allies to block their plans; and that any involvement of allies will be on the principle "the more you put in, the more you get out". The French are openly saying that US policy on GPALS casts doubt on the future of the Alliance.

US/Russian talks will continue in working groups through the autumn. We will need to monitor this very closely; and the Americans have agreed to another bilateral in early September. But we also want to stimulate proper discussion in the Alliance, partly to pre-empt separate European discussions in the WEU, but mainly to get our allies to realise that there is more to GPALS than having a convenient umbrella against Libyan missiles. At our prompting, the Americans have suggested a brainstorming session within NATO. We hope that this will lead to the creation of a senior expert group.

It is important that the UK is not seen as the leader of the awkward squad or as obsessed with our Trident interests, which the Americans continue to assure us will be safeguarded. In our bilateral talks early this month, we played up the positive side of our message: in particular our readiness to support limited amendments to the ABM Treaty and the sharing of early warning data with Russia. The Americans commented that our line was notably constructive in tone and substance. We clearly need to sustain this note, since it will make the Americans more receptive to the cautionary part of our message.

Before we have further discussions with the Americans and in NATO, we will need to work out in more detail our position on some of the very difficult issues raised by GPALS and US/Russian cooperation, such as:

- how to ensure that the Alliance remains the privileged partner of the US in the sharing of early warning data;

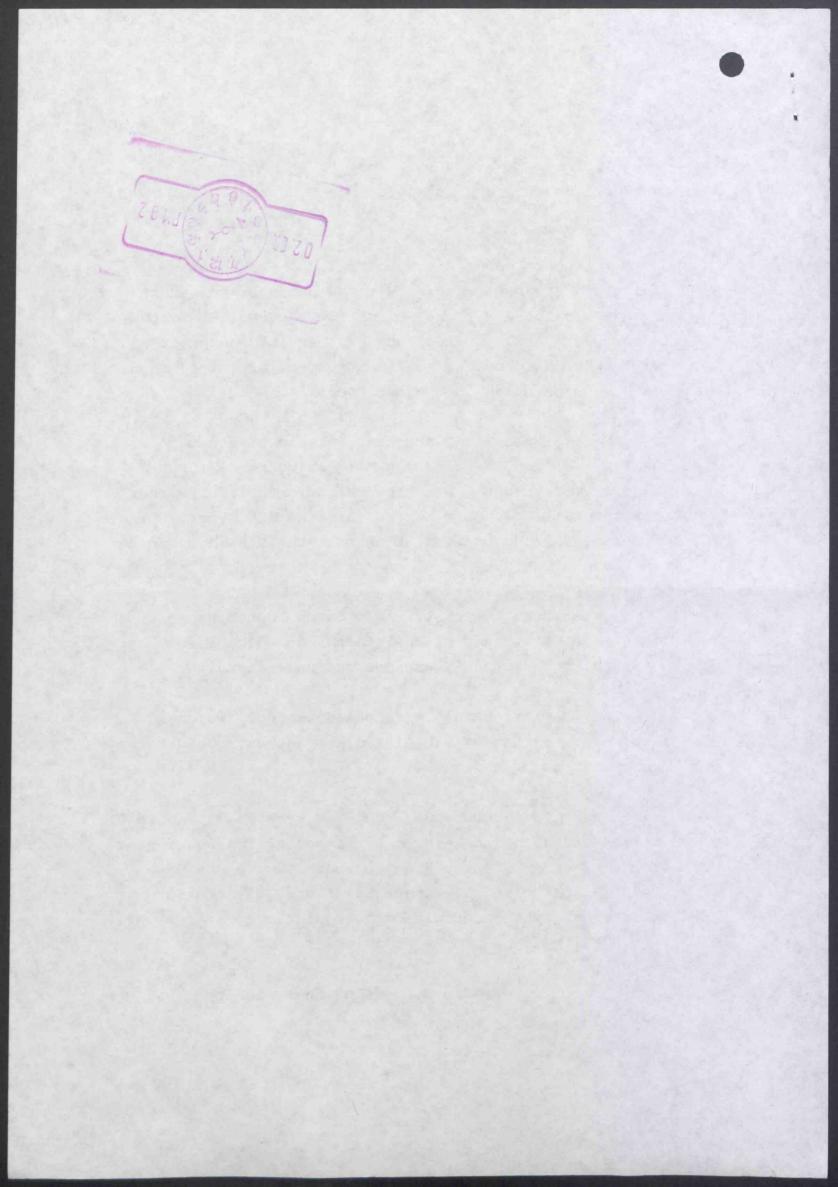
SECRET - what should be the nature and membership of any multilateral structures; - how to ensure that the development of any US/Russian missile defence system does not upstage NATO cooperation or lead to the uprating of Russian defences; - how best to limit technology transfers between the US and Russia and to ensure that NATO countries are not placed at a disadvantage (since the ABM Treaty currently prevents transfer to third countries); - what is NATO's own requirement for theatre missile defences and what are the resource implications for the European allies? - our attitude to the deployment of interceptors in space, bearing in mind the risk of setting off an expensive competition in space-based weapons. FCO and MOD officials are already working on these issues and will submit advice shortly after the summer. I am sending copies to Simon Webb (MOD) and Sonia Phippard (Cabinet Office). Yours ever, Unictopnes Frantio (C N R Prentice) Private Secretary Stephen Wall Esq 10 Downing Street SECRET

Prie Marota Foreign & Commonwealth Office 21 (a-c) London SW1A 2AH 2 June 1992 either as a letter or a high. Maybe, of the are no botte argument than this, we shall not come on of and strup. he certainly don't wont the word steets to hibr Air ironal Jeffe (adhdig feith) & h ALS: Call by Ambassador Seitz hashington battles. Thank you for your letter of 1 June. I enclose a draft letter to President Bush which could also serve as a speaking note for the meeting with Ambassador/X Seitz. It has been cleared with MOD officials although in the time available it has not been possible to clear it with the Foreign Secretary. It underlines our point about the implications for Alliance management, and our view that caution is needed in amending the ABM Treaty, even in the relatively modest terms which Secretary Baker outlined to us (your letter of 22 May). I am copying this letter to Simon Webb (MOD) and to Sonia Phippard (Cabinet Office). (S L Gass) Private Secretary

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J S Wall Esq CMG LVO 10 Downing Street

SECRET one of a host of countries dependent on the United States. I support your desire to build on President Yeltsin's apparent readiness to do business to secure the changes to the ABM Treaty which you need to get GPALS under way. And I understand that part of the process will be to hold out to him the prospect of further and deeper cooperation in the long term. Most of all I'm aware that Yeltsin will not be with us for ever and has recently said as much: a future Russian government may not be as comfortable a partner for the West. We continue to value an ABM Treaty which imposes a strong constraint on what the Russians can do in the ABM field. This issue naturally bears on our concerns about the future effectiveness of UK Trident, on which I am grateful for your reassurances and understanding. Any deployment of space based weapons, which I appreciate is not on your immediate agenda, would raise very far reaching issues. These considerations argue, in my view, for careful allied consultation before commitment to the Russians; for a gradual, step by step approach, which could be reversed if political expectations changed; and for maintaining the principle of a regulated regime, even if the ABM Treaty has to be modified. I look forward to discussing these thoughts with you next week. SECRET



CONFIDENTIAL

10 DOWNING STREET

LONDON SWIA 2AA

From the Private Secretary

1 June 1992

GPALS

The American Ambassador is calling to see the Prime Minister on Wednesday. I have already asked for briefing.

Ray Seitz told Percy Cradock last week that he wondered whether the full force of our anxieties had reached the highest levels in Washington. He hoped that, at his meeting on Wednesday, the Prime Minister could tell him of any concerns we have on GPALS so that he could pass them on to Washington before the meeting between the President and the Prime Minister at the weekend.

The Prime Minister would be grateful for a full speaking note for use with Ambassador Seitz. The Prime Minister is also thinking of handing to the Ambassador a letter to President Bush on the subject to be delivered in advance of Camp David. It may be, in the end, that the Prime Minister will decide not to write before the weekend but I should be grateful if you could let me have a brief and a draft letter during the course of tomorrow (Tuesday).

I am copying this letter to Simon Webb (Ministry of Defence) and Sonia Phippard (Cabinet Office).

(J. S. WALL)

Richard Gozney, Esq., Foreign and Commonwealth Office.

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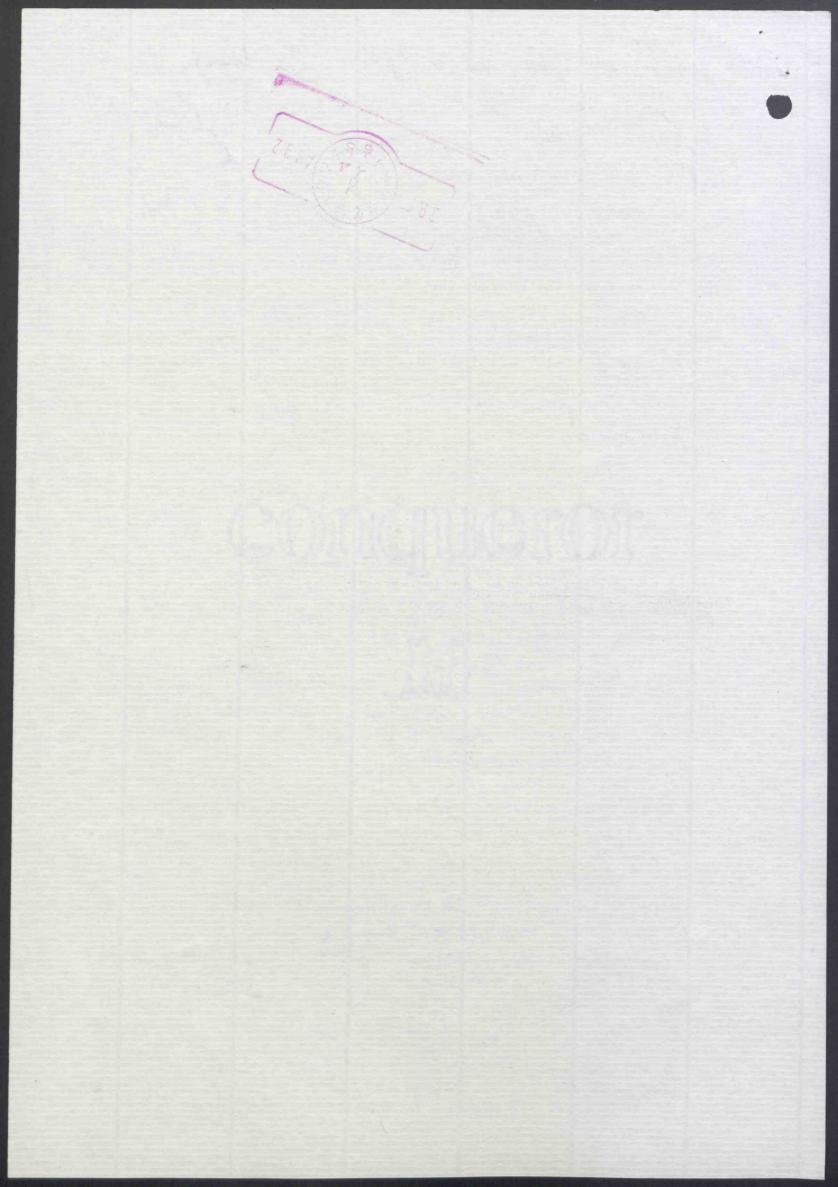
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The American Ambassador called to see me for a general chat this morning. In the course of it he raised the question of GPALs. He said he had the impression that this subject continued to exercise his British friends. Some of our worries had been conveyed to the Americans; but we were often so polite and given to understatement that the full force of our anxieties may not have reached the highest levels in Washington. He hoped to see the Prime Minister in the course of next week. He hoped that the Prime Minister would then tell him of any concerns we had on GPALs so that he could pass this on to Washington in advance of the meeting between the President and Prime Minister in early June.

I thanked him for this guidance, which I promised to pass on. (It confirms your own impression that he thought we had not so far spoken clearly enough.) I confirmed that we were indeed worried on a number of aspects, but more immediately on three:

- (a) that in order to get Yeltsin aboard a grand plan of anti-ballistic cooperation could be publicly unveiled, which would make our own deterrent arrangements look rather old fashioned;
- (b) more specifically, that relaxations might be planned in the ABM Treaty which would permit improved Russian defences and reduce the effectiveness of Trident;
- (c) that the reaction in the Alliance to the project, once it had been digested, could be adverse, since it might seem that the Alliance was being put in second place to Yeltsin in American priorities.

PERCY CRADOCK





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Foreign & Commonwealth Office

London SW1A 2AH

20 May 1992

Dea Agoher,

GPALS

Our first formal inter-agency discussions with the Americans on GPALS, trailed in Simon Gass's letter of 5 May to you, took place in Washington on 14 May. Bartholomew (State), Hadley (Defence) and Gordon (NSC) led for the Americans. Pauline Neville-Jones, Richard Mottram and John Goulden took part on our side.

US counsels are still divided. But so far the running has been left largely to those in the Department of Defence whose main concern is to persuade the Russians to amend the ABM Treaty so that GPALS can be deployed in the US. The Americans spoke to a Defence brief. Their main points were:

- (i) In order to get the ABM Treaty amended, they judge it necessary to offer the Russians not only early warning data but also cooperation on ABM defence and technology. They envisage an evolutionary process stretching a decade or more ahead.
- (ii) Early warning data would be provided at first bilaterally and from the mid-90's through a Joint Warning Centre.



- (iii) The Ballistic Missile Defence Centre would, beginning in the mid-90's, offer a framework for sharing R and D, cooperative programmes, the sale or licensing of hardware and in due course forward deployment of US systems.
- (iv) Technology transfer would be mainly from Russia to America rather than vice versa. But there might be scope for joint R and D on, for example, handling the problem of false alarms of missile launches, directed energy weapons and non-nuclear warheads for ABM interceptors.
- (v) Membership of the Centres would be open to all US allies (including South Korea and Israel); Russia and other members of the CIS; and other countries "in good standing" which accepted Western non-proliferation goals. The Americans speculated that all except the hard core pariahs (Iran, Iraq etc) might take part, though access to the benefits of the Defence Centre would vary from country to country.
- (vi) Amendment to the ABM Treaty would follow naturally from agreement to set up the Centres.

In discussion, it became clear that many of these points had not been worked through. In particular:

- the political effect on the Alliance of making Russia a co-architect. The Americans stressed that the allies would be central partners. They could cooperate on ABM defences, just as they work together on air defences. The US contribution would respect her existing obligations to NATO and safeguard her supreme national interests. If relations with Russia deteriorated, the supply of US information could be cut off;



- how to hedge against the risk that Russia would turn out not to be a credible partner. The Americans argued that we should not base our policy on pessimistic assumptions. In any case, they needed Russian cooperation to amend the ABM Treaty as required by Congress;
- was it feasible to include proliferators, such as Israel, and antagonists (Indian/Pakistan, Arab/Israel, Russia/Ukraine) in the Centres? We pointed out that America's friends were not necessarily the friends of all her allies and vice versa. Did an organisation with 100-plus members made sense? Bartholomew clearly began to question this aspect of the US plan as the meeting wore on;
- was it possible to preserve worthwhile limits on ABM systems and limit proliferation of missiles at the same time as relaxing the ABM Treaty and encouraging countries to deploy ABM missiles?
- would it be possible to find a stable equilibrium between offensive systems, on which deterrence depends, and defensive systems, which could work against deterrence?

The Americans admitted that they did not have answers to these questions. They tended to assume that, since they would be the main supplier of early warning data and the principal owner of ABM systems, they would be able to devise and impose satisfactory solutions.

We explained that HMG was not in principle hostile to GPALS or to cooperation with Russia and others. But, following up the Prime Minister's message to the President and the Defence Secretary's conversations, we underlined that cooperation with Russia and ABM Treaty amendment raised



profound questions for the Alliance and global security. stressed in particular the need to discuss these issues thoroughly in the Alliance before there was any question of seeking an agreement with the Russians. We emphasised our continuing concern about the impact on UK Trident if the Russians were allowed larger numbers of missile sites and interceptors as well as US data and technology. We urged the Americans to make clear that the Alliance would have a privileged position in any ABM arrangement and to consider the option of building up cooperation with the Russians on a more modest basis - for example, providing data on missile launches from the south of the FSU. We also pointed out that setting up ABM systems would involve a heavy diversion of Alliance resources to deal with a problem which, contrary to what GPALS advocates were claiming, was not the top priority.

The Americans were clearly taken aback by some of these points. They acknowledged that there were some "honest differences" between us and that our arguments needed further thought. But they made clear that the Administration was committed to go ahead with GPALS, on which it was under pressure from Congress. Their main concern was to amend the ABM Treaty so that GPALS could proceed, initially at two coastal sites - rather than at Grand Forks, as currently permitted. Modest, step by step cooperation would not in their view be enough to get the Russians on board. They were unable to say how far they would be prepared to go to achieve this.

Mindful of the value of the principles which HMG agreed with the Reagan Administration on the Strategic Defence Initiative, we suggested a number of guidelines for GPALS:



- its purpose should be to sustain stability and deterrence;
- it should preserve real constraints on ABM systems and not permit a free for all arms race which would, among other things, undermine the effectiveness of UK Trident;
- the Alliance should clearly be in a privileged position;
- we should keep in mind the overall mix of threats which we faced, of which the missile threat was only one;
- we should be careful not to encourage a North-South split and further proliferation.

Bartholomew had no problem with these points, though he was wary of accepting any binding constraints on the US programme. He reacted cautiously when we suggested that one principle should be to proceed by stages, starting with an agreement on some early warning data and modest ABM Treaty amendments to permit initial US deployments on the ground rather than in space. He accepted that ABM Treaty amendments could be sought in phases, but nothing could be ruled out for the longer term. He kept coming back to the need for a structured "vision" in order to win Yeltsin's support.

On the way ahead, the Americans are seeing the French and Germans this week. They have fully taken on board our message that allies must not be bounced again on this issue and that discussion in the Alliance will need to continue long after next month's summit with Yeltsin. Bartholomew promised that the US would broach the issue cautiously with Yeltsin next month and would stress that they could not move



beyond a position where their allies felt comfortable.

I am writing separately about the Prime Minister's meeting with Mr Baker on 22 May and how this, among other issues, might be discussed.

I am copying this letter to Simon Webb (MOD) and Sonia Phippard (Cabinet Office).

Your eur,

(R H T Gozney)

Private Secretary

J S Wall Esq No 10 Downing Street

20(a-b)

MR WALL

SECRET

19 MAY 1992

cc Miss Neville-Jones

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GPALS: PAULINE NEVILLE-JONES' MINUTE OF 18 MAY

I meant to have a word with you about this; but you were engaged in Questions and I shall be out for the second half of the afternoon. This hasty minute will have to serve in lieu.

I am worried about the situation that is developing, partly because of the speed of the timetable and partly because of the continuing gap between the Americans and ourselves. Firstly, I fear that publicity could begin with the American presentation to NATO tomorrow and could well build up on the American side, plus perhaps unhelpful comments from the French. The effect may be to cast doubt upon our deterrent policy and our reliance on Trident.

Secondly, I fear that the alliance, or at least some members of it, are likely to react poorly to the implication in the American proposals that they are to take second place to Yeltsin. I doubt whether the Americans have sufficient reassurances prepared on this score.

Thirdly, and most important, I am worried about the possible relaxations in the ABM Treaty and the effect of the efficacy of Trident.

The question is what to do about all this in the very short time available. The Americans have been obliging to date. In particular they responded to our representations before the

SECRET

Election. Moreover, as is clear from the discussions in Washington, they are determined now to press ahead with their approach to Yeltsin. Nevertheless, the issues are so important that I think we should attempt to make a further approach at very senior level. In practice this means the Prime Minister.

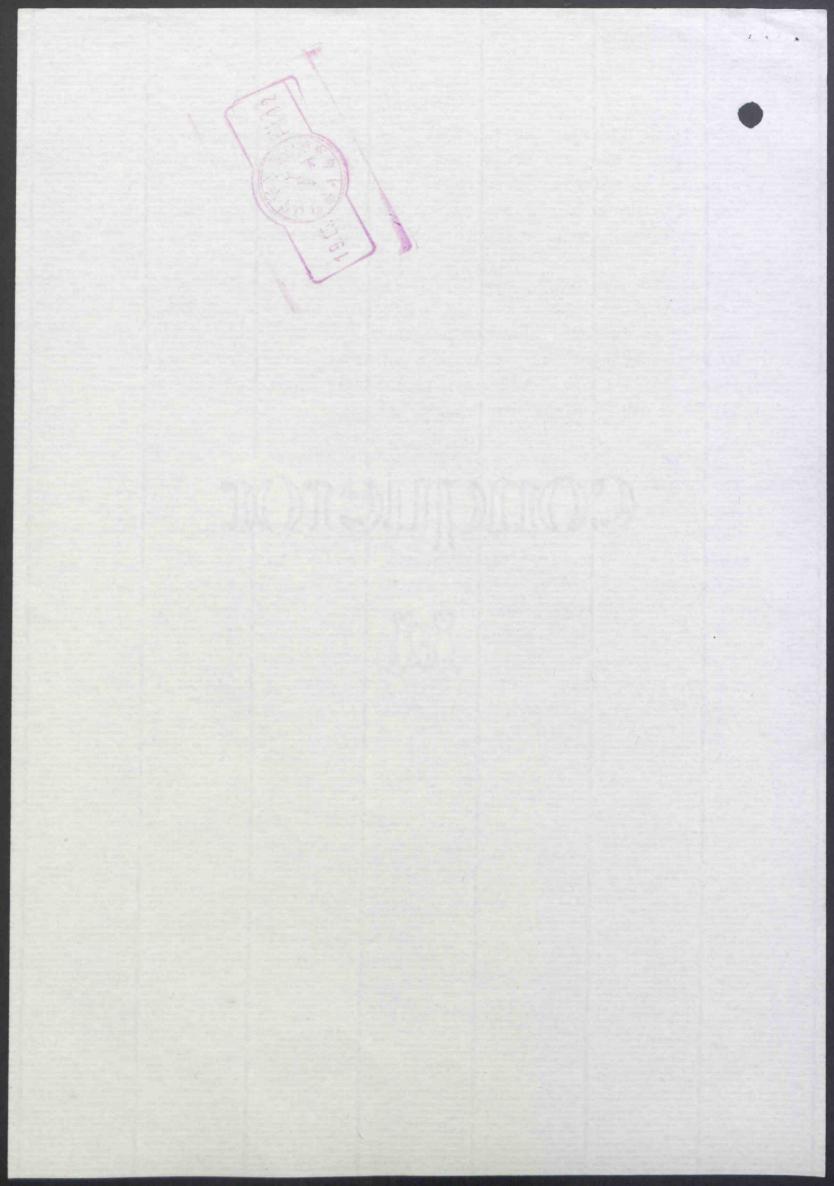
Any such approach would of course have to be emollient, expressing our support for the underlying idea but enjoining caution in its execution and presentation. It should urge a step by step approach. It should be simple, concentrating on the three points above. There are many other aspects of this issue, but they are strictly secondary.

As regards timing, ideally I should prefer a message from the Prime Minister to the President ahead of the American presentation in NATO, ie today. But that may now be impracticable. Our second, and fall back, position should therefore be a message following the American presentation in NATO, supplemented by suitable remarks to Baker on Friday.

You will no doubt wish to discuss with Pauline, to whom I am copying this minute. She is thinking along similar lines. In the light of the Prime Minister's decision, a draft could be prepared by Foreign and Cabinet Offices.

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PERCY CRADOCK



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GPALS

- 1. OVER LUNCH WITH CHENEY, MR RIFKIND REFERRED TO OUR CONCERNS ABOUT GPALS. CHENEY SAID THAT THE AMERICANS WANTED TO RESPOND TO YELTSIN'S INTEREST IN COOPERATION. THEY ALSO WANTED TO SECURE AMENDMENTS TO THE ABM TREATY WHICH WOULD ENABLE THEM TO PROCEED IN DUE COURSE WITH THE DEPLOYMENT OF TWO ABM SITES. THESE MIGHT BE SITUATED IN THE NORTH WEST AND NORTH EAST OF THE CONTINENTAL UNITED STATES, RATHER THAN AT GRAND FORKS. THE ADMINISTRATION WAS MANDATED BY CONGRESS TO PROCEED WITH LIMITED ABM DEFENCES.
- 2. WE REFERRED TO THE DISCUSSIONS BETWEEN US ON THIS SUBJECT IN WHICH OUR CONCERNS HAD BEEN FULLY EXPRESSED. IF U.S. PLANS FOR ABM DEFENCES WERE HANDLED IN THE WRONG WAY, THIS WOULD CAUSE PROBLEMS IN THE ALLIANCE. WE NEEDED CONTINUING CONSULTATION ON THIS SUBJECT. PLANS FOR COOPERATION ON EARLY WARNING MIGHT RAISE FEWER PROBLEMS THAN TECHNOLOGY TRANSFER AND IDEAS OF COOPERATION ON GLOBAL DEFENCES.
- 3. AFTER THIS EXCHANGE, WOLFOWITZ ASKED US TO PROTECT CHENEY'S REMARKS VERY CLOSELY. HIS IDEAS THAT THE U.S. MIGHT PROCEED WITH TWO U.S. ABM SITES (RATHER THAN THE SIX ORIGINALLY PLANNED) AND NOT AT GRAND FORKS HAD NOT BEEN DISCUSSED EVEN WITHIN THE PENTAGON. IT WOULD DEPEND ON CHANGES BEING AGREED TO THE ABM TREATY.
- 4. MR RIFKIND SUBSEQUENTLY RAISED THIS WITH SCOWCROFT. SCOWCROFT SAID THAT HE WAS VERY SENSITIVE TO OUR CONCERNS. THE INITIAL U.S. APPROACH HAD BEEN ILL-CONCEIVED. HE HAD TRIED TO HELP GET THIS GENIE BACK INTO THE BOTTLE. ASKED SPECIFICALLY ABOUT PLANS FOR THE SUMMIT WITH YELTSIN, SCOWCROFT SAID THAT HE HOPED IT WOULD BE POSSIBLE TO REACH AGREEMENT ON COOPERATION ON EARLY WARNING. GOMPERT INTERJECTED THAT IF THE U.S. HEADED IN THAT DIRECTION, THEY WOULD CONSULT THE ALLIES AND HOPED THAT WE WOULD SUPPORT THIS APPROACH. WE EXPRESSED OUR CONCERNS ABOUT TECHNOLOGY TRANSFER (PRECISELY WHAT SORT OF TECHNOLOGY WOULD BE TRANSFERRED AND TO

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WHOM?) AND THE MORE AMBITIOUS PENTAGON IDEAS, WHICH SCOWCROFT HAS BEEN TRYING TO CONTAIN.



5. EAGLEBURGER (PLEASE PROTECT) SAID THAT HE WAS VERY SENSITIVE TO OUR CONCERNS AND WE HAD BEEN ABSOLUTELY RIGHT TO EXPRESS THEM. WE SHOULD GO ON DOING SO VIGOROUSLY. HE FELT THAT THE AMERICAN IDEAS ON THIS SUBJECT HAD BEEN AS ILL-THOUGHT THROUGH AS THE GERMAN IDEAS ON THE FRANCO-GERMAN CORPS. EAGLEBURGER CLEARLY IS UNHAPPY WITH THE PENTAGON'S APPROACH. WE EMPHASISED THE PROBLEMS THIS COULD CAUSE WITHIN THE ALLIANCE AND OUR OWN SPECIFIC CONCERNS.

COMMENT

6. SCOWCROFT AND EAGLEBURGER CLEARLY ARE TRYING TO GET PENTAGON IDEAS UNDER SOME CONTROL. CHENEY ACKNOWLEDGED THAT THERE IS LITTLE SUPPORT IN CONGRESS FOR SPACE-BASED SYSTEMS. BUT THE PENTAGON WILL PURSUE THEIR AMBITIONS TO TRY TO GET THE ABM TREATY MODIFIED. ON THAT SCOWCROFT COMMENTED THAT THE RUSSIAN MILITARY SEEMED LESS ACCOMMODATING THAN YELTSIN. THE WHITE HOUSE WANT THE SUMMIT WITH YELTSIN TO BE A SUCCESS. THEY APPEAR TO HOPE FOR AGREEMENT TO COOPERATION ON EARLY WARNING AND THAT THIS WOULD RAISE FEWER PROBLEMS FOR US.

FCO PLEASE PASS ALSO TO NO. 10.

RENWICK

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PS
PS/M Lennox-Boyd.

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M Appleyard.

Si J. Coles
M. Beamish.

M. Tait.

PS/NO 10



With the compliments of

pj goulden

FOREIGN AND COMMONWEALTH OFFICE LONDON, SW1A 2AH

CONFIDENTIAL **British Embassy** pe Cape SG /Rm Paris 12 May 1992 35 rue du Faubourg St Honoré 75383 Paris cedex 08 P J Goulden Esq Telephone: (1) 42 66 91 42 AUSS Hepher Wall (this page Facsimile: (1) 42 66 95 90 FCO Dea John GPALS: FUTURE OF ABM TREATY 1. I enclose the latest French paper, which Philippe Guelluy mentioned to you in the margins of yesterday's SWG meeting. 2. The paper does not attempt to gloss over the different UK and French starting points (on which Guelluy expanded at length to Rob Young on 29 April), but Eybalin (the nuclear desk officer) claimed that it took our joint reflection a further step forward. 3. As it happens, I gave Pierre Morel a lift back to the Elysée after picking the paper up at the Quai, so he had a chance to read it. He was pleased that the remit agreed between Stephen Wall and himself earlier this year was being taken forward, and was impressed by the extent to which our bilateral discussions had entered into the heart of the subject. He said that it was the first time that he had a chance to catch up in detail with what we were doing.

You en,

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Foreign & Commonwealth Office

CONFIDENTIAL

5 May 1992

London SW1A 2AH

Car Steplen,

GPALS

As part of the follow-up to points made at Ray Seitz' dinner on 16 April (your letter of 21 April), you asked for an update on GPALS.

We agree that the Americans appear to have moderated their ambitions about what is immediately achievable. Since GEN 1 in February, we have held one major discussion with them with Richard Mottram leading on our side. This was particularly helpful in concentrating American minds on the thought that from our perspective it would not be sufficient to tackle renegotiation of the ABM Treaty simply by deciding what relaxation of Treaty constraints would suit the United States and relying on Russian inability to exploit the opportunities which they might then have to improve their own defensive capabilities. We hope they have taken to heart some of the problems we have pointed out to them, particularly that of distinguishing who should be inside and who outside the defence umbrella. I enclose a copy of the paper which we gave them to focus our discussions.

The Americans have made clear that they wish to go through this thoroughly with us on an inter-agency basis. We are hoping to do this around the middle of this month. There also needs to be time for a reasonably full discussion in NATO before Washington decides on any sort of package to put to Yeltsin when the latter visits Washington in June. The European view is likely to be qualified; France is strongly opposed to space-based deployments, and Germany decidedly cool. Japan, interestingly, has also submitted a long and sceptical questionnaire. We will keep you informed. This will probably need to be a subject for OPD(N).

/I am copying

CONFIDENTIAL

CONFIDENTIAL I am copying this letter to Simon Webb (MOD), and Sonia Phippard (Cabinet Office). ow cre, (S L Gass) Private Secretary Stephen Wall Esq 10 Downing Street CONFIDENTIAL

missiles, aircraft, smuggled devices, terrorism); - it poses, though in less acute form than SDI, the problem of stability between offensive and defensive systems; the consequences of break-out from <u>limited</u> defensive deployments would of course be the more serious as offensive capabilities were themselves reduced; - it could lead Western publics to see offensive capabilities as increasingly redundant; - Western Governments would need to satisfy themselves that investment in GPALS technology was a cost-effective use of shrinking defence budgets, compared with the alternatives (eg deterrence, passive defence, better conventional capabilities, non-proliferation, investment in other R&D, and arms control). 4. The idea of East-West cooperation over GPALs in addition raises far-reaching questions about the future structure of international security. The closer the cooperation, the harder it will be to justify the concept of deterrence to Western public opinion. Depending on the extent of US-Russian control of the system, it could also fuel fears of bilateralism. 5. Many of the above considerations depend on how far the concept of cooperation is taken. For the purposes of initial analysis it would be sensible to focus on the first steps associated with President Bush's proposals: co-operation on early warning against ballistic missile attack. VALUE OF EARLY WARNING 6. The value of early warning data lies, in the abstract, in some or all of the following: - opportunity to use missile defences, if these are available; - identification of the location of the launch, either for the purpose of launching rapid counterforce retaliation or for SECRET UK/US EYES ONLY

deciding subsequent allocation of responsibility for aggression;

- activation of civil defence (in the context of crisis/war, rather than surprise attack).
- 7. The case for sharing early warning data with Russia is basically fourfold (leaving aside possible benefits from access to Russian technology):
 - To secure Russian acquiescence in the rest of the GPALS programme, including space-based defences;
 - 2) Political: demonstration of intention to co-operate;
 - Reinforcement of Russian alignment with West in campaign against proliferation;
 - 4) Strategic reassurance. In the context of gaps or inadequacies in the existing Russian BMEW system:
 - (i) gaps are likely to appear through the loss of the LPARs in Azerbaijan (Lyaki) and Kazakhstan (Sary Shagan); and of the Hen House over the horizon radars in Ukraine (Mukachevo, Nikolayev, Sevastapol), Kazakhstan and Latvia (Skrunda). With cessation of work on the LPAR in Ukraine, Russian visibility to the south west looks extremely tenuous;
 - (ii) how far could the Skrunda gap be filled by US BMEW radar data (eg from Fylingdales) which is designed to identify threats to the West? Is there any satisfactory alternative for Russia to retaining access to Skrunda?
 - (iii) Western help in identification of missile launches from the South is likely to depend not on radar but on satellite data. But how far is there a gap in Russian satellite coverage; and how far does the problem derive

from inadequate technology (eg inability to view targets against earth background, data processing etc)?

(iv) is Russian radar data, with its focus on the Northern latitudes, likely to amplify Western information - except in the case of attack from Russia, on which data would presumably not be shared? Might CIS (Ukrainian and Azerbaijani) data be more useful in the case of BM threats from S Asia or the Middle East?

This suggest that, apart from any political spin-off (confidence-building, status etc), the Russians are likely to be especially interested in the <u>automaticity</u> of data supply, <u>shared control</u> and <u>technology</u> to make their existing assets function better.

What is envisaged:

- 8. US have spoken of an Early Warning Centre for the integratio n and display of early warning data, to be passed to national defensive capabilities. This could involve:
 - (a) selective sharing of national data (eg on third world or Chinese launches);
 - (b) automatic sharing of national data on all launches. But the system would presumably be an early casualty if US-Russian tension were renewed in circumstances in which Western deterrent forces (US, French and British) might come into play;
 - (c) common systems for data acquisition.
- a) would be the natural way to enter into co-operation

9. On that assumption, the following questions arise:

(a) Participation.

Does anyone apart from US and RF/CIS currently have assets to contribute?

Who would be permitted to "view (NATO allies; CIS members; "friendly nations" (how defined?); China; anyone at all)?

Who would control (US? US and RF jointly? Some international Board of Directors?)

(b) What information would be available:

- the fact of a launch?
- the trajectory?
- raw data or processed?
- real time data?
- identification data: what if the Russians ask to study Western missiles in order to be able to recognise their flight characteristics?

Would this coverage be global, specific to certain regions, or just US and Russian territory?

(c) How would it operate?

Would there be different levels of access to the material (both detail and geographical coverage) available from what will be primarily US assets. What administrative arrangements: what is the distinction between NATO as a "cornerstone" and Russia as a "principal partner"? Role for NACC?

(d) Where would the centre be?

Cheyenne Mountain? Neutral territory, eg Geneva? No physical "centre", but a network of reciprocal data-transfers between national centres? Direct downlinks from sensor/radars to "subscribing" national centres?

(e) How would the system be managed?

Are there any circumstances in which the US or the allies would wish to deny EW data: against Russia?; against other countries eg Iraq in 1991? Would there be any guarantee against the system being switched off altogether? Who would decide?: none of the options are easy:

- <u>US-run</u>: loses the benefit of bringing in Russia, and might lead to unilateral abrogation of the ABM Treaty;
- US/Russian-run: could be fatal for NATO deterrence;
- <u>US/Russian/Allies/Friends</u>: requires invidious distinction about who is in and who is out;
- <u>UN-run</u>: would probably be valueless in a crisis; who would pay?
- (f) Cost? Would participation be linked to ability to pay or decided on political grounds (and if so, which).
- (g) Modalities of agreement with Russia? What concessions in return? In what circumstances (internal or international) could it be abrogated?
- (h) Implication for the ABM Treaty? EW cooperation need not imply any changes in the ABM Treaty. But it would presumably be conditional on Russian acceptance of certain amendments. The nature of these amendments are, naturally, of special interest to the UK.

SECRET UK/US EYES ONLY

In particular:

- what limits would apply to ground-based interceptors?
- would space-based interceptors be permitted?
- would there be freedom to mix?
- what provisions to verify (eg space-based element)?
- what degree of assurance that relaxed ABMT limits would hold, and for how long?

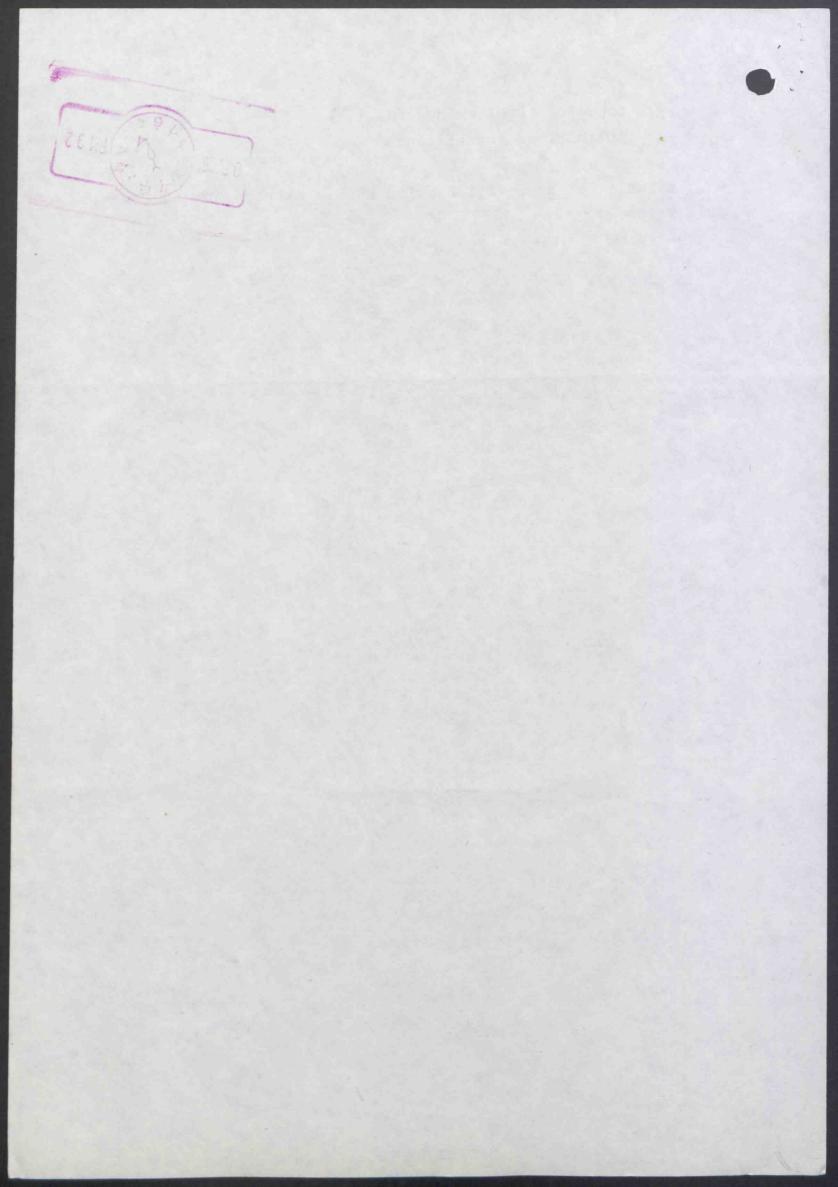
TRANSFER OF TECHNOLOGY

- Would EW data exchange itself involve technology transfer?
- What EW technologies would US be prepared to consider offering?
- What additional technologies would US expect Russians to seek from US?
- What arrangements to consult/inform allies/Cocom partners?
- What are the technologies to which Western deterrents would be most sensitive: early warning? data processing?
- Any Russian technology which the US/allies might benefit from acquring (lasers, neutron particle beam?)

NEXT STEPS

- prior discussion in NATO. Agenda should include:
 - ABMT aspects
 - type and modalities of EW data exchange

- scope for involvement of allies
- implications for alliance
- timetable for negotiations with Russia between now and summit with Yeltsin?



Private Secretary

Molfell, No 10 P

15/

SDI/GLOBAL PROTECTION AGAINST LIMITED STRIKES (GPALS)

Summary: The US is pursuing the GPALS concept for defence against ballistic missiles as a top priority. But GPALS poses serious questions for the UK deterrent and for NATO.

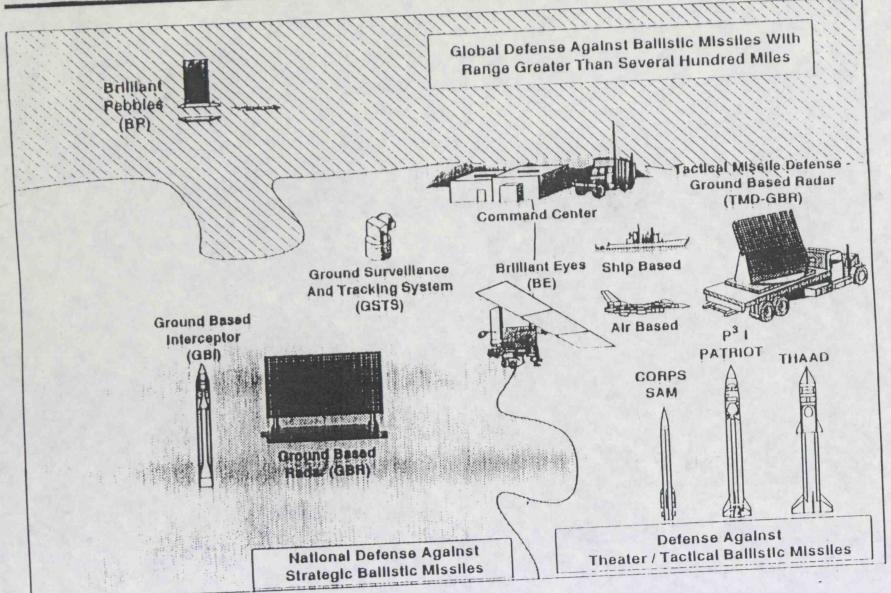
Background

- 1. In his January 1991 State of the Union address, President Bush announced a refocussing of President Reagan's SDI ("Star Wars") programme towards Global Protection Against Limited Strikes (GPALS). Whereas the Reagan SDI programme had been based on the concept of defeating or at least attenuating a full-scale Soviet attack, GPALS would protect the US, its Allies and US troops deployed overseas from third-world ballistic missile threats or unauthorised Soviet launch. Congress approved significant redirection of SDI resources towards GPALS research.
- 2. The US plan (see annexed diagrams) is:
- Initially, under the 1991 Missile Defense Act, to deploy an anti-ballistic missile (ABM) system of 100 ground-based interceptors at one site (Grand Forks, North Dakota) by the earliest date technologically feasible or by Fiscal Year 96 (the year from 1 Oct 95).
- In time, subject to ABM Treaty revision and Congressional approval, to have a total of 6 sites protecting all 50 US states.
- To develop by 2000 Brilliant Eyes (space-based sensors) and Brilliant Pebbles (space-based interceptors); also new ground-based interceptors.
- To pursue development of advanced Theatre Missile Defence (TMD) systems eg, upgraded PATRIOT with a view to deployment by the mid-1990s for in-theatre protection of US troops and Allies
- 3. Politically, the main obstacle to GPALS deployment would be the 1972 Anti-Ballistic Missile (ABM) Treaty, which limits the size of ABM defences that the US and former Soviet Union can deploy: it will allow the first US site, but not the other 5. The US would seek to negotiate Treaty changes to permit deployment (though unilateral abrogation remains an option, if the Russians do not agree).
- 4. The US was much encouraged by President Yeltsin's expressed interest (January 1992) in jointly creating and operating "a global system of defence", which suggests implicitly that Yeltsin is willing to renegotiate the ABM Treaty. Whatever Yeltsin's motives (concern about proliferation on Russia's southern border? Or just a preference for negotiated progress rather than US abrogation of the ABM Treaty?) the US have moved quickly to exploit the opening:

- On 12 February, in a letter to NATO Allies, Japan, Korea and Australia, Bush proposed a co-operative approach to strategic defences, with NATO as the cornerstone but with Russia as the "principal partner" and involving other "friendly nations".
- On 17/18 February in Moscow, Secretary Baker proposed pursuing the Russian idea of sharing Ballistic Missile Early Warning Data, and indicated willingness in principle to discuss possible exchange of technology.
- 5. Implications. The US have no overall blue-print, and admit their thinking on the possible international dimension of GPALS is still at a formative stage. But a future arrangement under which Russia became a major partner and perhaps shared in GPALS technology could have a profound effect on NATO and the US role in Europe. Extension of such a protective system on a cooperative basis would also raise difficult questions of who was "in" and who "out": the old East-West divide could be replaced by a North-South division.
- 6. The UK's attitude to SDI has long been governed by the Camp David 6 points agreed between Mrs Thatcher and President Reagan (the main burden of which was that, whilst SDI research should be taken forward, deployment should be only by agreement with the Soviet Union, and in consultation with Allies). This reflected two particular UK worries:
- that SDI development could upset the strategic balance between East and West (sparking off a new arms race);
- and that it could negate our own strategic deterrent.
- 7. If the US now takes Russia with it on development of GPALS, the first of these concerns is relieved. But the problem for the UK deterrent remains (despite the broad assurance from Bush that the US will take no action which would undermine the credibility of our deterrent). Any significant increase in Russian ability to detect and intercept Trident missiles would make it more difficult and more costly to meet our deterrence criteria. A space-based US system with the capability to block a UK Trident launch could also raise doubts about the independence of our deterrent though such a prospect seems decades away.
- 8. Next Steps. The US is clearly determined to press ahead, and will be looking to take initial steps at the June Bush/Yeltsin summit: perhaps agreement on early warning data exchange, as a precursor to ABM Treaty renegotiation. The US have promised to keep us in close touch with their thinking, and exchanges are taking place between US and UK officials aimed at ensuring that our deterrent capability against the Russians is protected as the GPALS programme unfolds.

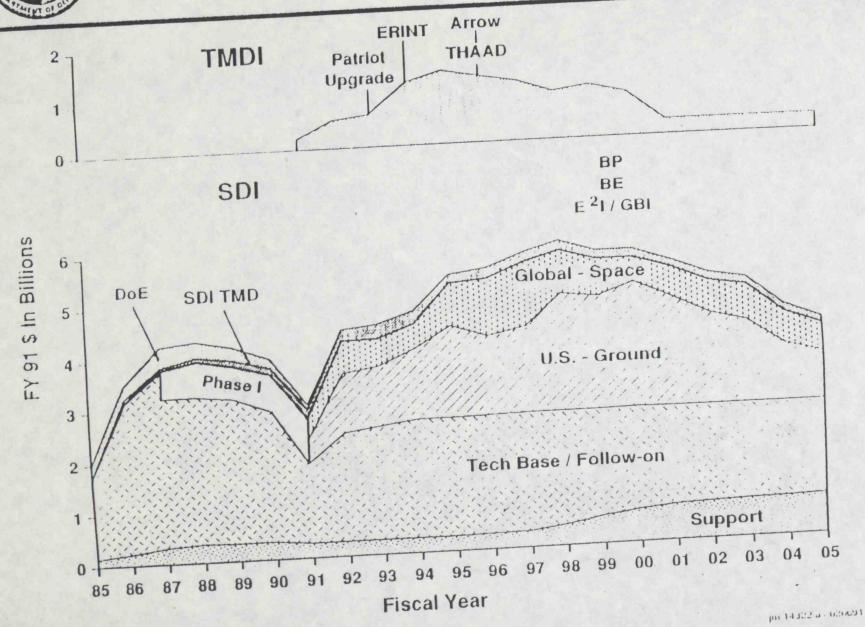


GLOBAL PROTECTION AGAINST LIMITED STRIKES (GPALS)





BMD BUDGET EVOLUTION



DZIK 274/1 (64)

GPALS: DISCUSSION DOCUMENT

INTRODUCTION



- 1. Although the UK has always supported SDI research to ensure the West kept ahead of or at least up with the Soviet Union, two main worries over deployment persisted:
 - given Soviet reactions, SDI would have been de-stabilising (breach of the ABM could have led to increased Soviet offensive and/or defensive capabilities);
 - increased Soviet strategic defences in response to American deployments would have eroded effectivenesss of French and British minimum deterrent forces.

GPALS potentially eases both worries, by offering the prospect of proceeding by agreement with the Russians, and limiting defences so as not to undermine existing deterrent forces. The UK therefore favours the refocusing of SDI implicit in the GPALS concept. We also see GPALS as more suited to the new strategic context and the changed nature of the threat.

- 2. Furthermore, GPALS can improve global stability by:
 - a) providing valuable insurance against accidential launch or irrational behaviour by those in control of missiles;
 - b) discouraging ballistic missile proliferation by demonstrating that limited ballistic capabilities can be neutralised.
- 3. But there are risks and problems inherent in the concept.
 - the idea that this gives the West invulnerability. GPALS offers protection against certain kinds of missile attack, but not of course against other delivery options (eg. non-ballistic missiles, aircraft, smuggled devices, terrorism);

- it poses, though in less acute form than SDI, the problem of stability between offensive and defensive systems; the consequences of break-out from limited defensive deployments would of course be the more serious as offensive capabilities were themselves reduced; - it could lead Western publics to see offensive capabilities as increasingly redundant; - Western Governments would need to satisfy themselves that investment in GPALS technology was a cost-effective use of shrinking defence budgets, compared with the alternatives (eg deterrence, passive defence, better conventional capabilities, non-proliferation, investment in other R&D, and arms control). The idea of East-West cooperation over GPALs in addition raises far-reaching questions about the future structure of international security and the role of Europe within that. The closer the cooperation, the harder it will be to justify the concept of deterrence to Western public opinion and the value of minimum deterrent forces which could be overwhelmed by strategic defences. Depending on the extent of US-Russian control of the system, it could also fuel fears of bilateralism calling into question the future of the Atlantic Alliance. 5. Many of the above considerations depend on how far the concept of cooperation is taken. For the purposes of initial analysis it would be sensible to focus on the first steps associated with President Bush's proposals: co-operation on early warning against ballistic missile attack and related technology transfer, since these are likely to form the basis of agreement when President Yeltsin visits Washington in June. VALUE OF EARLY WARNING 6. The value of early warning data lies, in the abstract, in some or all of the following: - opportunity to use missile defences, if these are available;

- identification of the location of the launch, either for the purpose of launching rapid counterforce retaliation or for deciding subsequent allocation of responsibility for aggression; - activation of civil defence (in the context of crisis/war, rather than surprise attack). 7. The case for sharing early warning data with Russia is basically fourfold (leaving aside possible benefits from access to Russian technology): To secure Russian acquiescence in the rest of the GPALS programme, including space-based defences; 2) Political: demonstration of intention to co-operate; Reinforcement of Russian alignment with West in campaign against proliferation; Strategic reassurance. In the context of gaps or inadequacies in the existing Russian BMEW system: gaps are likely to appear through the loss of the LPARs in Azerbaijan (Lyaki) and Kazakhstan (Sary Shagan); and of the Hen House over the horizon radars in Ukraine (Mukachevo, Nikolayev, Sevastapol), Kazakhstan and Latvia (Skrunda). With cessation of work on the LPAR in Ukraine, Russian visibility to the south west looks extremely tenuous; (ii) how far could the Skrunda gap in Latvia be filled by US BMEW radar data which is designed to identify threats to the West? Is there any satisfactory alternative for Russia to retaining access to Skrunda?

(iii) Western help in identification of missile launches from the South is likely to depend not on radar but on satellite data. But how far is there a gap in Russian satellite coverage; and how far does the problem derive from inadequate technology (eg inability to view targets against earth background, data processing etc)? (iv) is Russian radar data, with its focus on the Northern latitudes, likely to amplify Western information - except in the case of attack from Russia, on which data would presumably not be shared? Might CIS (Ukrainian and Azerbaijani) data be more useful in the case of BM threats from S Asia or the Middle East? This suggest that, apart from any political spin-off (confidence-building, status etc), the Russians are likely to be especially interested in the automaticity of data supply, shared control and technology to make their existing assets function better. What is envisaged: 8. US have spoken of an Early Warning Centre for the integration and display of early warning data, to be passed to national defensive capabilities. This could involve: (a) selective sharing of national data (eg on third world or Chinese launches); (b) automatic sharing of national data on all launches. But the system would presumably be an early casualty if US-Russian tension were renewed in circumstances in which Western deterrent forces (US, French and British) might come into play; (c) common systems for data acquisition. a) would be the natural way to enter into co-operation.

On that assumption, the following questions arise: (a) Participation. Does anyone apart from US and RF/CIS currently have assets to contribute? Who would be permitted to "view (NATO allies; CIS members; "friendly nations" (how defined?); NACC/CSCE; China; anyone at all)? What criteria: - political (ie Western democratic values, but does that include Arab states?) need (ie help vulnerable areas only) - but is that Israel or all Middle East. Who would control (US? US and RF jointly? Some international Board of Directors?) (b) What information would be available: - the fact of a launch? - the trajectory? - raw data or processed? - real time data? - identification data: what if the Russians ask to study Western missiles in order to be able to recognise their flight characteristics? Would this coverage be global, specific to certain regions, or just US and Russian territory?

(c) How would it operate? Would there be different levels of access to the material (both detail and geographical coverage) available from what will be primarily US assets. What administrative arrangements: what is the distinction between NATO as a "cornerstone" and Russia as a "principal partner"? How far should these new arrangements be part of Alliance policy? (d) Where would the centre be? In the US or neutral territory, eg Geneva? Or having no physical "centre", but a network of reciprocal data-transfers between national centres? Direct downlinks from sensor/radars to "subscribing" national centres? (e) How would the system be managed? Are there any circumstances in which the US or the allies would wish to deny EW data: against Russia?; against other countries eg Iraq in 1991? Would there be any guarantee against the system being switched off altogether? Who would decide?: none of the options are easy: - US-run: loses the benefit of bringing in Russia, and might lead to unilateral abrogation of the ABM Treaty; · US/Russian-run: could be fatal for NATO deterrence; - US/Russian/Allies/Friends: requires invidious distinction about who is in and who is out; - UN-run: would probably be valueless in a crisis; who would pay? (f) Cost? Would participation be linked to ability to pay or decided on political grounds (and if so, which).

(g) Modalities of agreement with Russia? What concessions in return? In what circumstances (internal or international) could it be abrogated? (h) Implication for the ABM Treaty? EW cooperation need not imply any changes in the ABM Treaty. But it would presumably be conditional on Russian acceptance of certain amendments (see separate paper). TRANSFER OF TECHNOLOGY - Would EW data exchange itself involve technology transfer? - What EW technologies would US be prepared to consider offering? - What additional technologies would US expect Russians to seek from US? - What arrangements to consult/inform allies/Cocom partners? - What are the technologies to which British and French deterrents would be most sensitive: early warning? data processing? - Any Russian technology which the US/allies might benefit from acquring (lasers, neutron particle beam?) NEXT STEPS The immediate requirement is to find out what degree of co-operation is really envisaged: ad hoc liaison to cover the increasing gaps in Russian surveillance directed to the southern CIS flanks only. Or something more systematic and permanent, which will require answers about overall management and how much of a role Europe will have given its lack of resources. 10. Given the shortage of time between now and the June summit, we need to have proper discussion in NATO soon on the basis of US draft

proposals . The agenda should include: - ABMT aspects - type and modalities of EW data exchange - scope for involvement of allies - implications for alliance - timetable for negotiations with Russia between now and summit with Yeltsin? But we also need to agree a game-plan for conducting co-ordinated but separate discussions with Washington to ensure that our concerns are heeded.

ZCZC SPECAN 0002 DO FCOLN BRNAT MODSH **GRS 300** SECRET DEDIP FM WASHINGTON TO IMMEDIATE FCO TELNO 373 OF 181755Z FEBRUARY 92 INFO IMMEDIATE UKDEL NATO, MODUK UKDEL NATO: PERSONAL FOR AMBASSADOR AND GOULDEN, VISITING : FOR PS/SOFS, DUS (POL) MY TELNO 360: PRESIDENT BUSH'S PROPOSAL FOR CO-OPERATION ON LIMITED ABM DEFENCES EAGLEBURGER (ACTING SECRETARY OF STATE) SAID TO ME LAST NIGHT THAT WE WERE ABSOLUTELY RIGHT TO HAVE MADE A MAJOR FUSS ABOUT THE PRESIDENT'S MESSAGE. HE THOUGHT THAT WE HAD SUCCEEDED IN PUTTING THE BRAKES ON. I SAID THAT THE AMERICANS NEEDED TO TALK THROUGH WITH US PRIVATELY PRECISELY WHAT SORT OF COOPERATION THEY ENVISAGED. EAGLEBURGER SAID THAT THE PROBLEM WAS THAT THEY HAD NOT WORKED THAT OUT THEMSELVES. THERE WAS, HE AGREED, AN OVER-EAGER TENDENCY TO TRY TO GET INTO A CO-OPERATIVE RELATIONSHIP WITH YELTSIN IN THIS AREA WITHOUT ADEQUATE REGARD TO WHAT MIGHT HAPPEN IN RUSSIA IN A YEAR OR TWO'S TIME. HE DID NOT BELIEVE THAT THE UNITED STATES WOULD IN THE END BE PREPARED TO SHARE VERY SENSITIVE TECHNOLOGY OR GENERALLY TO HELP DEVELOP RUSSIAN DEFENCES. BUT IN THE PRESENT RATHER CONFUSED STATE OF THINKING HERE, WE SHOULD GO ON INSISTING ON THE NEED TO KNOW PRECISELY WHAT THE AMERICANS ENVISAGED COULD BE DONE WITH THE RUSSIANS WITHOUT CAUSING PROBLEMS FOR BOTH THE U.S. AND THE ALLIES. BAKER IS REPORTED TO HAVE TOLD YELTSIN THAT THE AMERICANS WOULD BE READY TO DISCUSS HIS PROPOSALS ON COOPERATION OVER ABM DEFENCES, BUT WOULD FIRST HAVE TO CONSULT THE ALLIES. 3. EAGLEBURGER'S CONFIDENCE SHOULD PLEASE BE PROTECTED. FCO PLEASE PASS ALSO TO NO. 10. RENWICK YYYY SPECAN 0002 NNNN

The National Archives

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10 DOWNING STREET LONDON SWIA 2AA From the Private Secretary 14 February 1992 Dear Lithard ANTI BALLISTIC MISSILE SYSTEM Thank you for your letter of 13 February. David Gompert and Ray Seitz came to see Sir Percy Cradock and me this morning. main points made by Gompert were: Yeltsin had shown himself at Camp David to have moved further from Gorbachev's thinking than Gorbachev had moved from the thinking of his predecessors. He had shown a whole new attitude and willingness to cooperate which the Americans wanted to exploit for the obvious benefits of a better relationship with the former Soviet Union as well as to help Yeltsin find useful employment for his nuclear scientists. The US did not want to rebuff Yeltsin. Among a whole lot of other issues Jim Baker would be discussing in Washington, three related to this area: The scope for a joint warning system. Baker would float the idea of exploratory talks without a firm commitment or timescale. Baker would show willingness to discuss the exchange of technology, again without commitment, but making clear that no aspect of defence was excluded from discussion. An obvious possibility was warning sensors in the framework of a joint warning system. iii. Baker would indicate willingness to discuss in an exploratory way concepts for a multilateral defence system going beyond joint warning to a more integrated defence system which could be global, involving a mixture of land based and space based systems. Baker would make clear when he went on from Moscow to Brussels that the US saw the Alliance as charter members of this enterprise. Without abandoning non-proliferation the US did not believe that we should rely on non-proliferation alone. We needed protection from the bad guys. I described the political sensitivities about the US ideas as persuasively as I could. Sir Percy and I then went on to talk about substance. The idea of a joint warning system was the least sensitive of the three proposals and was not new. The second proposal, exchange of technology, was more sensitive. welcomed Gompert's assurance that willingness to discuss any aspects of defence with the Russians meant that the Russians SECRET

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would not be prevented from raising any issues: it did not mean that the Americans would be willing to cooperate on any issue. The third item was the most sensitive. Gompert had talked about protection from the bad guys. He seemed to be assuming that Russia would permanently be a good guy. We could not make that assumption. The American proposal was enormously far reaching. They appeared to be suggesting a US/Russian initiative in which America's allies would be allowed to participate. Sir Percy made the point that if this system went ahead it would change the nature of the Alliance beyond recognition. Those under the GPALS umbrella would be the sheep. Anyone outside it would be the goats.

Gompert asked whether we were suggesting that nothing should be said to the Allies. The US would be very unhappy at appearing to exclude them. We said that, on the contrary, part of the problem was that there had been no consultation of the Allies. We were suggesting that there should be consultation but that, given the sensitivities, very little indeed beyond generalities should be said either to the Russians or to the Alliance at this stage. We did not want publicity of these ideas. Anything said to the NAC would leak.

Gompert stressed that the US was committed to a GPALS system. The system they were now beginning to think about would in all circumstances be under US control. It could be devised in a way that did not put the effectiveness of the British deterrent at risk. We said that we were not trying to stop discussion. We were not hostile to the notion of GPALS. We wanted to explore the substantive issues but all that should be done before things were taken further in a public or semi-public way. Gompert said he had got the point and Ray Seitz, who was taking notes, indicated that he clearly had got the point also.

I have followed up this conversation with a telephone call to Brent Scowcroft thanking him for David Gompert's visit and reiterating the Prime Minister's concerns. Scowcroft said that he was confident he had put the genie back in the bottle.

I should be grateful if you could make sure Robin Renwick sees this letter in case he judges that any further action is necessary with the State Department before Jim Baker's visit to Moscow. I suggest that you also brief John Weston on a personal basis.

I am copying this letter to Simon Webb (Ministry of Defence) and Sonia Phippard (Cabinet Office).

J S WALL

Esothe

Richard Gozney Esq Foreign and Commonwealth Office

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From: P J Goulden

Date: 14 February 1992

cc: PS

PS/Mr Høgg PS/PUS

Mr Broomfield

PS/No 10

Mr/Young, Paris

Mr Gomersall Security Policy Department

ANTI-BALLISTIC MISSILE SYSTEM

- 1. Philippe Guelluy rang me today to ask about our reaction to the Bush letter. Hap
- 2. I said that we were not impressed by the degree of consultation involved. We had been trying to find out whether the US ideas were at the radical or cautious end of the spectrum. Such indications as we had suggested that the Americans were at an early stage of their thinking and would approach the issue cautiously. Our main advice to them had been to avoid any commitment with the Russians and to steer clear of semi-public discussion at the NAC on 18 February. On issues which were potentially so profound in their implications, the Americans should be ready to discuss in depth with close allies, before deciding what system to set up and who might participate in it.
- 3. Guelluy said that reactions in Paris were "sceptical". They had many questions but had received no answers, though some of these issues had been discussed during the visit of Joxe the week before. The French particularly disliked the north-south flavour of the proposal and the implication that non-proliferation efforts were doomed to failure. But they were not looking for a spat and their reply to the White House was likely to be fairly relaxed. They would not refer to their profound concern about the likely effect of this system on their own deterrent and the strategic balance.
- 4. I heard from the Japanese Embassy this evening that the Bush message went to all allies and Japan, Korea and Australia (but not apparently Israel).

P Goulden



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FM WASHINGTON

TO IMMEDIATE FCO

TELNO 353

OF 140001Z FEBRUARY 92

INFO IMMEDIATE MODUK

SIC

MY TELNOS 328 AND 329: PRESIDENT BUSH'S IDEAS ON LIMITED ABM DEFENCE

- 1. YOU MAY WISH TO HAVE SOME FURTHER BACKGROUND ON WHAT WE THINK THE AMERICANS ARE UP TO IN ABM DEFENCE.
- 2. THE ADMINISTRATION IS COMMITTED TO THE CREATION OF A SYSTEM THAT WOULD PROVIDE PROTECTION AGAINST LIMITED NUCLEAR STRIKES. THE RATIONALE FOR THIS IS THE NEED TO CREATE PROTECTION AGAINST ATTACKS FROM THE SADDAM HUSSEINS AND QADAFFIS ETC AND THEIR SUCCESSORS IN AN ENVIRONMENT IN WHICH MISSILE TECHNOLOGY IS BECOMING MORE WIDELY AVAILABLE. THE OTHER RATIONALE IS THE SUPPOSED NEED TO DEAL WITH AN ACCIDENTAL OR UNAUTHORIZED MISSILE LAUNCH FROM SOME PART OF THE FORMER SOVIET UNION. THE SUCCESS OF THE PATRIOT MISSILE AGAINST SCUDS IN THE MIDDLE EAST, THE DEVELOPMENT OF ULTRA-FAST COMPUTERS AND THE SUCCESSFUL TESTING OF OTHER ANTI-MISSILE SYSTEMS IS DRIVING THE TECHNOLOGY FORWARD. THE ADMINISTRATION FOR THE FIRST TIME HAS CONGRESS WILLING TO SUPPORT FUNDING FOR THE DEPLOYMENT OF A LIMITED ABM SYSTEM AT THE OLD PROJECTED SITE AT GRAND FORKS, MICHIGAN IN 1996. SENATOR NUNN AND HIS COLLEAGUES TOOK THE INITIATIVE IN WRITING PROVISION FOR THIS INTO THE DEFENCE BUDGET. DEPLOYMENT AT A SINGLE SITE COULD BE COMPATIBLE WITH THE EXISTING PROVISIONS OF THE ABM TREATY BUT THE INTENTION EVENTUALLY IS FOR DEPLOYMENT OF LAND-BASED INTERCEPTORS AT MORE SITES TO EXTEND THE GEOGRAPHICAL COVERAGE.
- 3. IT REMAINS TO BE SEEN WHETHER SUCH A PLAN WILL BE AFFORDABLE AND FULL DEPLOYMENT COULD NOT TAKE PLACE UNTIL WELL INTO THE NEXT CENTURY. THE TECHNICAL UNCERTAINTIES AND COSTS INCREASE EXPONENTIALLY IN RELATION TO SPACE-BASED INTERCEPTORS (BRILLIANT PEBBLES) WHICH WOULD THEMSELVES BE VULNERABLE TO ATTACK. CONGRESS REMAINS PROFOUNDLY SCEPTICAL ABOUT SPACE-BASED SYSTEMS AND THEIR AFFORDABILITY.

PAGE 1 SECRET

- 4. THE ADMINISTRATION, NONETHELESS, IS ANXIOUS TO SEIZE ON THE CHANGES IN THE FORMER SOVIET UNION TO SECURE RUSSIAN COMPLIANCE IN AMENDMENT OF THE ABM TREATY TO ENABLE THE LIMITED DEFENCE CONCEPT TO BE PURSUED. YELTSIN HAS INDICATED THAT THE RUSSIANS MIGHT AGREE TO THIS BUT WOULD WANT ACCESS TO THE TECHNOLOGY. THE AMERICANS REPEATEDLY HAVE TOLD US - AND WE HAVE NO REASON TO DISBELIEVE THEM - THAT THEY HAVE NO INTEREST WHATSOEVER IN HELPING THE RUSSIANS TO UPGRADE THEIR ABM TECHNOLOGY TO AN EXTENT THAT COULD INTERFERE WITH U.S. NUCLEAR WEAPONRY OR OURS. THEY CLAIM TO BE CONSIDERING WHETHER TO GIVE THE RUSSIANS SOME HELP WITH GAPS IN THEIR EARLY WARNING SYSTEM THROUGH THE PROVISION OF INFORMATION. THEY SAY THAT THEY DO NOT ENVISAGE TRANSFERRING SENSITIVE TECHNOLOGY. HOW THIS MIGHT WORK AND OF HOW MUCH INTEREST IT WOULD BE TO THE RUSSIANS, WHO IN FACT WANT REAL TECHNOLOGY TRANSFERRED AND NOT SOME SUBSTITUTE FOR IT, IS HIGHLY PROBLEMATIC. WE DOUBT IF THE AMERICANS HAVE REALLY THOUGHT IT THROUGH THEMSELVES. THEY BELIEVE, HOWEVER, AS RECENT CONSULTATIONS WITH THEM HAVE SHOWN, THAT WE TEND TO TAKE A WORST CASE VIEW OF THE IMPLICATIONS OF CHANGES IN TECHNOLOGY IN THIS AREA FOR U.K. STRATEGIC SYSTEMS. THEY CLAIM NOT TO BELIEVE THAT ON ALMOST ANY CONCEIVABLE SCENARIO RUSSIA WOULD BE ABLE TO CREATE AN ABM DEFENCE THAT COULD BE COUNTED UPON TO OFF-SET TRIDENT AT ANY TIME DURING THE PROJECTED LIFE-TIME OF THAT SYSTEM. NEVERTHELESS, WE CONSTANTLY HAVE POINTED OUT TO THEM THAT THE FURTHER THINGS DEVELOP IN THAT DIRECTION, THE MORE HAS TO BE DONE TO ENSURE THAT OUR SYSTEMS ARE CAPABLE OF PENETRATING THE DEFENCES.
- 5. UNDERLYING THE AMERICANS' ATTITUDE IS A SENTIMENT THAT THE EUROPEAN ALLIES FIND THIS SUBJECT TOO DIFFICULT AND HOPE THAT IT WILL GO AWAY, COUPLED WITH A SUSPICION THAT THE ALLIES THEMSELVES MAY SUDDENLY TURN AROUND AND START TO SHOW INTEREST AT SOME POINT IN A LIMITED DEFENSIVE SYSTEM OF THE KIND THAT COULD BE DEPLOYED IN THE EUROPEAN OR ANY OTHER THEATRE TO GUARD AGAINST THE POTENTIAL RISK FROM THIRD-RATE NUCLEAR POWERS.
- 6. THERE IS A FUNDAMENTAL DIFFERENCE OF INTEREST HERE, THOUGH IN PRACTICE THINGS ARE LIKELY TO DEVELOP MUCH MORE SLOWLY THAN THE ZEALOTS ON THIS SUBJECT WOULD LIKE. THERE IS NO PROVISION AT PRESENT FOR THE FUNDING OF ANYTHING MORE THAN ONE ABM SITE. THE KEY POINT ON WHICH WE MUST CONTINUE TO INSIST IS THE NEED TO KNOW PRECISELY WHAT THE AMERICANS WOULD PROPOSE TO DO WITH THE RUSSIANS AND TO TALK THROUGH FULLY THE IMPLICATIONS WITH THEM BEFORE THEY DO IT. THAT MESSAGE HAS BEEN GIVEN TO THEM IN THE CLEAREST TERMS

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MR BROOMFIELD

MR GOULDEN

MR GRAINGER, LEGAL ADVISERS

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PAGE 3 SECRET

PRIME MINISTER

No

ANTI BALLISTIC MISSILE SYSTEM

Well down - but still write!

This will happyen again, There

David Gompert from NAC (Brent Scowcroft's emissary) came to see me today accompanied by Ray Seitz. I attach a copy of my record which is but a pale reflection of the points which Percy and I made to Gompert.

I subsequently rang Scowcroft and went over the ground again with him. He said that he was confident he had "put the genie back in the bottle". I still think it would be worth your while sending a message to the President and I enclose a draft which we could send first thing Monday morning.

The worrying thing about all this and about Gompert's presentation this morning was what it showed of US attitudes. Gompert's pitch was basically:

- i) we are going ahead with GPALS;
- ii) we believe the Russians sufficiently to want to cooperate with them; and
- iii) we would like the Allies to go along with this initiative as well.

The idea that the Allies might actually have been consulted <u>before</u> the initiative was taken any further with the Russians does not seem to have occurred.

We have of course been here before, not least over the launching of SDI by President Reagan and over the Reykjavik Summit. We are now dealing with the US in its role as the world's only superpower. I think we have slowed down the Americans in this instance but mainly because of the political arguments, which have weighed with the President, rather than our substantive arguments.

I do not want to paint too gloomy a picture but I think we will see more of the American tendency to think up policies which suit them and launch them without much notice and, as in this case, without very much appreciation of just how dramatic the consequences could be for the future of the Alliance.

J. S. WALL

14 FEBRUARY 1992

a:\foreign\Gompert (MRM)

Foreign & Commonwealth

SECRET

London SW1A 2AH

Office

13 February 1992

Dean Stepher.

Anti Ballistic Missile System

Following your conversation today, 13 February, with General Scowcroft, you asked for a draft message from the Prime Minister to President Bush.

The enclosed text, agreed with MOD officials, concentrates on our procedural concerns, while emphasising that there are also serious issues of substance where we would want very early clarification.

We have gleaned little further information so far about US plans. Scowcroft, as you know, told Robin Renwick that the Americans might help the Russians to fill the gaps in their early warning coverage, now that key facilities were outside Russian control. We have some indications from the Pentagon that the initial US plan is aimed solely against third world launches and that such a system would be built and deployed by the Americans alone. But it is clear that many of the key questions have not been addressed. At this stage, the priority is to give Yeltsin "something affirmative" in response to his moves at Camp David.

We know that the President sent his message to Tokyo as well as Paris. The Japanese are as conscious as we are of the profound implications which these proposals could have for global security and traditional US alliances. Indeed, they were struck by a distinction drawn in the President's message to Miyazawa between "traditional allies" and "new partners".

Our analysis with the Americans of the effect of Russian ballistic missile defences on our Trident force will be taken forward at expert level next week in Washington and we hope to follow up quickly at senior official level a week later. The latter would offer a chance to get at those in the Pentagon who alone know the

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details of what the Administration have in mind. But that implies a rather leisurely timetable. You may wish to suggest, when you speak to Seitz and Gompert that British and American officials should get together to discuss the Administration's plans as soon as possible.

I enclose some questions on which you may wish to draw when you see Seitz and Gompert tomorrow.

Copies of this letter go to Simon Webb (MOD) and Sonia Phippard (Cabinet Office).

You ever, R. Changa (R H T Gozney)

Private Secretary

J S Wall Esq CMG LVO 10 Downing Street

ANTI-BALLISTIC MISSILE SYSTEM: QUESTIONS FOR SEITZ AND GOMPERT

1. What concept: single system/several systems?

operated by US/several allies/a wider

coalition?

early warning/ground-based interceptors/
space-based?

What target: third world/China/any source?

who will decide?

3. What would be transferred:

technology/warning data/components/
missiles?

- 4. What timescale, given that any gesture to Yeltsin needs to be made in the short term?
- 5. What implications for the Alliance of Russia being the "principal partner" and of other "friendly nations" being involved?
- 6. What is the difference between the "global ballistic missile early warning and protection regime" in which Russia and others would participate and the President's offer to share "early warning and defensive capabilities" with allies?

7. Implications for ABM Treaty?

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March

Draft message from the Prime Minister to President Bush

Anti Ballistic Missile System

I was grateful for your letter of 12 February and the advance notice of what Jim Baker is proposing to do in Moscow.

As you know, the UK has always felt that the right way to move forward on strategic defences was with the assent of first the Soviet Union and now Russia. So we share your view that President Veltsin's forthcoming line represents an encouraging opportunity which should be followed up. Like you I am very conscious of the need to support Yeltsin on his course.

It is right for Jim Baker to explore in Moscow what sort of co-operation or joint developments President Yeltsin had in mind. NATO as a whole will want to hear the results. But I doubt if the meeting of officials in the North Atlantic Council next week is the time to launch and an initiative with such far-reaching implications, paticularly for those of us who maintain an independent nuclear deterrent in support of the Alliance. I hope instead that you will feel able to discuss what you have in mind and its implications first with close allies and then with the rest of the Alliance. It would be good if Jim Baker or Dick Cheney could come to London (as well as Paris and Bonn) very soon.

I am grateful for your renewed assurance that, in developing this policy, you will take no action which

would undermine the credibility of our strategic deterrent. This is of course an issue of fundamental national importance for us given that our deterrent is already at minimum level. Even when UK Trident fully enters service, its credibility will be sensitive to improvements in Russian ABM defences. US and UK officials have already begun exchanges aimed at agreeing a common analysis of what developments would, and would not, affect our strategic capability. We do not yet have an agreed analysis of this. It is clearly very important that no commitments which could have a bearing on this issue are made to third parties until this has been completed. I am sure that you will continue to bear our concerns in mind in considering the "possible exchange of technologies" you mentioned in your message.

It would be helpful to know what Jim Baker is proposing to say in Moscow on 17 February if he is planning to cover this subject.

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TELNO 344
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ADVANCE COPY

MY TELNO 329: PRESIDENT BUSH'S PROPOSAL FOR COOPERATION ON LIMITED ABM DEFENCE

1. I SPOKE LAST NIGHT TO KANTER (UNDER SECRETARY FOR POLITICAL AFFAIRS) TO SAY THAT I HOPED THAT IN THE SPEECH HE WILL BE MAKING ON NUCLEAR ISSUES IN MOSCOW ON 17 FEBRUARY, BAKER WOULD BE VERY CAREFUL IN ANY REFERENCE TO THE POSSIBILITY OF COOPERATION WITH RUSSIA ON ABM EARLY WARNING ETC. AS AN ARMS CONTROL EXPERT HIMSELF, KANTER WOULD UNDERSTAND THE EXTREME SENSITIVITY OF THIS FOR US AND OTHERS AND THE IMPERATIVE NEED FOR PRIOR CONSULTATION AS TO WHAT PRECISELY THE AMERICANS HAD IN MIND. THERE COULD BE REALLY SERIOUS FRICTION IN THE ALLIANCE IF WE GOT THIS WRONG. KANTER SAID THAT HE TOOK THESE POINTS AND WOULD ENSURE THAT THEY WERE PASSED TO BAKER'S PARTY IN MOSCOW.

FCO PLEASE ADVANCE TO NUMBER 10 AND PS/SECRETARY OF STATE FOR DEFENCE.

RENWICK

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10 DOWNING STREET LONDON SWIA 2AA

From the Private Secretary

13 February 1992

Dea Lichard,

ANTI-BALLISTIC MISSILE SYSTEM

I had planned to telephone General Scowcroft at lunchtime today our time to go through the points in your letter of 12 February, which the Prime Minister saw overnight. In fact, General Scowcroft telephoned me at 1230 to seek our reaction. Robin Renwick had of course gone over some of the ground with him yesterday. I said that the proposal did cause us real difficulties, both political and substantive. I set out what the political difficulties were.

On substance, I said that the proposals were very far-reaching, with very considerable implications for the Alliance and for the Alliance's relationship with the Russians and others. General Scowcroft said he did not think the implications were as great as we thought. I said that it might be that the US had thought through all the implications to reach that conclusion in a way that we had not, but we would welcome an opportunity to discuss all these matters privately (including the implications for Trident) before we went any further. Once the initiative was taken in the North Atlantic Council others, including Herr Genscher, would have an interest in making it public. That would be very difficult indeed. I gave Scowcroft privately some flavour of the French reaction, as given to me by Morel. I concluded by saying that it was a measure of our concern that the Prime Minister, who had read the papers overnight, had written "Very alarming" on them.

I concluded by saying that we did not want to rebuff the Russians, but if it was possible to say that we were considering this whole area without getting into detail at this stage, that would be welcome.

General Scowcroft's response was reassuring. We would know that the last thing that the President wanted to do was to make difficulties for the Prime Minister. The Prime Minister's comment had to be taken very seriously indeed. He thought it might well be possible to confine discussion in the NAC to a general indication of interest in the Russian ideas and of the need to consider them, without going any further. He would immediately go and discuss what I had said with the President.

Scowcroft added that Gompert would be coming to London for a Ditchley Conference. He could ask him to call on me privately to discuss the matter. I said this would be welcome.

I think we should follow up with a written reply from the Prime Minister to President Bush. You have already commissioned a draft. It would be helpful if this could reach me by this afternoon.

I am sending a copy of this letter to Simon Webb (Ministry of Defence) and to Sonia Phippard (Cabinet Office).

J. S. WALL

Richard Gozney, Esq., Foreign and Commonwealth Office. Foreign & Commonwealth Office

12 February 1992 Bud letter bould with London SWIA 2AH

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ANTI-BALLISTIC MISSILE SYSTEM: MESSAGE FROM PRESIDENT BUSH

You asked for early advice on President Bush's message.

You asked for early advice on President Bush's message.

/ I enclose a tentative initial assessment of the implications of what the Americans seem to be proposing. The main points are:

- (i) It is not possible to judge on the basis of this information how far the Americans intend to share technology, early warning data or protective capabilities or with whom.
- (ii) But the development of ABM cooperation with Russia is likely to have profound significance for the Alliance and for global stability.
- (iii) Even if cooperation with the Russians was limited to the sharing of early warning data, this, together with the necessary changes to the Anti-Ballistic Missile Treaty, would have some impact on our deterrent. We and the Americans at present differ as to how seriously an increase in Russian anti-ballistic missile capability would degrade Trident.



(iv) A shift to missile defensive systems in cooperation with Russia and other nations (such as Israel) would have a profound general effect on political relations between Europe and the United States.

In terms of procedure, we suggest that our first priority should be to ensure that the Americans discuss the details of what they have in mind, and their implications for Alliance security, with close allies before any firm commitments are entered into with Russia or other countries. In the meantime they should not launch the initiative at the North Atlantic Council Meeting with Mr Reg Bartholomew on 18 February.

- I enclose a speaking note on which you may wish to draw in conversation with General Scowcroft. Officials will in parallel try to discover more from the Pentagon, where we understand the proposal originated. We have been told that Mr Baker does not plan to pursue this issue in Moscow until 17 February. It may be better to defer any substantive reply from the Prime Minister until we know more about what the Americans intend to say to the Russians during Baker's visit.
- / I also enclose a suggested initial press line, which will need to be refined in the light of what emerges in public.



I am sending copies to Simon Webb (Ministry of Defence) and Sonia Phippard (Cabinet Office).

Your ever, Rechaus So

(R H T Gozney)

Private Secretary

J S Wall Esq 10 Downing Street



ANTI-BALLISTIC MISSILE SYSTEM: INITIAL ASSESSMENT

Procedure

1. Even by the lax standards of the Bush Administration this is inadequate consultation. Baker will "if possible seize this opportunity to begin laying the groundwork" in Moscow. Several weeks of intensive consultation would be needed to thrash out the profound implications of these ideas for Alliance security and decision making.

Substance

- 2. Crucial elements of the Bush proposal remain unclear:
- what technology would be shared with Russia and on what basis?
- would cooperation be limited to early warning (as hinted to us by US officials) or would it extend to ground and space-based interceptors (as implied by the idea of "a global ballistic missile early warning and protection regime")?
- who would be involved? "other friendly nations" implies Israel, Japan, South Korea. If Russia, why not Ukraine etc?
- are we talking of a single global system or several?



- who would control such a system? It seems unlikely that the US would entrust its GPALS system to the control or veto of others.
- the financial aspects.
- how far would the ABM Treaty need to be amended? How could one ensure that a relaxed ABM Treaty would prevent breakout (i.e. a fully fledged strategic shield rather than a limited GPALS deployment)?
- 3. The Americans may well not have made up their own minds on these issues. It is worth stressing that the proposed regime would defend only against ballistic missiles, not against air- delivered nuclear weapons, CBW etc.

Impact on Trident

4. The US GPALS plan is conceived to stop a limited attack by up to 200 warheads (i.e. the equivalent, on present plans, of two UK Trident boatloads). US studies, recently shared with us, suggest that our Trident force would remain capable of meeting our deterrence criteria against a more limited extension of the Russian ABM system. MOD studies point to a less optimistic conclusion, taking account of some significant factors omitted from the US assessment. We are still far from an agreed view.

Impact on the Alliance

5. The problem of how the Alliance would adapt to the deployment of a US ABM system is one which we would have had to address sooner or later. But this new proposal raises



two additional issues, which the Alliance will need to deal with at the same time: the sharing of early warning information and possibly technology with Russia, which remains NATO's most serious potential threat; and the possible creation of a global protection regime extending far beyond the Alliance. It will also reinforce doubts about the US attitude to consultation and partnership between Europe and the US which were such prominent features of the Rome Declaration. More generally, it underlines how difficult it will be for the Alliance to adjust to a world in which there is only one superpower. Its significance therefore extends well beyond technical questions of deterrence.

Global implications

6. It is difficult to judge the likely effect on global security without knowing what will be shared and which countries will be involved. But if a large number of countries share early warning data, the result could be to fuel competition in defensive systems to exploit that data and offensive systems to defeat it. If a large number of countries come within what is in effect a US global umbrella, the result would be to dilute the special nature of the NATO Alliance and to polarise the world between those under US protection and the rest. It has not yet been explained how one could insure against a limited GPALS system being extended, by the US or someone else, into a fully fledged strategic shield (as originally envisaged by Reagan). Nor is it clear how offensive and defensive strategic systems can co-exist in a stable balance.



7. The likely Russian reaction is of course critical. The Russians are likely to be very wary of what is in effect a US-led global system. To the extent that the Americans offer the Russians genuine cooperation, they are likely to fuel anxieties which other allies will feel about this proposal. To the extent that they reassure the allies, they are likely to feed Russian insecurity.



POINTS TO MAKE TO GENERAL SCOWCROFT

- 1. Thank you for the President's message.
- 2. We have long assumed that we would need to address with you and close allies the implications for the Alliance of the progress you have been making on GPALS and of possibly sharing some elements in due course with others. Natural that Baker should explore in Moscow the issues raised by Yeltsin's proposals at Camp David.
- 3. Implications of all this for the Alliance are far reaching. Important for Alliance confidence that no commitments are entered into with Russians or others until there have been the early consultations to which the President's message refers. This is likely to be a thorough process covering the technology and information to be shared, who would control an allied or global early warning and protection regime, funding, the impact on the ABM Treaty etc.
- 4. Assume that Baker's discussions in Moscow will be exploratory and without commitment at this stage; and that, before this dialogue is taken further with the Russians, there will be a proper opportunity for effective consultations as proposed by the President. A case for initial consultations among close allies, and for Baker and Cheney coming to London, Paris and Bonn very soon. In the meantime advise against discussion at the North Atlantic Council meeting of officials from 16 Allies and Bartholomew on 18 February.



5. Welcome the President's repeated assurance that he will take no action which would undermine the credibility of our deterrent. But recent exchanges at official level reveal that US experts take a more relaxed view than ours about the effect of an enhanced Russian ABM capability on our minimum deterrent. For this reason the idea of exchanging technology with the Russians and others is a source of particular concern to us. Important that we reach a reliable agreed assessment on this point before explorations with the Russians are taken too far.

ANTI-BALLISTIC MISSILE SYSTEM: PRESS LINE

We have been discussing with the Americans over a long period the implications of strategic defences for the Alliance and our security.

The Prime Minister was consulted about President Bush's proposals. We have agreed with the Americans that these ideas will need to be discussed in great detail with them and other allies before any final decisions can be taken.

We have always favoured the idea that any changes to the Anti-Ballistic Missile Treaty or deployments of ABM systems should be agreed by negotiation.

We have been assured by the President - and are confident - that nothing will be done which would undermine the credibility of our strategic deterrent force.

DEFENCE SDI PT 6

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Foreign & Commonwealth SECRET Office London SW1A 2AH 12 February 1992 1725V Anti-Ballistic Missile System: Message from President Bush Following my letter to you of today's date, we have noticed one point in the initial assessment which is a little misleading. In paragraph 4, it would be more accurate to say that 200 warheads would be the equivalent on present lines of one Trident boatload. I am copying this letter to Simon Webb (MOD) and Sonia Phippard (Cabinet Office). (R H T Gozney) Private Secretary J S Wall Esq CMG LVO 10 Downing Street

SECRET

10 DOWNING STREET LONDON SWIA 2AA From the Private Secretary 12 February 1992 ANTI-BALLISTIC MISSILE SYSTEM: MESSAGE FROM PRESIDENT BUSH I enclose a message to the Prime Minister from President Bush about development of an anti-ballistic missile system. The Americans are clearly launching an initiative now with a view to it being the principal issue at the North Atlantic Council meeting on 18 February. Pierre Morel has just telephoned me from the Elysée, President Mitterrand having received a similar message. The French regard President Bush's letter as something of a bombshell. They see it as reversing existing policy on nonproliferation and as getting NATO to pay for SDI. I should be grateful for early advice on the President's message. The message says that the US will take no action which will undermine the credibility of our strategic deterrent force. On the face of it, it is hard to see how that could be so. I would be very ready to put any preliminary reactions to General Scowcroft before the Prime Minister himself responds to President Bush. I am copying this letter and enclosure to Simon Webb (Ministry of Defence) and Sonia Phippard (Cabinet Office). (J.S. WALL) Richard Gozney, Esq., Foreign and Commonwealth Office. SECRET

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10 DOWNING STREET LONDON SWIA 2AA

From the Private Secretary

3 December 1991

In your call of 21 November to Sir Percy Cradock's office you inquired whether Dr Cooper, Director for the US Strategic Defence Initiative, might call on the Prime Minister during his visit to London on 3 and 4 February.

I am afraid that the Prime Minister's engagements will prevent him from seeing Dr Cooper at that time.

J S WALL

Lieutenant Colonel Bob Briggers

M

PERCY CRADOCK

DRAFT LETTER

Lieutenant-Colonel Bob Briggers American Embassy 24 Grosvenor Square LONDON W1A 1AE

In your call of 21 November to Sir Percy Cradock's office you inquired whether Dr Cooper, Director for the US Strategic Defence Initiative, might call on the Prime Minister during his visit to London on 3rd and 4th February.

I am afraid that the Prime Minister's engagements will prevent him from seeing Dr Cooper at that time.

STEPHEN WALL

Time

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SIR PERCY CRADOCK

Cie

SDI

I have consulted the Prime Minister about the suggestion that the Director for the US Strategic Defence Initiative might call on him in February.

The Prime Minister does not want to follow the practice of his predecessor. He does not wish to see Dr Cooper during his visit.

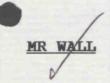
Stephen Wall

2 December 1991

c: SDI (mj)

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SDI

Lieutenant-Colonel Bob Briggers of the US Embassy, called yesterday afternoon to say that the Director for the US Strategic Defence Initiative, Dr Cooper, will be coming to London for a joint US/UK members meeting on 3-4 February. He asked whether Dr Cooper and the American Ambassador might call on the Prime Minister to discuss the programme with him.

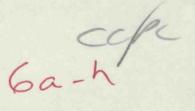
Mrs Thatcher held a number of meetings with Dr Cooper and his predecessor, the last meeting in October, 1990. If the Prime Minister's diary allows, a meeting would be worthwhile.

PERCY CRADOCK

Rome lipister.







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PRIME MINISTER

SDI

Before the meeting of GEN1 on 24th July, you may wish to be aware of the latest developments in the SDI programme.

- 2. Because of its potential bearing on the UK strategic deterrent, we have been following the Strategic Defence Initiative (SDI) closely since President Reagan's announcement of the programme in March 1983. We have been publicly supportive of SDI research in order to ensure that the West retains a technological edge over comparable but much less advanced Soviet work in this area. The Camp David six points agreed by Mrs Thatcher and President Reagan in 1984 and 1986 (set out at Annex A) support activity consistent with the restrictions agreed under the 1972 ABM (Anti Ballistic Missile) Treaty (which allowed for limited US and Soviet strategic defences); agreed that the aim was to enhance and not weaken deterrence; and made clear our shared view that SDI deployment should be a matter of negotiation with the Soviet Union in view of the ABM Treaty obligations.
- 3. The Camp David guidelines reflected our more serious private reservations about the implications of eventual SDI deployment for overall strategic stability and, more specifically, for the effectiveness of the UK deterrent. There are two elements to this:-
 - We must reckon with the possibility that SDI deployment would lead to strengthened Soviet ABM defences as a



result either of renegotiation of the ABM Treaty or of Soviet retaliation against a US breach of the Treaty provisions. The Treaty, as amended in 1974, established a ceiling of 100 interceptors to be deployed at one site only (Soviet defences are deployed around Moscow; the US does not have ABM defences). Because the UK deterrent is a minimum one the ABM Treaty's constraints on Soviet defences are important for our ability to inflict the necessary damage on Moscow. Our deterrent's effectiveness by that criterion would be quickly eroded by a thickening up of Soviet ABM deployments — something which would require no technological advance on their part.

- SDI deployment might in practice enable the US to prevent UK strategic missiles from reaching their targets. If it were thought that we no longer had fully independent control of our force, its domestic and international rationale could be undermined,

together with the credibility of the second centre of decision-making in the West (which is regarded by the US and the rest of NATO as an important factor in complicating Soviet planning and therefore reinforcing deterrence).

4. SDI was conceived as the answer to the threat of massive Soviet ballistic missile attack on the United States. But in January President Bush announced the redirection of the SDI programme towards the achievement of Global Protection Against Limited Strike (GPALS). The aim is to protect the United States,



and its forces and Allies overseas, from relatively small-scale ballistic missile attack - for example by a Third World power, or as a result of accidental or unauthorised launch. The ultimate SDI goal of full defence against Soviet attack, though not forsworn, is represented as deferred. However, the GPALS system is still intended to incorporate the main components (notably space-based interceptors) required for a full system, albeit in significantly reduced numbers, and would similarly breach the ABM Treaty as it currently stands. A note on the envisaged GPALS architecture is at Annex B.

The Gulf War has been important to the launching of the GPALS initiative, both in pointing up the urgency of the need for effective means to counter ballistic missiles in irresponsible hands, and in creating a favourable political climate. This slimmed down and less expensive version of SDI is regarded as more readily "saleable" to Allies, the Congress, and perhaps even the Russians. The Administration has followed up the January announcement with a vigorous briefing campaign. But there remain more questions than answers. The Administration have as yet no coherent plan for handling the Russians, or for the Allied participation of which they speak. It remains unclear how much of the revised GPALS programme will remain funded when the Congressional budgetary process is complete in the autumn. There is a possibility of bipartisan agreement on an approach which would involve deferring any deployment of space-based interceptors in order to encourage the Russians to accept Treaty amendment allowing expansion of other defence elements, including ground-based launchers. But there is no indication that the Administration would be prepared to have their plans watered down in this way.

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- Effective defence against theatre ballistic missiles has obvious attractions for the UK (and the Americans have been at pains in recent months to point up European vulnerability in the medium-term to ballistic missile proliferation in the Middle East). But redirection towards GPALS will not necessarily remove the dangers of SDI destabilising the East-West strategic balance, or the potential threat to the effectiveness of the UK strategic deterrent. Development of GPALS will, if pursued energetically, butt up against ABM Treaty constraints in some two or three years. Some in the Administration seem ready to contemplate unilateral abrogation of the Treaty. Others hope to negotiate a "selective relaxation" of the Treaty with the Russians, to permit deployment of GPALS and some equivalent (though not necessarily symmetric) reinforcement of Soviet ABM defences. Either scenario could result in significantly more formidable Soviet defences for UK Trident to overcome.
- 7. Current uncertainties over the precise direction and speed of GPALS development suggest that it would be premature to consider any departure, in public or in Allied fora, from the position represented by the Camp David points. The MOD's SDI Participation Office will continue to promote UK participation in SDI research. Such participation provides substantial technical and financial leverage to our own limited penaid research programme something that could become very important if GPALS goes ahead. But we must plainly keep developments under close review. The JIC has recently assessed the options open to the Soviet Union for responding to GPALS, including strengthening their own defences. MOD studies on the impact of GPALS on Trident effectiveness are nearing completion. These studies address both the potential for a GPALS system (as currently



understood) directly to inhibit a UK Trident strike, and the impact on Trident effectiveness of various possible enhancements to Soviet ABM defences. The study results will provide a basis upon which the key questions of UK concern can be privately explored with US officials in the coming months. In the light of this we may need to look collectively later in the year at the implications of these developments for the future UK deterrent.

8. We are sending copies of this minute to the Chancellor of the Exchequer and Sir Robin Butler.

W.

(T K)
Ministry of Defence

19 July 1991

Don!

(D H)

Foreign and Commonwealth Office

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ANNEX A

UK POSITION ON SDI

Agreements reached between the then Prime Minister and President Reagan at Camp David in December 1984 and November 1986 together state that:

- the SDI research programme which is permitted by the ABM Treaty should continue;
- the US and Western aim is not to achieve superiority, but to maintain balance, taking account of Soviet developments;
- SDI-related deployment would, in view of treaty obligations, have to be a matter for negotiation;
- the overall aim is to enhance, and not to undermine, deterrence;
- East-West negotiation should aim to achieve security with reduced levels of offensive systems on both sides; and
- these matters should continue to be subject to close consultation within the Alliance.

GPALS ARCHITECTURE

- 1. GPALS is intended to provide defence against a limited number of re-entry vehicles, wherever launched and wherever targeted. It will place greater reliance on surface based systems than was planned for the old Strategic Defence System Phase I, but it will still employ two space based systems Brilliant Pebbles (BP) interceptors and Brilliant Eyes (BE) surveillance satellites albeit in smaller numbers. GPALS in its fullest form would consist of three complementary, and overlapping, elements:
- a. A number of in-Theatre, transportable systems to protect against Theatre/Tactical attacks. These theatre interceptors could be deployed on land or at sea. If augmented by ground or space based sensors these would have the potential to intercept missiles with ranges of up to 1,000km. There would be opportunities for integration with Allied systems. This phase of GPALS could be deployed from the mid-1990s, beginning with an upgrading of the Patriot anti-tactical ballistic missile (ATBM) system.
- b. A system of US based ground launched interceptors to defend the US against strategic and long range sub-strategic missiles. This element would utilise the Brilliant Eyes satellite surveillance system. It is envisaged that 500 1,000 interceptors would be deployed (of which around 200 would be for use against strategic missiles) which represents a 50% reduction over the numbers planned for SDS Phase I.
- c. A space based element, employing Brilliant Pebbles

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interceptors. Brilliant Pebbles cannot intercept inside the atmosphere; this means that the system can only be used against ballistic missiles with a range of at least 500 km. The system will, however, be able to destroy missiles no matter where they are aimed. Each Pebble has its own jettisonable survivability "lifejacket", a powerful suite of sensors and on board computing, and rocket motors which guide the weapon to destroy its target by impact - it has no warhead. Brilliant Pebbles must be authorised to enter battle, but they are autonomous thereafter, conducting their own engagements without a centralised battle management system. It is planned that 1,000 to 1,500 Brilliant Pebbles would be deployed, which is around 25% of the number envisaged under SDS Phase I. The US assesses that both this system and the US ground-based defences against long-range ballistic missiles could commence deployment by around the year 2000.

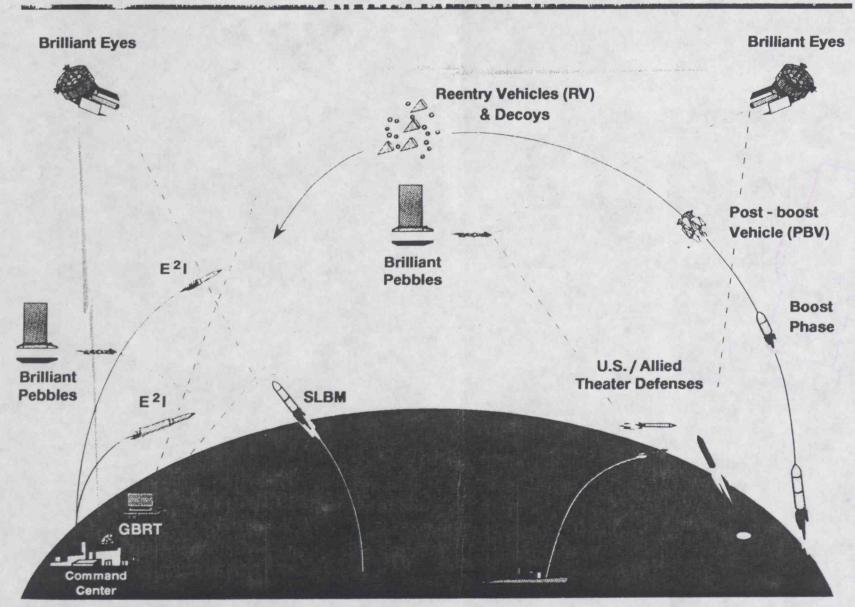
- 2. These systems would be supported by fixed and mobile ground based command centres and sensors. Mobile radars would include the Ground-based radar (Transportable) (GBR-T), which will be deployed in the US for defence against long range missiles, and the TMD-GBR which would be used for in Theatre defence. Space based sensors (Brilliant Eyes) would also be used, but only 50 would be deployed, rather than the 250 envisaged under SDS Phase I. It has been stated that threat information gleaned from GPALS sensors might be shared with Allies.
- An illustration of the possible GPALS architecture is attached.

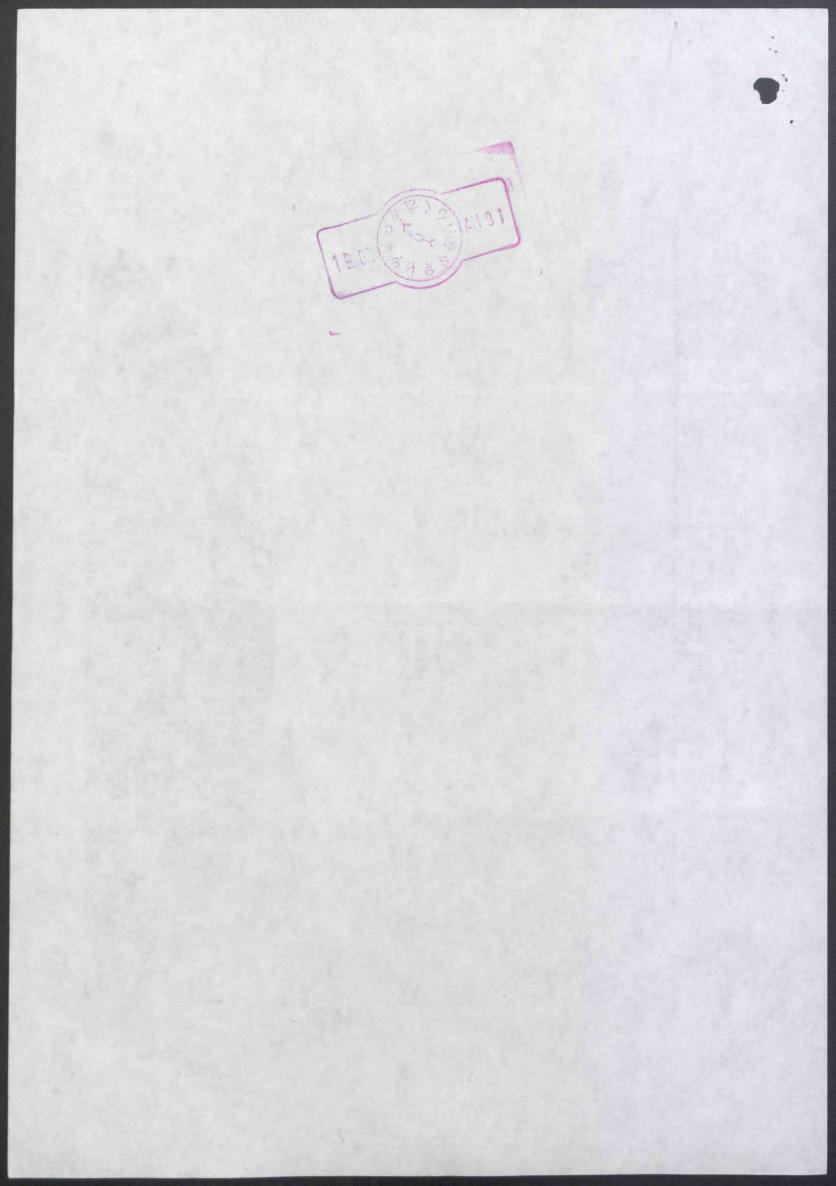
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GPALS ELEMENTS - STRATEGIC AND THEATER





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YOUR TELNO 125 : SDI : US POLICY REVIEW

SUMMARY

- 1. US BRIEFS UK ON NEW SDI CONCEPT TO BE SUBMITTED TO CONGRESS ON 4 FEBRUARY. BELIEVES THAT THE SOVIET UNION MAY SHOW SOME FLEXIBILITY IN EASING ABM TREATY CONSTRAINTS. SEES NO SERIOUS IMPLICATIONS FOR UK DETERRENT. AGREEMENT TO HOLD REGULAR DISCUSSIONS TO EXPLORE THIS FURTHER.
- 2. HADLEY (OSD) BRIEFED MOTTRAM ON 31 JANUARY IN THE MARGINS OF THE HIGH LEVEL GROUP IN BRUSSELS ON THE NEW RE-MODELLED VERSION OF SDI (AS OUTLINED IN TUR). THE HLG WERE BRIEFED SEPARATELY ALONG GENERAL LINES. THE FOLLOWING REPORTS US/UK DISCUSSION ONLY. 3. HADLEY EXPLAINED THAT THE CHANGE IN EMPHASIS AWAY FROM THE ORIGINAL CONCEPT OF LARGELY SPACE-BASED DEFENCES TOWARDS GROUND-BASED SYSTEMS WHICH WOULD GIVE GLOBAL PROTECTION AGAINST LIMITED STRIKES (GPALS) HAD BEEN UNDER DISCUSSION FOR THE PART YEAR. 18 COUNTRIES NOW POSSESSED A MISSILE CAPABILITY, RISING TO 24 BY THE END OF THE CENTURY (OF WHICH 15 WOULD HAVE AN INDIGENOUS PRODUCTION CAPABILITY). NO COUNTRY, INCLUDING THE US AND SOVIET UNION, WERE IMMUNE: HENCE PROTECTION UNDER GPALS WOULD NOT BE CONFINED TO THE US BUT WOULD BE EXTENDED TO AMERICA'S ALLIES. THE NEW PROPOSALS WOULD BE SENT TO CONGRESS ON MONDAY AS PART OF THE DOD BUDGET FOR FY 1992: REVISION TO NATIONAL SECURITY DIRECTIVE 14 WAS LIKELY IN THE NEXT FEW MONTHS.
- 4. ALTHOUGH STRATEGIC OFFENSIVE WEAPONS WOULD STILL HAVE THE PRINCIPAL ROLE IN DETERRENCE, GPALS WOULD RESPOND TO COUNTRIES LIKE IRAQ WHO WERE NOT DETERRED IN THIS WAY. THE FIRST PHASE OF GPALS ENVISAGED 1,000 SPACE-BASED INTERCEPTORS (CF 4 5,000 UNDER THE OLD CONCEPT): 50 SPACE-BASED SENSORS: 500 1,000 GROUND-BASED INTERCEPTORS BASED IN THE US, OF WHICH ABOUT 200 WOULD BE FOR USE AGAINST STRATEGIC MISSILES AND THE REST AGAINST LONG RANGE SUB-STRATEGIC ATTACK: AND A NUMBER OF THEATE GROUND OR SEA-LAUNCHED DEFENCES CAPABLE OF INTERCEPTING MISSILES WITH A

PAGE 1 SECRET RANGE OF 500 - 1,000 KM. THE THEATRE DEFENCES WERE THE NEW DEPARTURE, AND PROVIDED OPPORTUNITIES FOR GREATER CO-OPERATION WITH ALLIES WHO WOULD BE ABLE TO DEPLOY SUCH SYSTEMS EITHER INDEPENDENTLY OR INTEGRATED WITH US DEFENCES.

5. THE COST - OVER 15 YEARS - OF THE FIRST PHASE OF GPALS WAS ESTIMATED AT USD 30 BILLION FOR THE SPACE-BASED ELEMENTS, PLUS USD 10 BILLION FOR GROUND-BASED SYSTEMS. THIS COMPARED TO THE LATEST ESTIMATE OF USD 55 BILLION FOR THE CURRENT PROGRAMME. GIVEN THE URGENCY FOR THEATRE DEFENCES, THE US WERE AIMING FOR DEPLOYMENT BY THE MID 1990'S, WITH SPACE-BASED DEFENCES IN PLACE BY THE LATE 1990'S. ALTHOUGH THE LATTER WERE THE MOST CONTROVERSIAL PART OF THE PROGRAMME, HADLEY SAID THAT THEY WERE CRUCIAL TO AN FOR THE MOMENT, THE US COULD CONTINUE TO OPERATE WITHIN THE NAROW INTERPRETATION OF THE ABM TREATY. BUT BY 1994/5, WHEN THE US WOULD NEED TO START TESTING SPACE-BASED ELEMENTS, THERE WOULD BE SERIOUS PROBLEMS. A NUMBER OF EXPERIMENTS RELATED TO EXISTING RESEARCH ON BRILLIANT PEBBLES WERE PLANNED FOR THE NEAR FUTURE: THE CONSTRAINTS OF THE ABM TREATY WOULD BE ASSESSED IN THE LIGHT OF THIS.

FUTURE OF ABM TREATY

- 6. AT PRESENT UNDER THE ABM TREATY, DEFENCES AGAINST TACTICAL MISSILES WERE UNCONSTRAINED: GROUND-BASED STRATEGIC DEFENCES WERE LIMITED TO 100 MISSILES: AND SPACE-BASED ELEMENTS WERE PROHIBITED. HADLEY SAID THAT DEALING WITH THIRD WORLD THREATS WOULD INEVITABLY REQUIRE GREATER FLEXIBILITY THAN THIS. THE SOVIET UNION WOULD WANT TO DEPLOY MORE GROUND-LAUNCHED SYSTEMS THAN CURRENTLY PERMITTED, AND THE US WOULD WANT TO DEPLOY A COMBINATION OF GROUND AND SPACE-BASED SYSTEMS. THE NEW ABM REGIME WOULD NEED TO ACCOMMODATE THESE ASYMETRICAL REQUIREMENTS: THE US BELIEVED THERE WAS SCOPE FOR 'SELECTIVE RELAXATION' OF RESTRICTIONS. THIS COULD EASE THE CEILING ON GROUND-LAUNCHED MISSILES, THE GEOGRAPHIC CONSTRAINTS ON WHERE STRATEGIC DEFENCES COULD BE DEPLOYED, AND ALLOW MODEST DEPLOYMENT OF SPACE-BASED SYSTEMS.
- THE US WERE CONSIDERING HOW TO APPROACH THE SOVIET UNION ABOUT WIDENING THE NARROW TREATY DEFINITION. ACCORDING TO HADLEY, THERE HAD BEEN INDICATIONS IN THE LAST MONTH IN GENEVA THAT THE SOVIET UNION COULD AGREE TO EASING THE CONSTRAINTS ON NUMBERS OF GROUND-BASED SYSTEMS. THE FIRST STEP WOULD BE TO RELAX THE TREATY RESTRICTIONS ON TESTING OF SPACE-BASED SYSTEMS, LEAVING THE QUESTION OF DEPLOYMENT TO ONE SIDE FOR THE MOMENT. THE DIFFICULTY WOULD BE IN PERSUADING THE SOVIET UNION THAT LIMITED DEPLOYMENT OF US SPACE-BASED SYSTEMS WAS ACCEPTABLE: ALTHOUGH THE SOVIET UNION MIGHT ACCEPT DEPLOYMENT OF SENSORS, THERE WOULD BE

PAGE 2 SECRET PROBLEMS OVER BRILLIANT PEBBLES. THE US WOULD TAKE THE LINE THAT ITS GLOBAL STRUCTURE OF ALLIANCES REQUIRED IT TO HAVE A SPACE-BASED SYSTEM GIVING WIDER COVERAGE, A CONSIDERATION WHICH DID NOT APPLY TO THE SOVIET UNION. IN RETURN THE US WOULD ALLOW THE SOVIET UNION NUMERICAL SUPERIORITY IN GROUND-LAUNCHED SYSTEMS BY A ''MIX AND MATCH'' ARRANGEMENT UNDER AN OVERALL CEILING. PROVIDED THE US WERE ALLOWED TO DEPLOY BOTH GROUND AND SPACE-BASED SYSTEMS, THEIR DEFENCES WOULD BE SUPERIOR TO THOSE OF THE SOVIET UNION.

- 8. AT THIS STAGE, THEREFORE, THE US WERE WORKING ON THE ASSUMPTION OF AGREED AMENDMENT TO THE ABM TREATY. IT WAS HELPFUL THAT THEATRE DEFENCES COULD GO AHEAD ANYWAY UNDER THE TREATY. BUT IF THIRD WORLD THREATS CONTINUED TO GROW AND THE SOVIET UNION TOOK A HARD LINE ON THE ABM REGIME, THE US WOULD LOOK VERY CAREFULLY AT THE CASE FOR BREACHING THE TREATY. IN THE END IT WOULD COME DOWN TO THE ISSUE OF WEAPONS IN SPACE, WHICH THE SOVIET UNION WOULD TRY TO PROHIBIT.
- CO-OPERATION WITH THE SOVIET UNION
- 9. HADLEY STRESSED THAT THE SORT OF US/SOVIET CO-OPERATION
 ENVISAGED AS PART OF GPALS WOULD BE RESTRICTED TO DEVELOPING A
 '' MORE MATURE '' CONCEPT OF DETERRENCE UNDER WHICH STRATEGIC
 DEFENCES WOULD HAVE A ROLE. THEY WOULD ALSO DISCUSS OPERATIONAL
 CONCEPTS, WITH THE US AIMING TO PERSUADE THE SOVIET UNION OF THE
 MERITS FOR ''HITTILES'' RATHER THAN NUCLEAR TIPPED ABM DEFENCES
 (THE US VIEWS THE LATTER AS NONSENSICAL FOR MILITARY, POLITICAL AND
 ENVIRONMENTAL REASONS). BUT THERE WOULD BE NO TECHNICAL
 CO-OPERATION AT THIS STAGE, AND NO QUESTION OF SHARING WITH THE
 SOVIET UNION TECHNOLOGY RELATED TO SPACE-BASED SYSTEMS.
 IMPLICATIONS FOR US STRATEGIC MISSILES
- MISSILES COULD PENETRATE GPALS DEFENCES. HADLEY SAID THAT,
 RATHER THAN USING AN IFF SYSTEM, IT WAS ENVISAGED THAT THE
 SPACE-BASED SENSORS WOULD BE TURNED OFF TO ALLOW US MISSILES TO
 GET THROUGH. IN PRACTICE, THERE WAS LITTLE RISK OF GPALS
 DESTROYING US MISSILES: THE DIRECTION FROM WHICH SOVIET MISSILES
 WERE LAUNCHED AND THEIR DISTINCTIVE SIGNAL WOULD ALLOW THE
 SENSORS AND US OPERATORS (ULTIMATELY CINCSPACE) TO DISTINGUISH US
 FROM SOVIET SYSTEMS. HOWEVER WITH GREATER EMPHASIS ON SLBMS, THE
 DIRECTION OF A SOVIET ATTACK WOULD BECOME LESS PREDICTABLE.
 IMPLICATIONS FOR UK STRATEGIC MISSILES
- 11. MOTTRAM EXPRESSED CONCERN AT ANY DEVELOPMENTS WHICH ALLOWED SOVIET DEFENCES TO BE STRENGTHENED. IN RESPONSE, HADLEY SAID THAT GPALS WAS BETTER FOR THE UK THAN THE ORIGINAL SDI CONCEPT BECAUSE THE SORT OF DEFENCES WHICH THE US ENVISAGED THE SOVIET

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UNION DEPLOYING UNDER A BROADER ABM REGIME WOULD NOT BE SUFFICIENT TO PROTECT IT AGAINST ATTACK FROM SOPHISTICATED SYSTEMS SUCH AS UK TRIDENT. SOVIET SECURITY WOULD ONLY BE INCREASED SIGNIFICANTLY AGAINST SUB-STRATEGIC/THIRD WORLD STRIKES: THERE WOULD BE NO PROTECTION AGAINST ANYTHING MORE THAN A MODEST STRATEGIC ATTACK (OF, HADLEY CITED, ABOUT 30 RE-ENTRY VEHICLES). THERE WAS NO QUESTION THEREFORE OF THE UK HAVING TO TRADE OFF INCREASED PROTECTION UNDER GPALS AGAINST A LESS EFFECTIVE DETERRENT. THE UK'S OVERALL SECURITY WOULD BE INCREASED.

12. HADLEY ACCEPTED MOTTRAM'S POINT THAT GPALS MIGHT WEAKEN THE UNDERLYING RATIONALE FOR UK TRIDENT AND THAT THE ARGUMENT THAT GPALS RESPONDED TO AN IRRATIONAL WORLD WHERE TRADITIONAL FORMS OF DETERRENCE MIGHT NOT BE EFFECTIVE WOULD NEED CAREFUL PRESENTATION. THE US WOULD WELCOME FURTHER DETAILED DISCUSSIONS ON THE IMPLICATIONS OF GPALS FOR THE RATIONALE AND CONTINUING EFFECTIVENESS OF UK TRIDENT.

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SDI: US POLICY REVIEW

SUMMARY

1. ADMINISTRATION CLOSE TO MAJOR SHIFT IN DIRECTION OF SDI
PROGRAMME. TRADITIONAL CONCEPT OF DEFENCE AGAINST MASSIVE
SOVIET STRATEGIC STRIKE LIKELY TO BE SUPPLANTED BY PROTECTION
AGAINST LIMITED STRIKES (GPALS), WITH GREATER EMPHASIS ON THEATRE
MISSILE DEFENCE. PRESIDENT BRIEFED AND APPARENTLY SUPPORTIVE,
BUT FORMAL CONFIRMATION YET TO ISSUE.

DETAIL

2. AS WE HAVE BEEN REPORTING FOR SOME TIME, THE SDIO HAS, UNDER THE DIRECTORSHIP OF HANK COOPER, BEEN TAKING A FRESH LOOK AT THE TRADITIONAL CONCEPT OF THE SDI PROGRAMME WITH A VIEW TO WHAT WOULD AMOUNT TO A RADICAL SHIFT IN THE ORIENTATION OF THE PROGRAMME. STUDIES INITIATED BY COOPER PRIOR TO TAKING THE HELM AT THE SDIO, AND CONTINUED SUBEQUENTLY, HAVE BEEN EXAMINING THE POSSIBILITY OF ABANDONING THE TRADITIONAL CONCEPT OF A LAYERED DEFENCE AGAINST MASSIVE STRATEGIC STRIKES BY THE SOVIET UNION AND MOVING TO A MORE LIMITED, BUT STILL LAYERED, DEFENCE AGAINST LIMITED STRIKES (EITHER ACCIDENTAL, RENEGADE OR THIRD WORLD). THESE STUDIES WERE LARGELY DRIVEN BY THE PROSPECT OF A START AGREEMENT IN EARLY 1991, BY THE DIMINISHED CONGRESSIONAL TOLERANCE FOR CONTINUED MASSIVE EXPENDITURE ON SDI, AND BY THE GREATER AWARENESS OF THE RISKS POSED BY THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION. WE NOW UNDERSTAND THAT THE STUDIES HAVE BEEN COMPLETED AND THAT COOPER AND CHENEY HAVE ACCEPTED THE RECOMMENDATIONS THAT THE SDI PROGRAMME BE RECONFIGURED INTO ORDER TO PROVIDE LIMITED PROTECTION WITHIN THE FRAMEWORK OF THE CONCEPT KNOWN AS GLOBAL PROTECTION AGAINST LIMITED STRIKES (GPALS). 3. COOPER AND CHENEY TOOK THEIR RECOMMENDATIONS TO THE PRESIDENT AT THE BEGINNING OF THIS MONTH. WE UNDERSTAND THAT THE PRESIDENT,

PAGE 1
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WHO WAS JOINED AT THE BRIEFING BY BOTH BAKER AND SCOWCROFT, WAS SYMPATHETIC TO THE IDEA OF SUCH A SHIFT IN THE PROGRAMME. CONTACTS IN BOTH THE SDIO AND OSD HAVE TOLD US THAT THEY EXPECT THAT THE CURRENT PRESIDENTIAL MARCHING ORDERS (NSD 14, DATING FROM MAY 1989) WILL BE REVISED SHORTLY. THIS FORMAL REORIENTATION WOULD THEN ALLOW FOR A REVISED PROGRAMME TO BE SUBMITTED TO CONGRESS IN EARLY FEBRUARY AS PART OF THE CHENEY/ POWELL SUBMISSIONS ON THE FY 92 DEFENCE BUDGET AND THE SIX YEAR PLAN (FY'S 92-7). OUR CONTACTS IN THE NSC HAVE ALSO TOLD US THAT IN THE EVENT OF FORMAL CONFIRMATION OF THIS MOVE, WE WOULD BE OFFICIALLY NOTIFIED AHEAD OF ALL OTHER ALLIES GIVEN OUR LONG-STANDING CONSTRUCTIVE INTEREST IN THE PROGRAMME. CONGRESS, AS WELL AS OTHER SDI PARTICIPANT NATIONS, WOULD BE BRIEFED SHORTLY BEFORE THE CHENEY/POWELL SUBMISSION TO CONGRESS. 4. IN PROGRAMMATIC TERMS, THIS SHIFT IN SDI'S MISSION WILL NOT HAVE A DRAMATIC EFFECT ON CURRENT PROGRAMMES, INVOLVING SCALING DOWN AS OPPOSED TO CANCELLATION. THERE WOULD STILL BE A LAYERED DEFENCE, WITH BOTH SPACE BASED AND GROUND BASED SENSORS AND INTERCEPTORS, BUT WITH THE SPACE-BASED INTERCEPTORS NUMBERED IN THE HUNDREDS INSTEAD OF THOUSANDS. THEATRE MISSILE DEFENCE WOULD, HOWEVER, BE GIVEN A GREATER PRIORITY THAN HITHERTO, WITH THE FOUR CURRENT PROGRAMMES UNDER SDI MANAGEMENT (THAAD'S, PATRIOT UPGRADE, ERINT AND ARROW) BEING PUSHED FORWARD MORE VIGOROUSLY. THE TARGET DATE FOR DEPLOYMENT OF A RECONFIGURED GPALS SDI SYSTEM WOULD REMAIN THE LATE 1990'S, BUT WITH AN OVERALL PRICE TAG OF AROUND DOLLARS 40 BILLION (AS OPPOSED TO CURRENT ESTIMATES OF DOLLARS 45-55 BILLION). COMMENT

THIS SHIFT WAS CONSIDERED AND APPROVED BY CHENEY AND COOPER TOWARDS THE END OF LAST YEAR WHEN A START AGREEMENT AT A FEBRUARY SUMMIT SEEMED A CERTAINTY, AND WHEN THE SOVIET THREAT WAS SEEN TO HAVE RECEDED. IT REMAINS TO BE SEEN WHETHER RECENT DEVELOPMENTS IN THE BALTICS HAVE ANY IMPACT UPON THESE JUDGEMENTS, AND CONSEQUENTLY UPON ANY DECISION TO RECONFIGURE THE SDI PROGRAMME. BUT IF IN THE EVENT THE ADMINISTRATION DOES DECIDE TO PROCEED WITH THIS REVISED CONCEPT OF STRATEGIC DEFENCE, IT WILL CLEARLY CHANGE THE TERMS OF THE SDI DEBATE INTERNALLY, WITH THE RUSSIANS, AND PROBABLY WITHIN THE ALLIANCE. WE WOULD NEED TO LOOK CLOSELY AT THE FUTURE CONSEQUENCES FOR THE STRATEGIC OFFENCE/DEFENCE RELATIONSHIP IN GENERAL AND AT THE IMPLICATION FOR THE UK DETERENT IN PARTICULAR (TEBBITS LETTER TO GOULDEN OF 3 DECEMBER, NOT TO ALL). WE HAVE ALREADY REGISTERED OUR INTEREST IN CLOSE BILATERAL

PAGE 2 CONFIDENTIAL CONSULTATION IN ADVANCE OF ANY PUBLIC STATEMENTS AND THESE CONCERNS HAVE BEEN TAKEN ON BOARD. WE WILL BE REPORTING IN MORE DETAIL TO THE DEPARTMENT IN DUE COURSE.

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November 13, 1990 C

Right Honorable Margaret Thatcher, M.P., F.B.S. 10 Downing Street seesed attent London SW1A 2HB

United Kingdom

Dear Prime Minister:

I would like to convey my sincerest thanks for your taking the time during my visit to London on October 22 to discuss the most recent technical and political developments in the Strategic Defense Initiative (SDI) program.

We are working hard to identify possible nearterm solutions to the ballistic missile problem, particularly regarding unpredictable leaders like Saddam Hussein who have ballistic missiles in their weapon inventory. The Congress has recognized these problems and has substantially increased funding for Theater Missile Defenses.

Your unflinching support for SDI since President Reagan's speech in 1983 remains a source of real strength to me and my staff and, most importantly, to the scientists and engineers who can make strategic defenses a reality. They will long remember your visit to Colorado Springs.

HENRY F. COOPER

Director, Strategic Defense Initiative Organization

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SUBJECT OF MASTER



10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

22 October 1990

Den Siron,

PRIME MINISTER'S MEETING WITH AMBASSADOR COOPER

The Prime Minister had a short talk this afternoon with Ambassador Cooper, the Director of the SDI programme.

Ambassador Cooper spoke of the impact which the Prime Minister's visit to Falcon AFB had made on those working on the SDI programme. They were a rather beleaguered group at present and the Prime Minister's enthusiasm and support had been a tremendous boost to them.

The Prime Minister said she had been watching Congress's expenditure-cutting on the SDI with dismay. It was very short-sighted to reduce funds for the SDI programme. Ambassador Cooper was pessimistic. The President had proposed a 15 per cent increase in funding. At best the programme would be reduced by one-third and would get less than last year. For the first time progress with SDI would be limited by lack of dollars rather than by the limits of technology.

Ambassador Cooper said that he also faced a difficult battle with Congress over attempts to constrain all SDI activity within the ABM Treaty. A somewhat uneasy compromise had been struck which explicitly permitted funding of ground-based sensors and interceptors, but left precise details of funding for the spacebased elements of the system to be sorted out later. Slightly more helpfully, there was interest in Congress in a limited protection system, stimulated not least by the present situation in the Middle East. Unfortunately there was nothing which the SDI programme could offer in the very short term to bolster US capabilities there: it would take at least a year to produce even a rudimentary system based on the results of the Homing Overlay Experiment. But taking a longer view, he thought the best way to make progress with the overall programme was to change the focus from concentration on a massive Soviet missile attack and to the risk of missile attack in any part of the world. His personal view was that the Soviet Union would eventually agree to deployment of a limited system.

Ambassador Cooper added that the Soviet Union was continuing to spend money on strategic defence as well as on offensive weapons. It would enter the post-START agreement era with every one of its major offensive systems upgraded and its defences round Moscow modernised.

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I am copying this letter to Stephen Wall (Foreign and Commonwealth Office) and Sonia Phippard (Cabinet Office).

Gerri man

(CHARLES POWELL)

Simon Webb, Esq., Ministry of Defence.

4.

PRIME MINISTER

SDI: MEETING WITH AMBASSADOR COOPER

You have a talk on Monday afternoon with Ambassador Cooper, the new Head of the SDI office. You met him when you visited Falcon AFB in Colorado. He is rather dour, and unlikely to be able to brief you with as much interest and entertainment as Jim Abrahamson.

I don't think there have been any sensational technological developments since your visit in August. The main new feature is that Congress is proposing to reduce funds for SDI very substantially.

You will want to thank him for the very interesting visit in August. Thereafter points which you might cover are:

- what news do we have of the Soviet SDI programme particularly lasers - in the light of their defence cutbacks?
- with the Soviet threat appearing to recede somewhat, are the Americans devoting more attention to defence against the ballistic missile threat from countries like Iraq?
- how does he rate the prospects of keeping sufficient Congressional support for SDI to ensure adequate funding for his programmes?

CDC

C. D. POWELL
19 October 1990

c:\foreign\cooper (kk)

7.5. He is bringing a vidlo no show you.

SECRET UK EYES A

3 (A-K). CCPC/ Backup.

SECRETARY OF STATE

MO 30/1J

MINISTRY OF DEFENCE
MAIN BUILDING WHITEHALL LONDON SWIA 2HB

Telephone 071-21 82111/3

18/L October 1990

Den Challes,

I attach a brief on the Strategic Defence Initiative for the call on the Prime Minister on 22nd October by the Director of the US_SDI organisation. Ambassador Cooper will be calling on the Defence Secretary on 24th October.

2. I am sending a copy of this letter to Stephen Wall (FCO) and Sonnia Phippard (Cabinet Office).

Em boll

(S WEBB) Private Secretary

SDI PROGRAMME STATUS AND UK PARTICIPATION

Ambassador Cooper - SDIO Director

1. Ambassador Henry ('Hank') F Cooper became Director of the US SDI Organization in mid-July. Aged 53, Cooper has qualifications in mechanical engineering. His career has been in industry and government. From 1985 he was Deputy and from 1987 to 1989 the Chief Negotiator at the Space and Defence Talks in Geneva (a biography is attached). He recently completed a review of SDI (the Cooper report) for the US Defense Secretary. He is known to be a champion of SDI.

Phase 1 SDS/Brilliant Pebbles

- 2. The Prime Minister met Ambassador Cooper when she visited Colorado Springs in August this year and was briefed on the latest developments in the Phase 1 Strategic Defense System (SDS). Earlier this year the US Administration had taken the decision to incorporate Brilliant Pebbles into the Phase 1 system architecture and to make a number of other quite significant changes. The currently planned architecture is shown on the attached chart (1). Six teams of US-led contractors are engaged in concept definition work on Brilliant Pebbles. This will be completed by February, when SDIO will choose two teams to move into pre-full-scale development (FSD). Full FSD would then take place in US FY93. The present activity includes some foreign subcontractor involvement (see also Sub-Contracting to UK Industry below) and the MoD will be seeking to ensure that the Invitation to Tender (ITT) for the follow-on work (two contracts worth \$4-500M each) allows plenty of opportunity for significant UK subcontracting.
- 3. The Space Surveillance and Tracking System (SSTS) satellites are now planned to be a distributed system (known also as "Brilliant Eyes" and based on Brilliant Pebbles concepts and technology), as recommended in the Cooper Report. The SSTS provides operational support to the other elements of the system but also has a peacetime role of collecting phenomena from Soviet missile tests. Other system elements such as the Boost Surveillance and Tracking System (BSTS) and the Ground Based Surveillance and Tracking System (GSTS) seem likely to be dropped from the phase 1 architecture.
- 4. Two charts are attached on Brilliant Pebbles (2 and 3) showing details of the orbital arrangements for the constellation and the mass budget for an individual Brilliant Pebble. The orbital geometry for the current Phase 1 architecture is suited to countering a massive Soviet first strike: the US estimate that some 400 Pebbles would always be in the right place to be launched towards their targets, and US modelling indicates that this force could negate some 1200 re-entry vehicles. As can be seen from the mass budget, a Brilliant Pebble could have a mass as low as 2.7Kg at the moment of interception (life-jacket discarded, strap-on tanks dropped, all fuel used). But the relative velocities of interceptor and target are so high

SECRET UK EYES A

(10Km/sec or higher) that a collision will result in the destruction of the target booster or bus.

Recent Developments

Cooper Report

- 5. Cooper's review of SDI, which has been shown, but not copied to the Embassy, includes the following main conclusions:
 - a. The SDI programme is on course for an informed decision on deployment by mid-1992 (a year earlier than the target set by the President). This would give the President the option of announcing his intention to deploy during the 1992 Presidential Campaign.
 - b. Brilliant Pebbles funding should be increased over the already sharply rising planned levels, and the testing programme should be accelerated.
 - c. The architecture of the ground-based intercept layer should be revisited with a view to achieving simplifications along Brilliant Pebbles lines. This is now the subject of a study known as MATTR, the Mid-Course and Terminal Tier Review, due to report by November.
 - d. Conceptual thinking on the mission of SDI should be expanded to include consideration of the effects of reduced levels of strategic forces and of attacks of limited scope. Studies of both are in hand, in the latter case under the G-PALS rubric referred to at paragraph 7 below.
- 6. Whilst these further studies have yet to conclude, some findings are beginning to emerge and it is significant that Brilliant Pebbles feature in all these architecture reviews.

Global Protection Against Limited Strikes

Degan a 6 month policy study on what they call Global Protection Against Limited Strikes (G-PALS). The US SDI Organization is providing technical support. G-PALS differs from earlier US work on Limited Protection Systems or Accidental Launch Protection Systems (LPS/ALPS) in that earlier work addressed threats to the US whereas the current work is looking at threats to target areas anywhere in the world. The threats being considered include third world ballistic missiles, which could be armed with chemical or biological rather than nuclear warheads. The technical support for the study is believed to amount not merely to modelling the capabilities of Phase 1 SDS against such different threats, but to a fresh examination of what Anti Ballistic Missile (ABM) system deployment would give optimum performance against these types of threat. Ambassador Cooper may well elaborate on this subject and the policy implications of the emerging ballistic missile capabilities of third world countries. It is possible that GPALS might supplant SDS phase

as the first major deployment of the Strategic Defense Initiative.

8. Congress. The debate is underway in the US Congress on the SDI budget for FY91 and on the associated policy issues. The Senate Authorizations Bill recommended a budget of \$3.6B, whereas the House voted for \$2.3B. The general assumption is that the House-Senate conference to produce an agreed congressional package will settle on \$3B. This would effectively be a \$1.2B reduction in the Administration's \$4.6B bid because \$400M funding provision for the BSTS would be transferred to the Air Force budget. In cash terms \$3B represents the first cut in SDI funding unless the President is prepared to veto. There might also be restrictions on individual parts of the programme, perhaps based on the Bingham-Shelby amendment passed by the Senate. This sought to restrict progress towards deployment of a Phase 1 SDS and instead to give more emphasis to the exploration and refinement of more advanced technologies.

UK Participation in SDI

- 9. The various aspects of UK participation in SDI continue to develop.
- 10. Government-to-Government Funded Programmes. This contracting route has proved more durable than originally anticipated because of its convenience to the US in a procedural sense. Recent additions to the portfolio of work include:

special trials built around routine UK Polaris missile test firings;

further jointly funded work on the Multi-function Electronically-Scanned Adaptive Radar (MESAR) which is mostly contracted out to Siemens Plessey Radar by the Admiralty Research Establishment;

further work on the exploitation of Artificial Intelligence techniques in the handling of sensor data.

Negotiations are nearly complete on a 3-year extension to the MOD-led European Architecture Study programme. The current phase is seeking to put together US and UK architecture work; and the first part of the follow-on will draw Brilliant Pebbles into this analysis and, probably, include some work on limited protection systems. Some 85% of funds obtained under these Government-to-Government arrangements flows to UK industry.

- 11. Sub-Contracting to UK Industry. There have been promising developments here, not yet reflected in the value of business on contract. Some example are listed below; however, given the present uncertainty surrounding the US budget, none can be regarded as guaranteed:
 - a. GEC-Alsthom have won a place on the successful Boeing-led team for the next phase of experimental work on the Free Electron Laser. GEC's task will be to provide a 100MW High Voltage DC Power Supply. Contract value: around \$25M. EEV and Tesla are

- already involved in the programme, in the provision of thyratrons and magnets. This could well fall victim to the budget cuts mentioned above.
- b. AEA Technology (Culham Laboratory) with Marconi Space Systems are strongly placed to be selected to supply a space-qualified ion injector for the Pegasus Neutral Particle Beam space experiment. Contract value: around \$15M. The competition is Los Alamos; and the prime contractor, Grumman, will make its choice early in 1991.
- c. British Aerospace (Space Systems) are teamed with Rockwell (as are Aerospatiale) for the Brilliant Pebbles Concept Definition Study. Rockwell have given BAe a free hand over which other UK companies to involve. Their own involvement will be both in the development of systems concepts and in bringing subsystem technology to the table. Rockwell's motivation in choosing teaming partners in Europe rather than the US can only be a reflection of the company's belief that the way forward for SDI must involve the Allies, especially if defences against limited strikes become the main theme an aspect of mission analysis in which Rockwell have a strong background.
- 12. Of the established programmes, the most substantial is Culham Laboratory's work on ion source development for neutral particle beam systems which has built up to some \$26M. The major current activity is on the Continuous Wave Deuterium Demonstrator, a ground-based facility to be installed by Grumman at Argonne National Laboratory, Chicago. Culham's \$15M subcontract is for provision of the ion injector systems, the high energy beam transport, the beam dump, and instrumentation and control for the whole system. Marconi Communications are providing the RF power supplies, bringing the UK share of this \$50M programme to 40%.
- 13. The NPB work described above is the most significant area of direct UK commercial participation in SDI established to date and Ambassador Cooper's overall programme on this occasion includes a visit to Culham. It was therefore of considerable concern to the UK to learn that a significant reduction in the FY91 budget for NPB projects is an option for consideration in the SDIO, depending upon what overall budget SDI receives. This concern has been communicated to the US and we now believe the bulk of this work has been preserved.
- 14. Technical Information Exchange. The information exchange process (so-called SCORE Groups) which was established by the UK/US SDI MoU has developed to the point where there are 5 main Groups and a total of 20 Sub-Groups of UK and US experts in the various specialist fields. UK and US company staffs are involved in the work of the Sub-Groups whenever possible. The creation earlier this year of the Countermeasures SCORE Group, now with four Sub-Groups, marked the successful conclusion of the lengthy and tortuous process of putting into effect General Abrahamson's desire, expressed to the Prime Minister on 7 February 1988, to see cooperation with the UK extend into 'even more sensitive areas than hitherto'. It took the personal intervention of

General Monahan to achieve this, as on several other matters.

- 15. Access to the technical detail of the SDI programme is also improving outside the formal SCORE Group framework. In particular, a team of MOD experts led by the SDI Participation Office was invited by General Monahan to prepare an independent technical evaluation of the Brilliant Pebbles weapon system. The report has been produced and, apart from a section giving an interim assessment of the implications for UK Trident, was briefed to the Brilliant Pebbles programme managers earlier this month. The broad conclusion was that there are no 'show stoppers' to making Brilliant Pebbles work but there are a number of technical risks which lead us to believe they will cost more and take longer to get into service.
- 16. <u>Joint Trials</u>. The jointly funded ZODIAC BEAUCHAMP re-entry vehicle decoy flight trial is proceeding as planned, for a June 1991 firing. This timescale could slip if the US do not resolve in time some political issues concerning environment and range safety for the wider programme of firings for the launch vehicle: the US are making vigorous efforts to avoid such a slippage.
- 17. Following the successful GOLLUM II Sea Dart v. Lance firings in early 1989, preparations are being made for a more complex joint trial in 1992/93 when the new Sea Dart fuze is available. Meanwhile, a programme of motor firings and phenomenology data collection experiments is taking place in support of a variety of UK and US technical objectives.

SDI Participation Office Ministry of Defence

16 October 1990

File D/SDIPO/4/2 x

AMBASSADOR MEMRY F. COOPER Senior Vice President for Strategic Planning, JAYCOR

Ambassador Henry F. Cooper joined JAYCOR on December 11, 1989. Previously he served as Chief U.S. Negotiator at the Defense and Space Talks with the Soviet Union, and prior to March 1987 as Deputy Negotiator. Between November 1983 and March 1985, 1987 as Deputy Negotiator. Between November 1983 and Disarmament he was Assistant Director of the Arms Control and Disarmament Agency. In this capacity he was responsible for beckstopping all bilateral negotiations with the Soviet Union related to strategic bilateral negotiations with the Soviet Union related to strategic and theater nuclear matters and chaired the Assistant Secretary and theater nuclear matters and chaired the Assistant Secretary level interagency Group responsible for developing U.S. space arms control policy options.

Setween 1982 and 1983, Dr. Cooper was Deputy Director of the Nuclear Effects Division of RED Associates. From 1980 to 1982, he served as Deputy to the Assistant Secretary of the Air Force with programmatic oversight responsibilities for all Air Force of the Senior Technical Staff and Program Manager at RED of the Senior Technical Staff and Program Manager at RED associates. From 1964 to 1972, he served as First Lieutenant, Associates. From 1964 to 1972, he served as First Lieutenant, Associates. From 1964 to 1972, he conducted independent research Laboratory. From 1960 to 1964, he conducted independent research Laboratories. Between 1958 and 1960, he taught Engineering Mechanics at Clemson University.

pr. Cooper is a nationally recognized expert on nuclear weapon effects, strategic systems and policy, and arms control matters; has served as chairman, member or consultant to numerous national level committees, panels and working groups in these national level committees, panels and working groups in these national level committees, panels and working groups in these national level committees, panels and working groups in these national level committees, panels and working groups in these nechanics, heat transfer, structural design, nuclear effects, systems analysis, targeting analysis, strategic policy.

Systems analysis, targeting analysis, strategic policy.

Systems analysis, targeting analysis, strategic policy.

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Born in Augusta, Georgia, on November 8, 1936, Ambassador Cooper received a BS (1958) and an MS (1980) from Clembun University, and PhD (1964) from New York University. He is married, has three children, and three grandchildren.

December 1989

07 10.90

BIOGRAPHICAL SKETCH

Ambassador Henry F. Cooper, Jr. (Hank) NAME:

Chief Negotiator, Defense and Space Group, Nuclear and Space Arms Talks TITLE:

with the Soviet Union (NST)

8 November 1936 DATE & PLACE OF BIRTH: Augusta, Georgia

Wife: Barbara PANTLY:

Daughters: Laura, Cynthia

Son: Scott

7103 Holyrood Brive Residence: McLean, VA 22101 ADDRESS:

> U.S. Department of State Business:

S/DEL - 1206 M.S.

Washington, D.C. 20520-5120

(703) 790-5798 Residence: TELEPHONE:

(202) 647-6245 Business:

38 (Mechanical Engineering) Clemson University, 1958 MS (Mechanical Engineering) Clemson University, 1960 PhD (Mechanical Engineering) New York University, 1964 EDUCATION:

Chief Negotiator, Defense and Space Group, POSITIONS: 1987-NST, Geneva

1985-1987 Deputy Negotiator, Defense and Space Group, MST, Geneva

1983-1985 Assistant Director, U.S. Arms Control and Disarmament Agency (ACDA)

1982-1983 Deputy Director, Nuclear Effects Division, RAD Associates

1980-1982 Doputy Assistant Secretary of the Air Force (Research, Development, and Logistics)

1972-1980 Member Senior Technical Staff & Program Manager, RED Associates

1967-1972 Scientific Advisor, Air Force Weapons Laberat

1964-1967 Project Officer (1st Lt) Air Force Weapons Laboratory

1960-1964 Member of Technical Staff, Bell Telephone T.aharatories

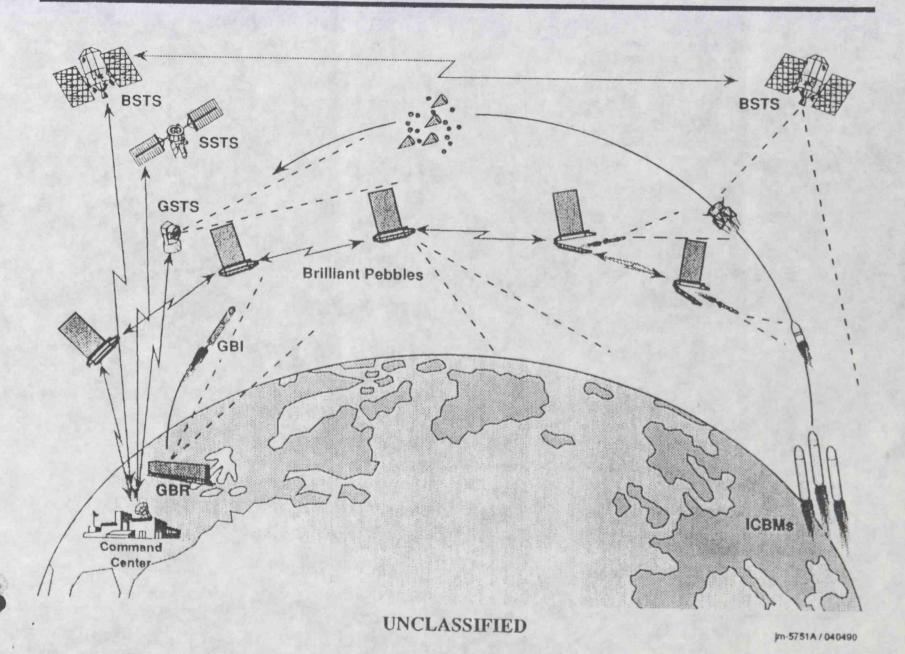


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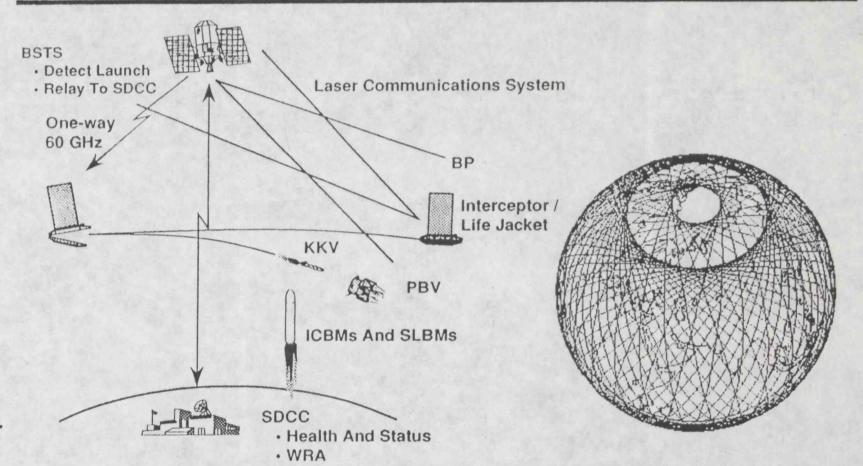
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SDS PLANNED ARCHITECTURE





BP JUNE 14 CARD DESCRIPTION (U)

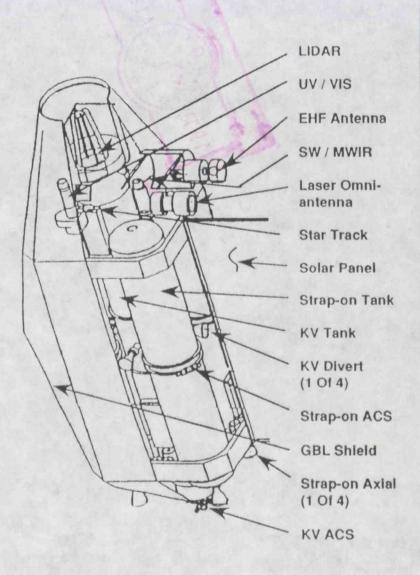


Inclination (Deg)	Altitude (km)	Number Rings	Elements Per Ring	Spares Per Ring
60	400	56	57	5
80	400	28	28	3
BPs	MILES	3976		364
Total BPs & Sp	ares	4	1340	MELTERS!





BRILLIANT PEBBLES INTERCEPTOR AND LIFE JACKET (U)



interceptor				
Subsystem	Mass (kg)			
Propellant (Doped Hydrazine)	6.000			
Propulsion System And Primary Structure (Dry)				
IMU (Rate Sensors)				
Star Tracker				
UV / Visible Camera				
SW / MWIR Camera				
LIDAR Transmitter / Receiver				
Computer				
Power				
Total KKV	8.660			
Propellant (Doped Hydrazine)	14.000			
Propellant (Neat Hydrazine)	14.000			
Drop-away Tankage				
Pumps And Valves				
Thrusters And Plumbing				
Total Drop-away Tank	31.470			
Total Interceptor	40.130			

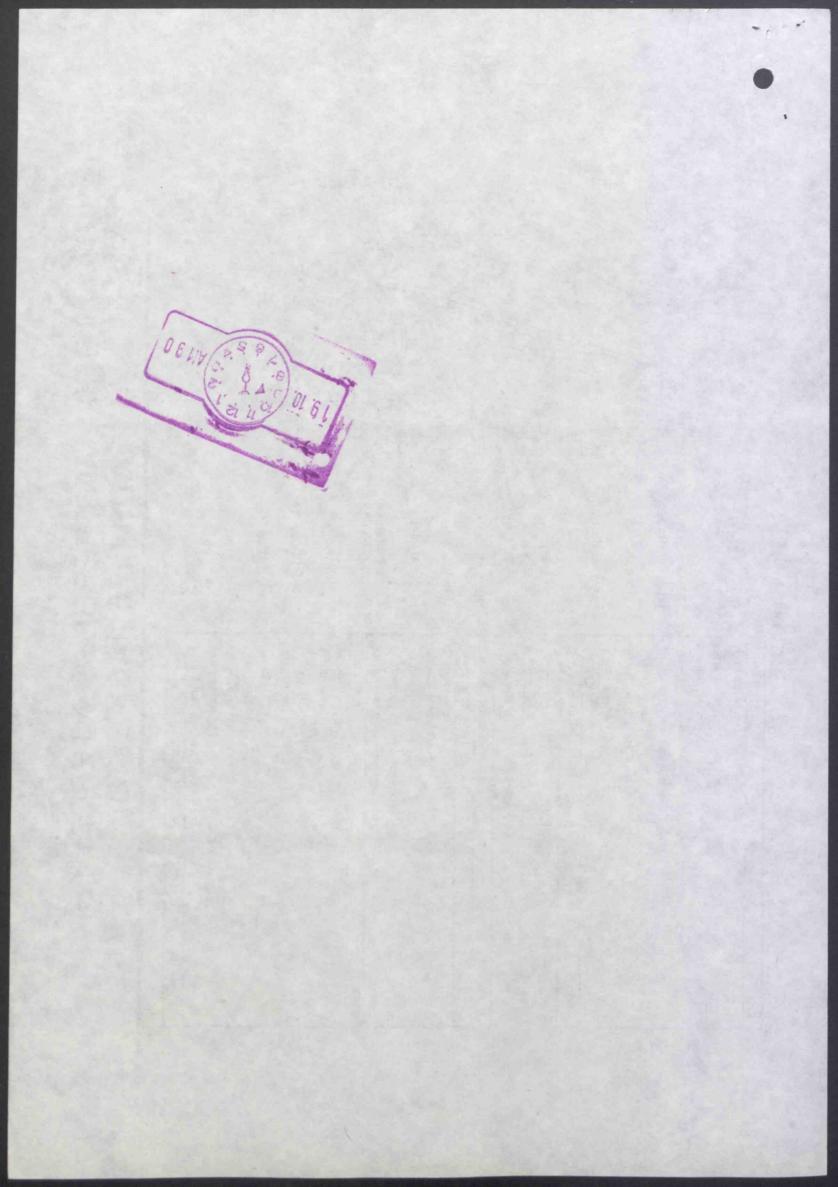
Interceptor

Drop-away $\Delta V = 2.85$ km/s Axial KKV $\Delta V = 3.00$ km/s Divert Life Jacket

Subsystem	Mass (kg)
Structure	
Laser Pan + Tilt	
Laser Omni Receiver	
Cryocooler	
Thermal Management	
On-orbit Power	
Avionics	
Survivability / Wrappers / Fairing	
Low-rate ACS	
Total	10.470
	1- 7000 (0

SECRET

Jm-7036 / 040390



FILE KK ClForeign avigley SENIOR STAFF IN CONFIDENCE 10 DOWNING STREET LONDON SWIA 2AA From the Private Secretary 1 June 1990 Thank you for your letter of 29 May about the proposed appointment of Mr. A.L.C. Quigley to be Director General of the Strategic Defence Initiative Participation Office. The Prime Minister is content for this appointment to go ahead. I am copying this letter to Carys Evans (HM Treasury) and to Sonia Phippard (Cabinet Office). (C. D. POWELL) Simon Webb, Esq., Ministry of Defence. SENIOR STAFF IN CONFIDENCE

L





MO 30/1S

MINISTRY OF DEFENCE MAIN BUILDING WHITEHALL LONDON SW1A 2HB

Telephone 01-218 2111/3

Conter its Eg propord appointment?

Ja Chales,

In my letter of 21st February, I promised to give you details of the appointment we intend to make following the departure of Dr Orman from the post of Director General of the Strategic Defence Initiative Participation Office (SDIPO).

As I indicated previously, it has now been agreed that this should no longer be a Grade 3 appointment and that the responsibilities of the SDIPO can be best discharged by the addition of an able Grade 5 officer.

The individual we have in mind is Mr A L C Quigley. Aged 43, Mr Quigley is an electrical engineer of wide technical experience, who has had the additional benefit of a most successful spell on loan to the Cabinet Office, as the Deputy Head of the Assessment Office. A copy of his career record is attached.

I should be most grateful if you would confirm that you would be content for us to proceed with this appointment.

As before I am sending copies of this letter to Carys Evans (Treasury) and Sonia Phippard (Cabinet Office).

Em sacing

(S WEBB) Private Secretary

Charles Powell Esq 10 Downing Street

The National Archives

PIECE/ITEM 3650 (one piece/item number)	Date and sign
Extract details: attachment to letter from Swebb to Charles Ponell dated 29 May 1990	
CLOSED UNDER FOI EXEMPTION	
RETAINED UNDER SECTION 3(4) OF THE PUBLIC RECORDS ACT 1958	
TEMPORARILY RETAINED	14/11/17 M. Min
MISSING AT TRANSFER	
NUMBER NOT USED	
MISSING (TNA USE ONLY)	
DOCUMENT PUT IN PLACE (TNA USE ONLY)	

Instructions for completion of Dummy Card

Use black or blue pen to complete form.

Use the card for one piece or for each extract removed from a different place within a piece.

Enter the department and series, eg. HO 405, J 82.

Enter the piece and item references, . eg. 28, 1079, 84/1, 107/3

Enter extract details if it is an extract rather than a whole piece. This should be an indication of what the extract is, eg. Folio 28, Indictment 840079, E107, Letter dated 22/11/1995. Do not enter details of why the extract is sensitive.

If closed under the FOI Act, enter the FOI exemption numbers applying to the closure, eg. 27(1), 40(2).

Sign and date next to the reason why the record is not available to the public ie. Closed under FOI exemption; Retained under section 3(4) of the Public Records Act 1958; Temporarily retained; Missing at transfer or Number not used.





MO 30/1S

MINISTRY OF DEFENCE MAIN BUILDING WHITEHALL LONDON SW1A 2HB

Telephone 01-218 2111/3

2 February 1990

2. Phinitis

00012/2

Dow Challes,

Thank you for your letter of 8th February asking about the absence of a replacement as the Director General of the Strategic Defence Initiative Participation Office.

In fact the Defence Secretary fully intends to appoint another Director General of the SDIPO. The level at which this appointment has been made has been under discussion with the Treasury for some time. The Defence Secretary thinks it is more important to get the right kind of person in the job rather than to worry too much about the level. It may be more sensible to bring forward a lively young mind at Grade 5 than appoint a less energetic officer who happens to be as senior as Dr Orman.

I will let you know the outcome as soon as possible.

I am sending copies of this letter to Carys Evans (Treasury) and Sonia Phippard (Cabinet Office).

Tow successing

Private Secretary

Charles Powell Esq No 10 Downing Street PERSONAL



Cile M C:/for/pers.

10 DOWNING STREET LONDON SWIA 2AA

From the Private Secretary

8 February 1990

The Prime Minister understands that the Director General of our Strategic Defence Initiative Participation Office has left and is not being replaced. She is surprised by this and would be grateful if the Defence Secretary could let her know the reason.

C. D. POWELL

Simon Webb, Esq., Ministry of Defence

D

PERSONAL

PERSONAL

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Cole

Thank you for your letter of 6 February enclosing a copy of a letter from President Bush. I have shown it to the Prime Minister who thinks it is very well deserved. She is very grateful for the excellent work which you have done and sends you best wishes for your retirement.

C. D. POWELL

DAG

Dr. Stanley Orman

PERSONAL

From: Dr S Orman (retiring) Director of MINISTRY OF DEFENCE Northumberland House, Northumberland Avenue, London WC2N 5Bl Telephone (Direct Dialling) 01-218 4239 1 dres delm (Switchboard) 01-218 9000 Director General Strategic Defence Initiative Participation Office in not beni C Powell Esq replaced. Kon PS/Prime Minister 10 Downing Street 6 February 1990 London SW1 Tex M. Powell, I attach a transcript of a letter from President Bush (the original is framed) which was presented to me by Lt Gen Monahan at a dinner which he gave to mark my retirement from MOD. also attach a copy of my reply to the President. These are sent to you because of the interest which the Prime Minister has taken personally in this project. It is unfortunate that, having reached such a high point in US/UK relations with regard to SDI, I have left without replacement. All best wishes. Your sincerty,
Study Ann.

Dear Dr. Orman,

Congratulations on your retirement as Director General of the United Kingdom's Strategic Defence Initiative Participation Office. Your years of leadership have resulted in significant contributions to a research and development programme crucial to us all. Both your technical initiatives, bringing the best British technology to the Strategic Defence Initiative, and your public advocacy for ballistic missile defenses are the marks of a true ally.

Your legacy is a vigorous, technically advanced programme of cooperation between our two countries, which will contribute immensely to global stability and world peace. You have brought great credit ot yourself and to the United Kingdom, and are deserving of the thanks of all freedom-loving people. You have mine.

Barbara joins me in sending our best wishes for every future happiness.

Sincerely,

George Bush.

From: Dr S Orman



MINISTRY OF DEFENCE

Northumberland House, Northumberland Avenue, London WC2N 5BP
Telephone (Direct Dialling) 01-218 4239
(Switchboard) 01-218 9000

Director General Strategic Defence Initiative Participation Office

The President
The White House
Washington DC
United States of America

6 February 1990

My Few Mr. President,

I am writing to thank you for your good wishes on my retirement from the British Ministry of Defence, which were so warmly expressed in your letter of 19 January. I was quite overwhelmed when Lt Gen George Monahan presented me with the letter at a retirement dinner and I wanted to assure you that I felt extremely honoured to have been recognised in this way.

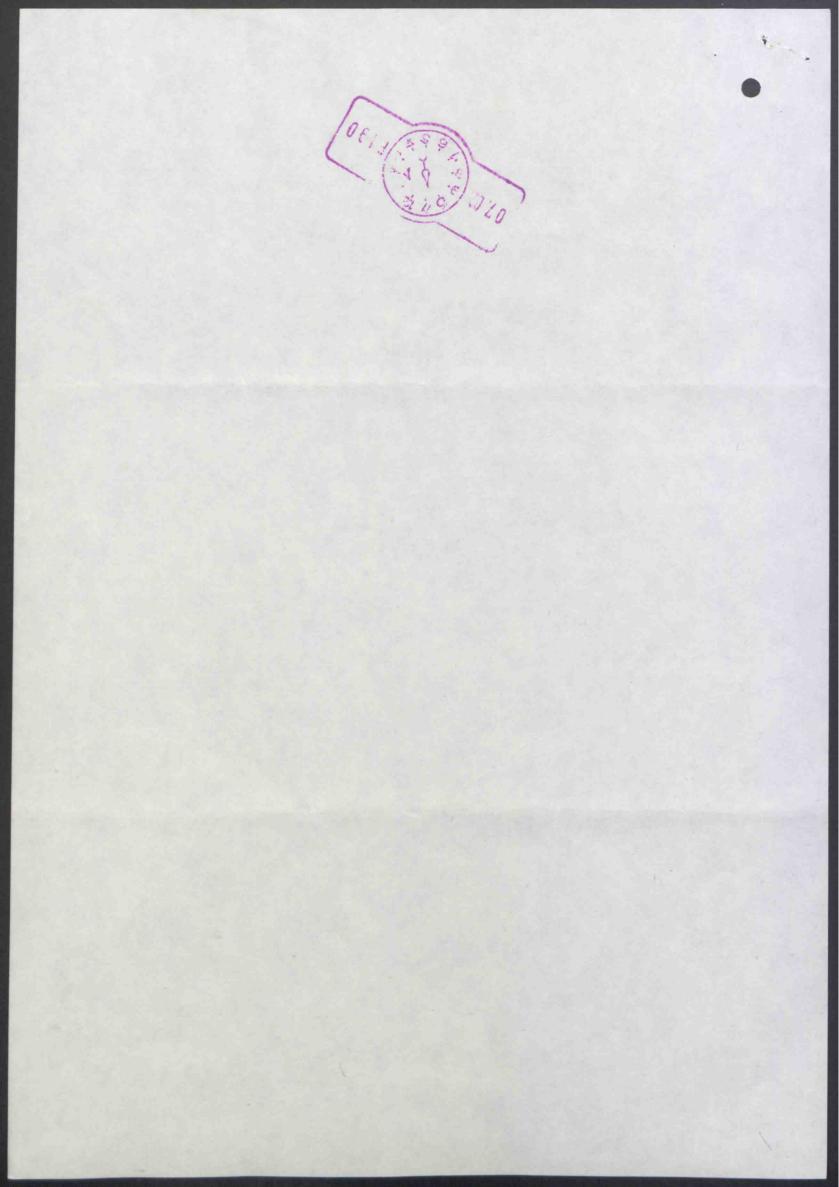
Most of my career has been associated with the British nuclear deterrent, and since 1963 I have personally been involved in exchange meetings and co-operative working with American colleagues under the aegis of the 1958 Agreement, the Polaris (and Trident) Sales Agreement and now finally the 1985 SDI MOU. I have witnessed the benefit to both countries of these co-operative agreements and enjoyed the friendships which have been forged and withstood the test of time.

With regard to SDI, America has indeed been fortunate to have had men of the calibre of Lt Generals Abrahamson and Monahan to head such a complex programme. Both have worked assiduously to supplement US capabilities with the best of Allied technology, and together with my staff in London, Washington and Los Angeles I have been privileged to assist them.

I now intend to emigrate to your side of the Atlantic to join my American son, daughter-in-law and granddaughter who live in the Washington area, and hope from there to continue to be able to assist American and European industry to work more closely together in the future.

Thank you once again for the honour I feel you have bestowed upon me by your letter.

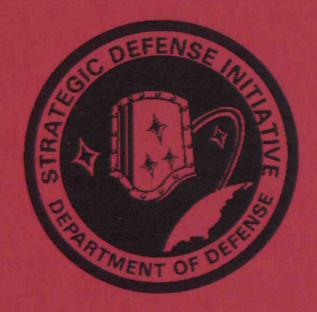
ows most sincerely,
Study Fram.



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STRATEGIC DEFENSE SYSTEM (U)

Briefing For The Prime Minister



30 JAN 90

Lt Gen George L. Monahan
Director
Strategic Defense Initiative Organization

Classified by: SDIO Al 5230, dtd Jan '88

Declassify on: OADR

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STRATEGIC DEFENSE SYSTEM (U)

Briefing For The Prime Minister



30 JAN 90

Lt Gen George L. Monahan
Director
Strategic Defense Initiative Organization

Classified by: SDIO AI 5230, dtd Jan '88

Declassify on: OADR

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jm-5490 / 012590



UNCLASSIFIED

OVERVIEW



- Strategic Review
- Program Direction
- Technical Progress
- Summary

UNCLASSIFIED



NATIONAL SECURITY REVIEW

President Bush, Upon Entering Office, Directed A Comprehensive Review Of US National Security Strategy

Findings

- The Goals Of SDI Remain Sound . . . In Pursuing SDI We Do Not Seek Superiority, But To Maintain The Strategic Balance And Place Deterrence On A More Stable Basis
- A Robust SDI Program Provides Hedge Against Any Soviet Decision To Expand Its ABM System Beyond That Allowed By The ABM Treaty
- Fiscal Constraints Required a Reduction In The Budget Request For Fiscal Year 1990 And Later Years



OVERVIEW

- Strategic Review
- Program Direction
- Technical Progress
- Summary



CONDUCT OF THE SDI PROGRAM (U)

National Security Directive 14 -- June 14, 1989

- Permit The President To Make Deployment Decision Within 4 Years
- Allocate Resources Toward Options For Layered Defenses, Composed Of Ground- And Space-based Elements Which Offer The Promise Of Meeting Joint Chiefs Of Staff Phase I Requirements
- Not Less Than \$33 Billion Over The Next Five Years
- Investigate Promising Concepts In Boost Phase Defenses, Such As Brilliant Pebbles, Limited By The Pace Of Technical Progress Rather Than By Funding
- Try To Maintain Layered Defense On Schedule
- Comply With ABM Treaty



TOP TECHNICAL RISK & COST REDUCTION EFFORTS

Technical Risk

- Phenomenology And Targets Discrimination And Backgrounds
- Communications Operate Thru Nuclear Environment
- Radiation Hardening Focal Plane Arrays / Signal Data Processors / Optics
- Space Power Reduce Size / Survivable
- Survivability Hardened Components / Architecture
- System Integration Sensor To Weapon Handover / System Level Command And Control

Cost Reduction

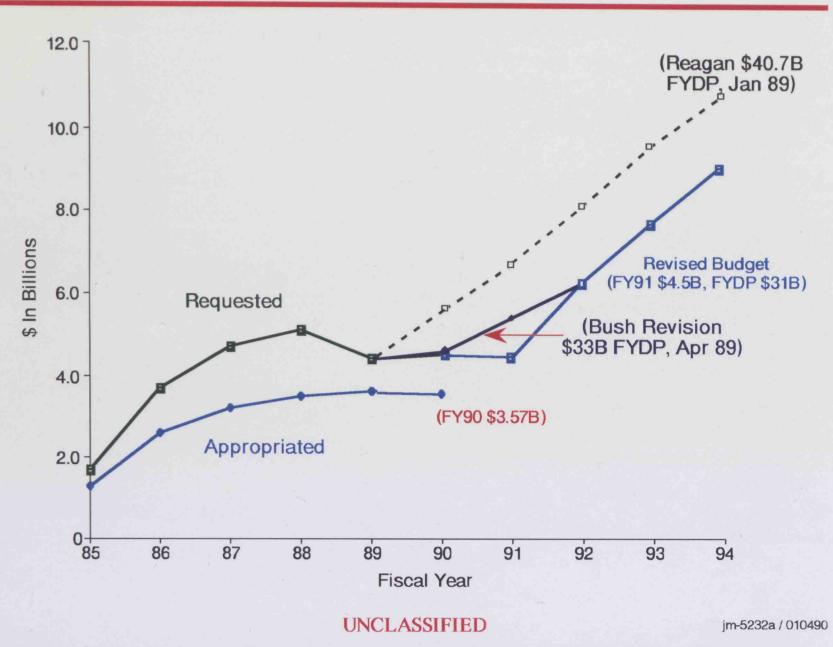
- · Optics Be / Glass Mirrors / Production Process Enhancements
- Focal Plane Arrays Increased Yield / Process Controls
- Signal Processors Increased Yield / Qualified Manufacturing Lines
- Space Power Automated Manufacturing Of Solar Cells
- Architecture Alternative Space-based Architectures
- · Materials & Structures Lightweight, Durable, High Strength
- Launch Efficient Means Of Deployment

UNCLASSIFIED

jm-1588 / 012690



PROGRAM BUDGET







SDIO BUDGET STATUS

As Of: 6 Nov 89

Category	Budget Request		House	SASC	Senate	Conference Committee
SDIO RDT&E	4.6B	3.5B	2.8B	4.3B	4.3B	3.57B
DOE RDT&E	266.0M	250.7M	200.0M	200.0M	200.0M	220.0M
SDIO MILCON Nellis	6.5M	6.5M	6.5M	6.5M	6.5M	6.5M
Minor Construction / Design	4.0M	4.0M	4.0M	4.0M	4.0M	4.0M
NTF	-0-	-0-	-0-	23.0M	23.0M	-0-

FY 90 Appropriations

Category SDIO RDT&E	Budget Request 4.6B		House 2.8B	SAC 3.7B	Senate 4.3B	Conference Committee
DOE RDT&E	266.0M	240.0M	240.0M	200.0M	200.0M	220.0M
SDIO MILCON Nellis	6.5M	6.5M	6.5M	6.5M	6.5M	6.5M
Minor Construction / Design	4.0M	4.0M	4.0M	4.0M	4.0M	4.0M
NTF	-0-	-0-	-0-	23.0M	23.0M	-0-

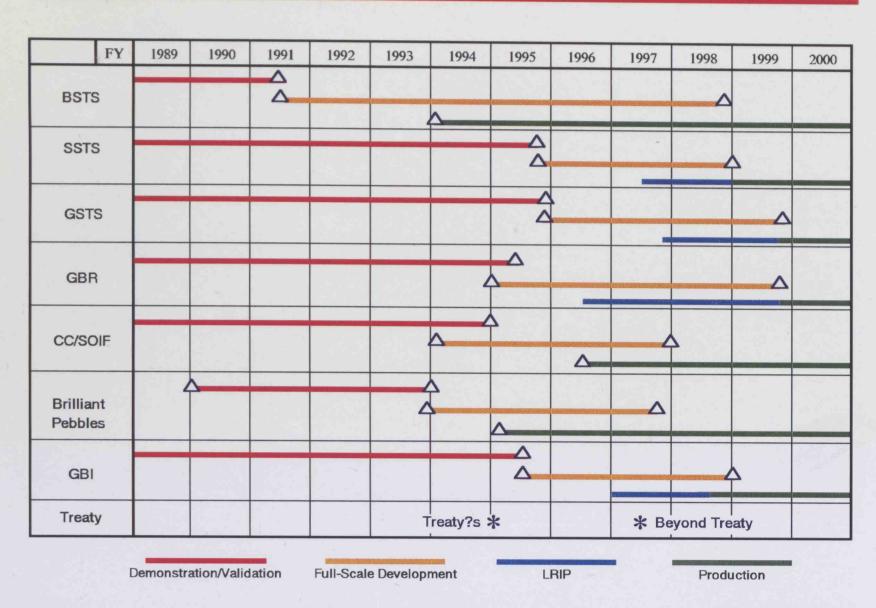
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jm-3385 / 110689



SDS PROGRAM (U)

FY 90 PMA (3.57B) FY 91 - 94 FYDP





THE PATH TO "THOROUGHLY RELIABLE" DEFENSES

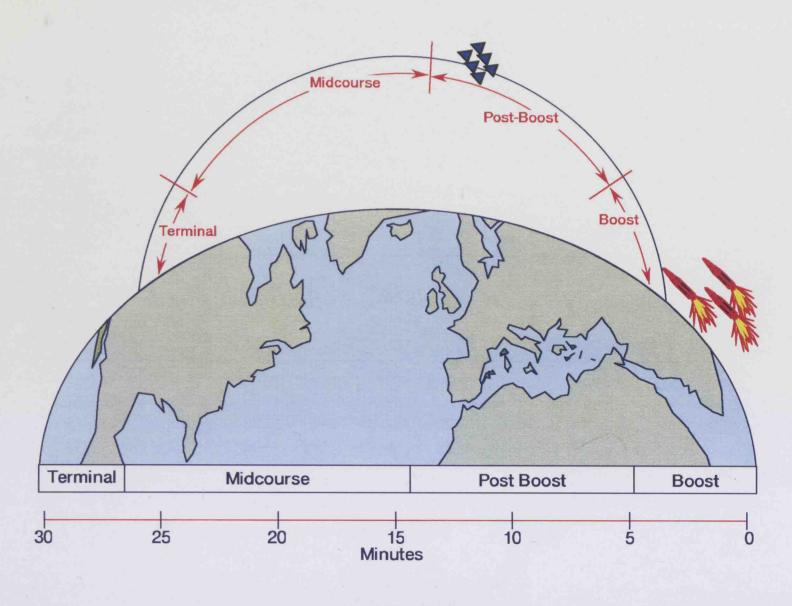
JCS Phase One Mission Requirement • (S) 50% Kill Of All SS-18 Class RVs In The **Advanced Directed** First Wave Of A First Strike, And 30% Of **Energy Weapons** All Other RVs In The First Wave Phase III **Directed Energy Systems** CAPABILITY Phase II Sensors And Kinetic Energy Interceptors Phase I Development & Deployment Decision TIME

SECRET



9

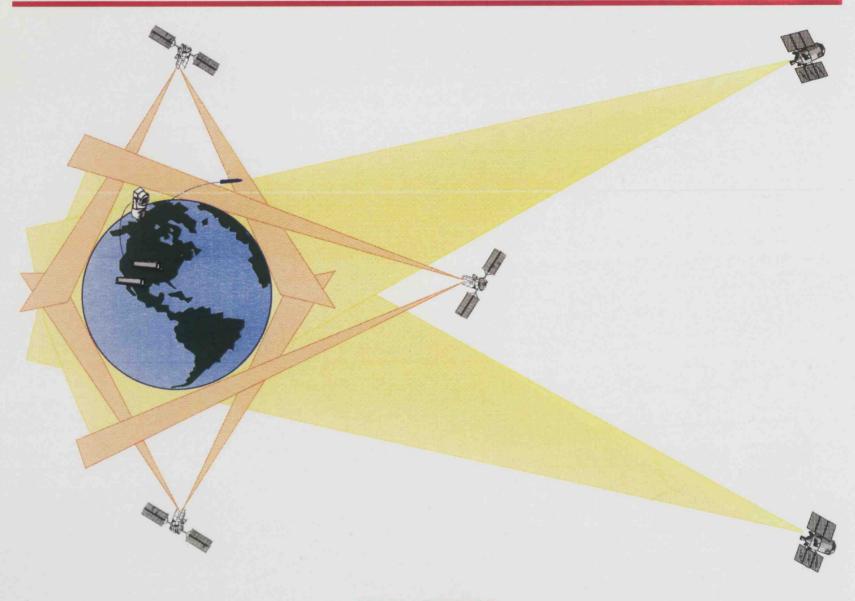
BALLISTIC MISSILE TIMELINE





PHASE ONE ARCHITECTURE NOTIONAL COVERAGE





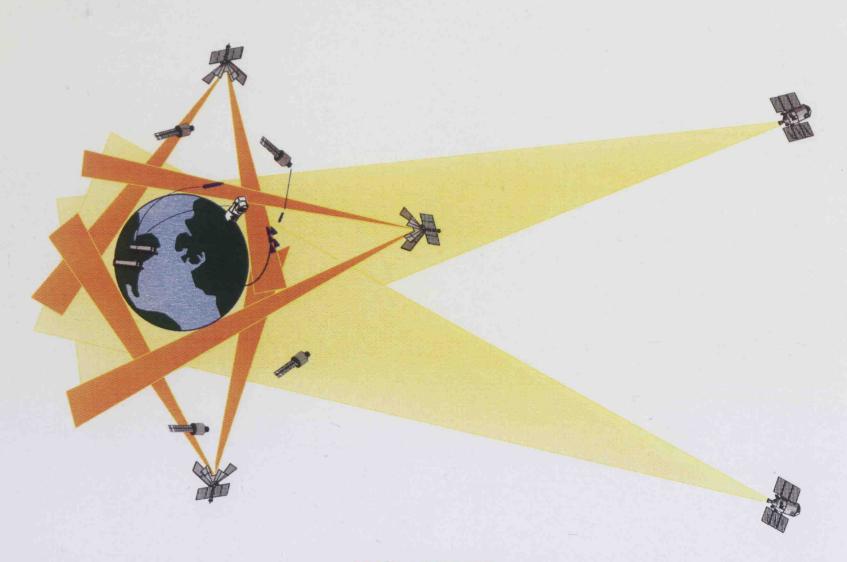
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jm-0916c / 012590



PHASE ONE ARCHITECTURE NOTIONAL COVERAGE



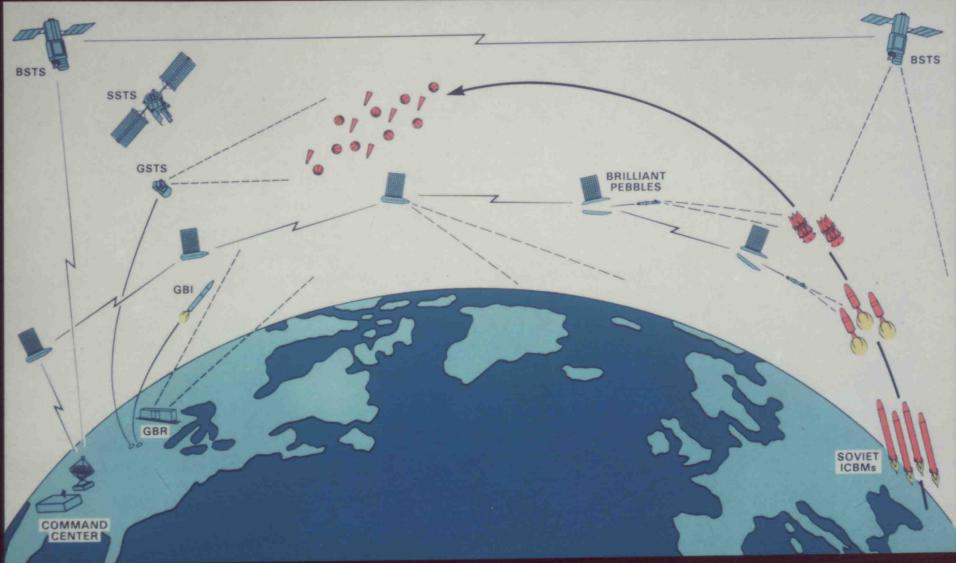


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SDS PLANNED ARCHITECTURE

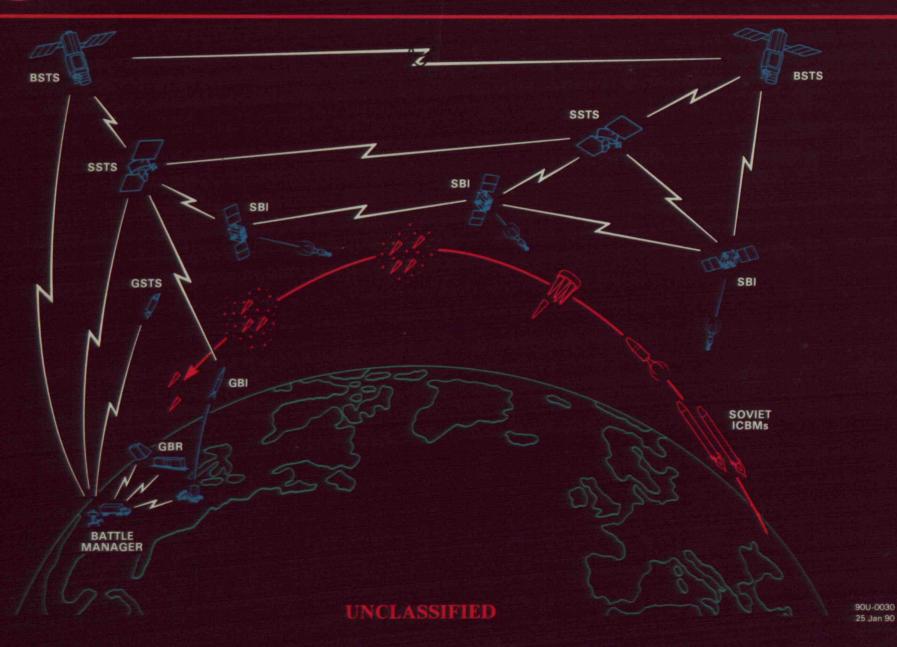


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90U-0023A 25 Jan 90



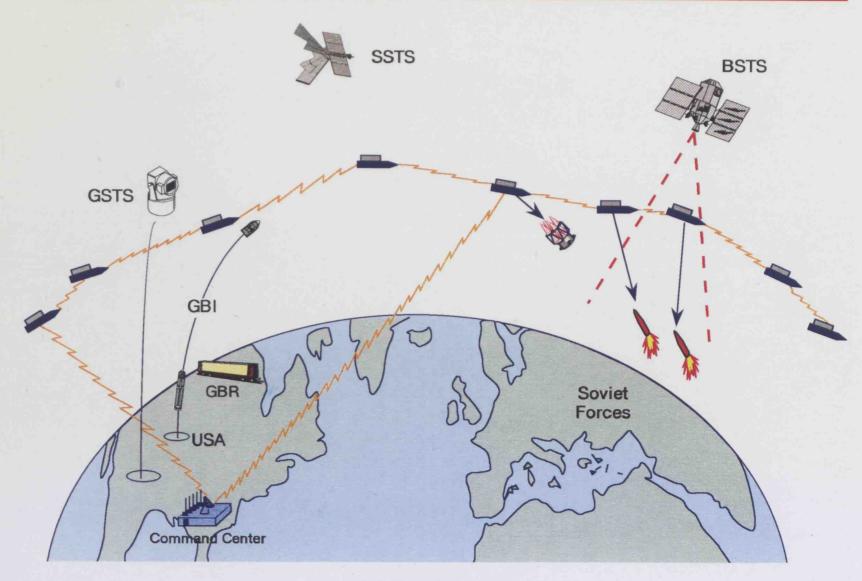
SDS ARCHITECTURE 1988 BASELINE





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SDS PHASE ONE ARCHITECTURE

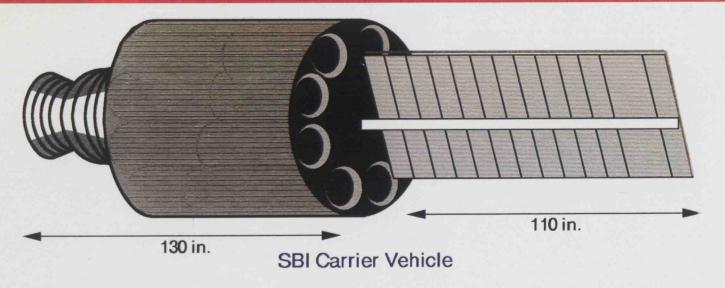


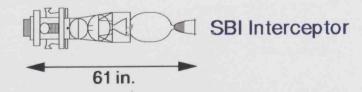
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CONFIDENTIAL

COMPARISON SBI & BRILLIANT PEBBLES (U)







jm-0835 / 110689



SDS PHASE ONE COSTS

(FY 88 \$ In Billions)

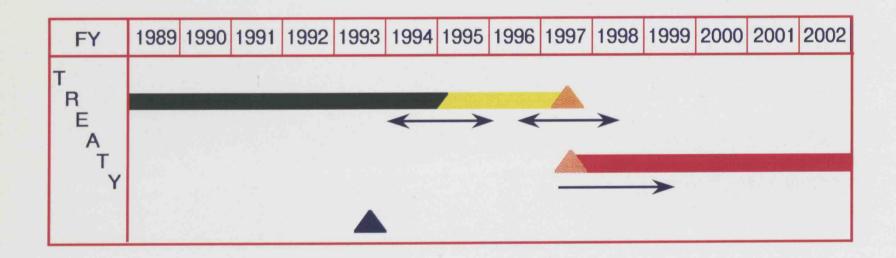
Element	DAB 88 Acquisition	Acquisition With Brilliant Pebbles	
Boost Surveillance & Tracking System	8.0	8.0	
Space Surveillance & Tracking System	9.2	5.0	
Space-based Interceptor	17.7		
Brilliant Pebbles		12.0	
Ground-based Surveillance & Tracking System	m 3.3	3.8	
Ground-based Interceptor	5.8	5.8	
Command Center	7.3	7.3	
Ground-based Radar	3.1	3.1	
System Engineering & Integration	6.1	5.0	
LAUNCH	8.6	5.3	
TOTAL	69.1	55.3	

UNCLASSIFIED

jm-5503 / 011990



ABM TREATY CONSTRAINTS (U)



Legend



- NSD 14 Decision



- Deployment

Testing

- Can Accommodate Narrow Interpretation

Testing

 Will Exceed Narrow Interpretation

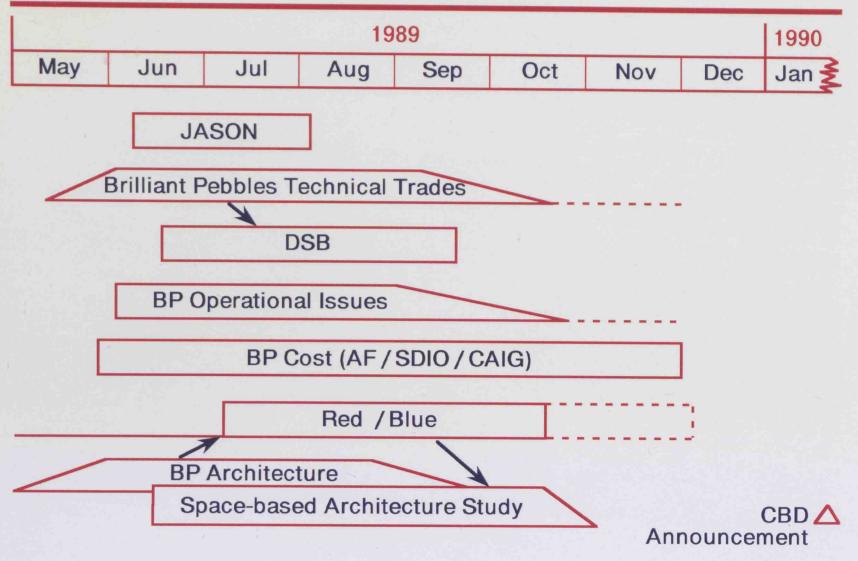
- Broad Interpretation Should Be Adequate

Deployment

- Exceeds Treaty Limits



BRILLIANT PEBBLES REVIEW SUMMARY



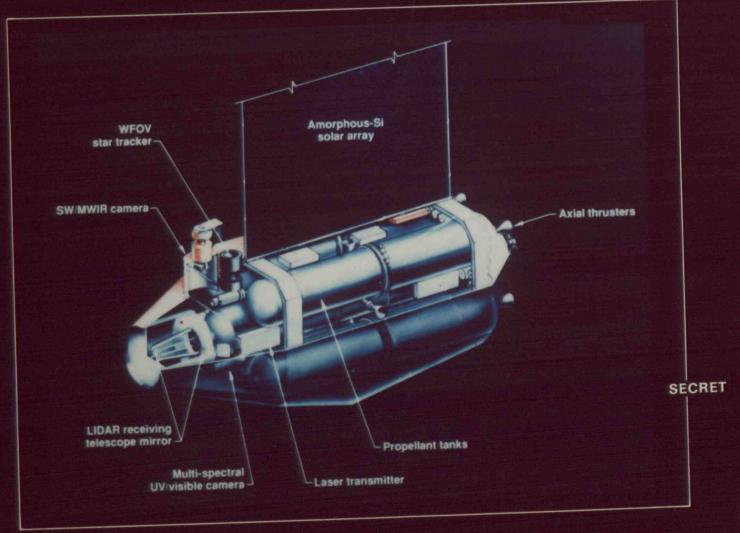
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jm-2749b / 012490





BRILLIANT PEBBLES (U)

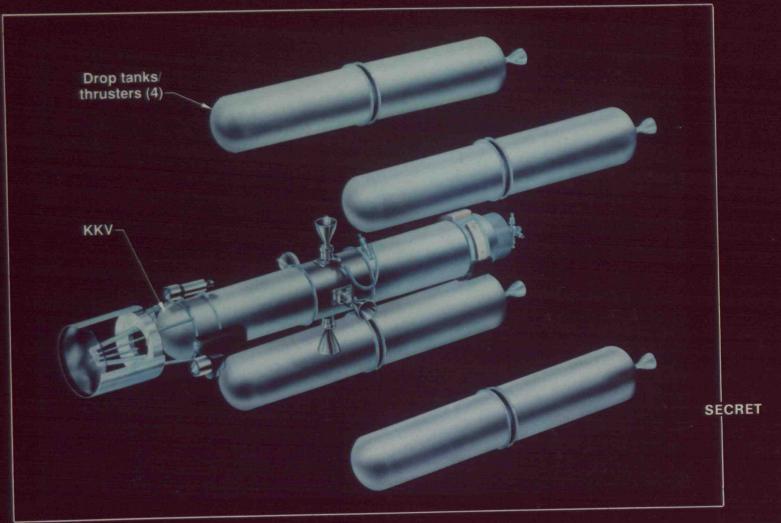


Classified by: SDIO, SCG (1/88) Declassify on: OADR SECRET

89C-0332 20 Nov 89



BRILLIANT PEBBLES INTERCEPTOR AND DROP TANKS (U)



Classified by: SDIO, SCG (1/88) Declassify on: OADR SECRET

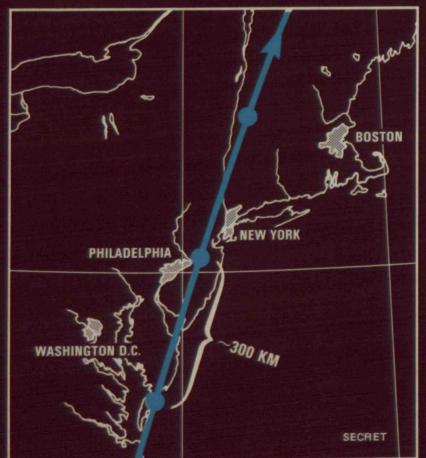
89C-0333 20 Nov 89



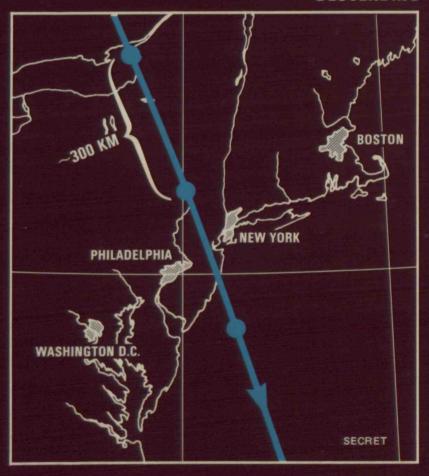
BRILLIANT PEBBLES NOTIONAL SPACING (U)

• INCLINATION = 75°

ASCENDING

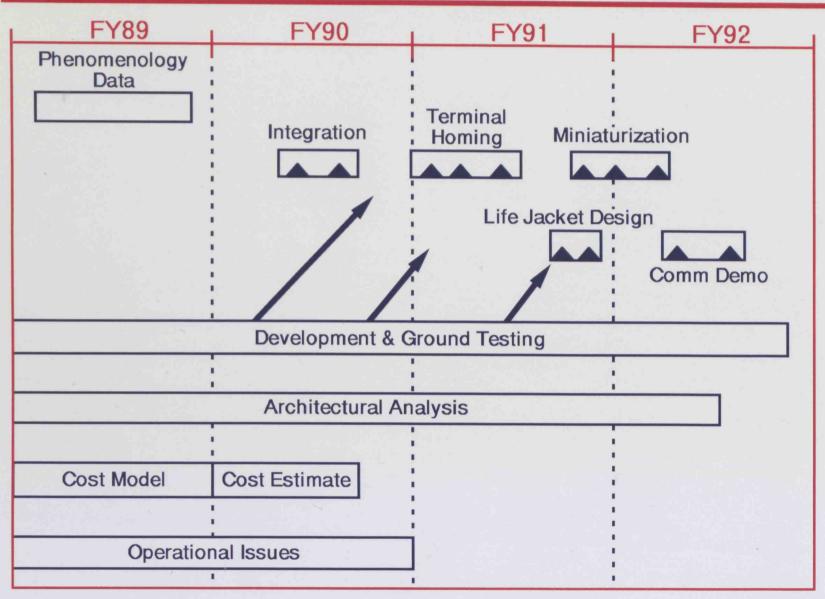


DESCENDING





BRILLIANT PEBBLES NOTIONAL TEST PROGRAM





BRILLIANT PEBBLES TEST COMPONENTS (U)



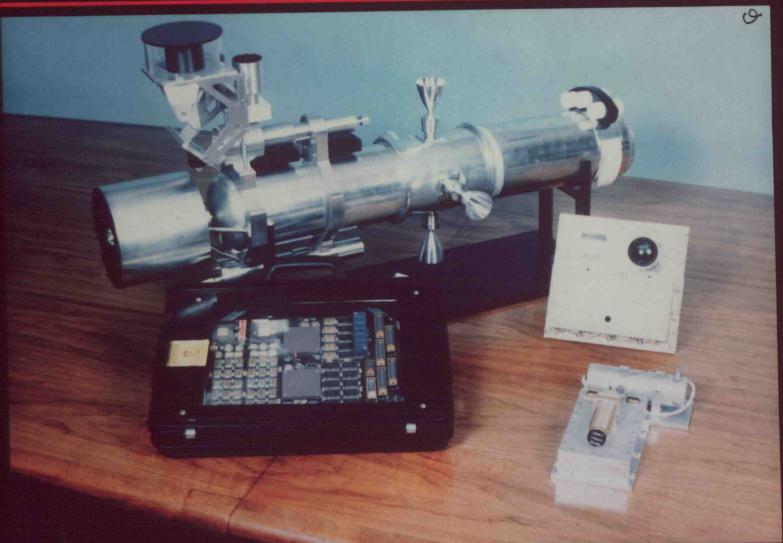
Classified by SDIO SCG (1/88) Declassify on OADR SECRET

SECRET

90C-0016 23 Jan 90



BRILLIANT PEBBLES TEST COMPONENTS (U)



Classified by SDIO, SCG (1/88)
Declassify on: OADR

SECRET

SECRET

90C-0015 23 Jan 90



BRILLIANT PEBBLES TEST COMPONENTS (U)



Classified by SDIO, SCG (1/88) Declassify on OADR

SECRET

SECRET 90C-0017



OVERVIEW

- Strategic Review
- Program Direction
- Technical Progress
 - Summary



MAJOR TECHNICAL ACCOMPLISHMENTS

Brilliant Pebbles

							Brilliant Pebbles First Intercept
							Brilliant Pebbles Orbital Component Test
		System Inte	gration				STARLAB
Phenomenology And Targets							Liquid Plume Experiment
						Brilliant Pebble Flight Test	AOA / AST Flight Test
		Space Power	Laser Atmospheric Compensation Measurements	Infrared Background Signature Survey			
Follow-on Systems						NPB Background Measurements	CIRRIS 1A
		Focal Plane Arrays 1st Space Test Of Neutral Partical Beam				Laser Space Relay	LEAP Flight Test (Endo)
		Survivability			Full Duration Flight Test Of SBI In Hover Test	Collection Of Ultraviolet Plume Data	LEAP Flight Test (Exo)
					1st Firing High Power Alpha Laser	Collect Laser Radar Signatures	Firebird Decoy Deployment
					12 Month Collection VIS / UV Signature Data	BSTS Ground Demonstration	Bow Shock Ultraviolet
					SBI Flight Demo Plume-to-hardbody Handover	High Voltage Space Power	Arrow Flight Test
					1st High Resolution Imagery Of PBV Operations	Nuclear Survivability & Hardening Of Components	ERINT Flight Test
	Laser Destroys Ballistic Missile Booster Case	1st Large Bore Electro-magnetic Rail Gun Demonstration	Aerothermal Demise Of RV	Space Test Of Discrimination Of RV / Decoys & Boosters	Increased Power Demo Of EML Gun	Atmospheric Response Of Nuclear Background	NPB GTA 24 Mev
	Target Intercept In The Atmosphere	Earth Limb Measurements During Aurora	Intercept Tactical Missile Within Atmosphere	High Voltage Components In Space Environment	6 Month Collection Of Booster / Target / Background Data	1st Flight Test Of GBI	Project Cardinal II
Midcourse Intercept (Hit A Bullet With A Bullet)	Atmospherically Corrected Laser Tracks Booster	High Speed Space Intercept Of Thrusting Target	Orbital Data Of Earth Limb In Ultraviolet	1st Flight Queen Match	Low Cost / High Yield Prod Demo LWIR Focal Plane Array Elements	1st Flight Test Of HEDI	KEW Hardware-in-the-Loop Simulator
FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91





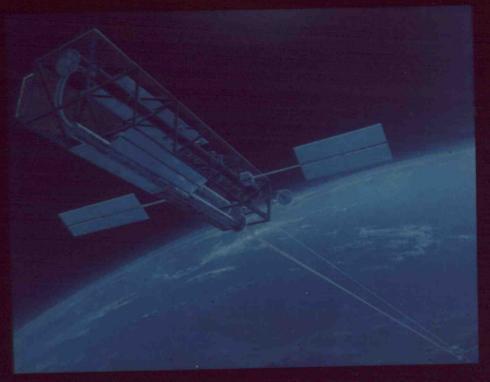
BEAR-NEUTRAL PARTICLE BEAM

BEAR EXPERIMENT



- SUCCESSFUL OPERATION OF PARTICLE
 ACCELERATOR IN SPACE ON 13 JUL 89
- FIRST OPERATION OF A DIRECTED ENERGY SYSTEM IN SPACE

CONCEPT

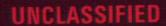


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BEAR PAYLOAD



89U-1007 19 Oct 89

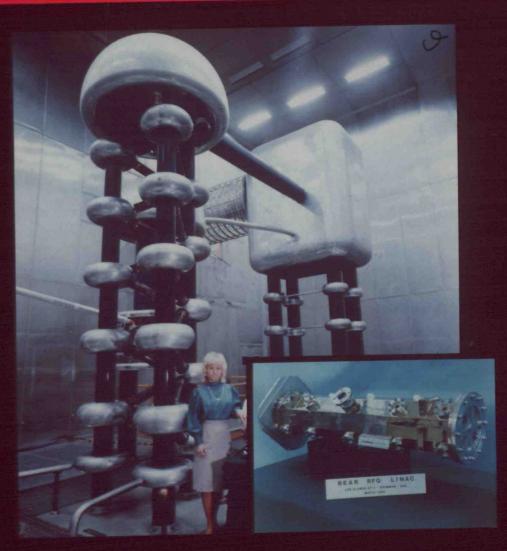




LOW ENERGY ACCELERATION TECHNOLOGY

LOW ENERGY ACCELERATION TECHNOLOGY HAS BEEN DEMONSTRATED

A SOVIET INVENTION IN 1969 CALLED
 THE RADIO FREQUENCY QUADRUPOLE,
 OR "RFQ", REPLACES A THREE-STORY
 BUILDING WITH A TABLE TOP APPARATUS

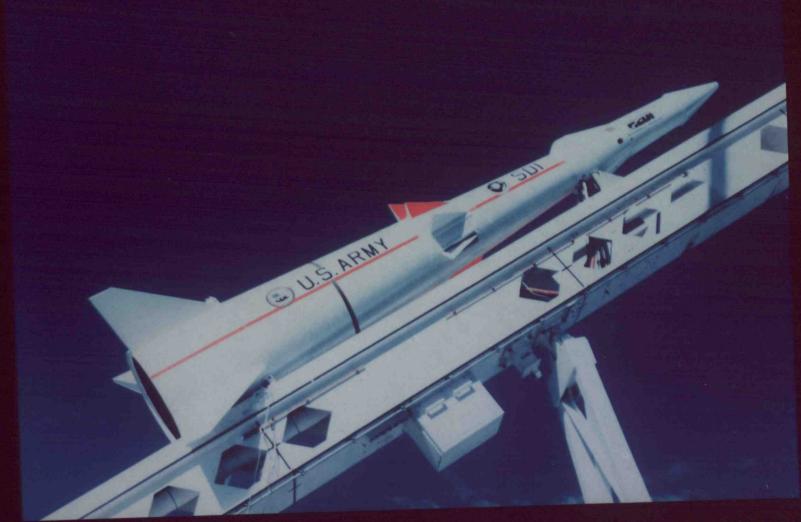


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89U-1013

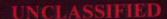


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89U-0961

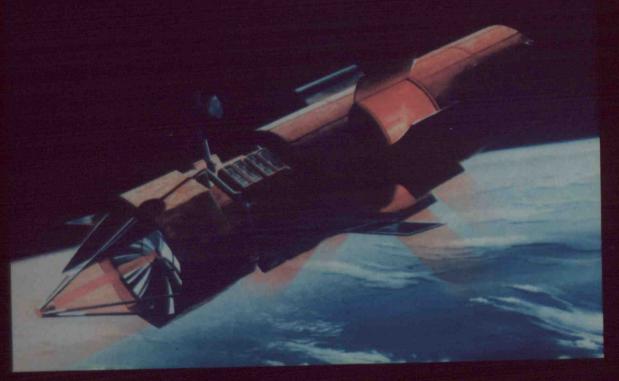




ZENITH-STAR

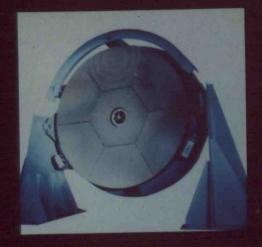
- FIRST GROUND TEST OF ALPHA LASER DEVICE—APRIL 1989
- ZENITH STAR SPACE TEST—LATE 1990s

CONCEPT

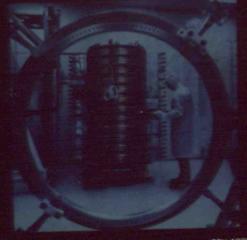


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LAMP MIRROR



ALPHA LASER ELEMENT

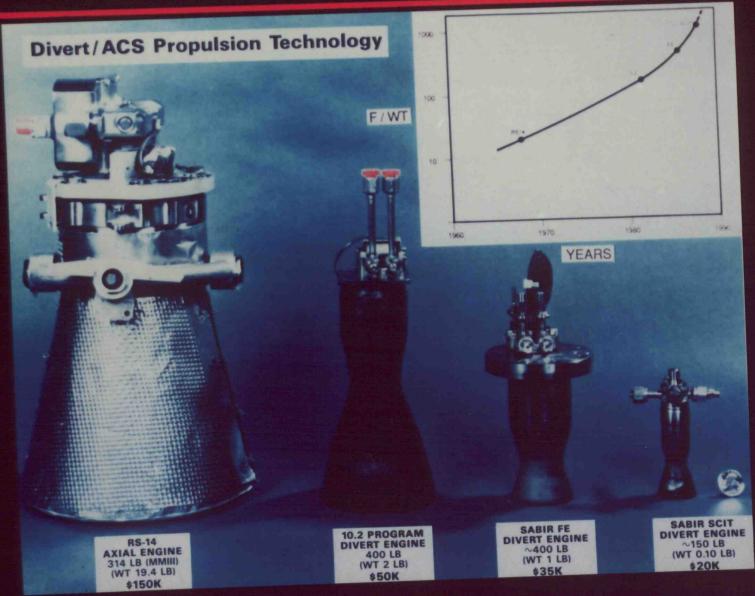


89U-1008

SE STATE OF STATE OF

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DIVERT/ACS PROPULSION TECHNOLOGY

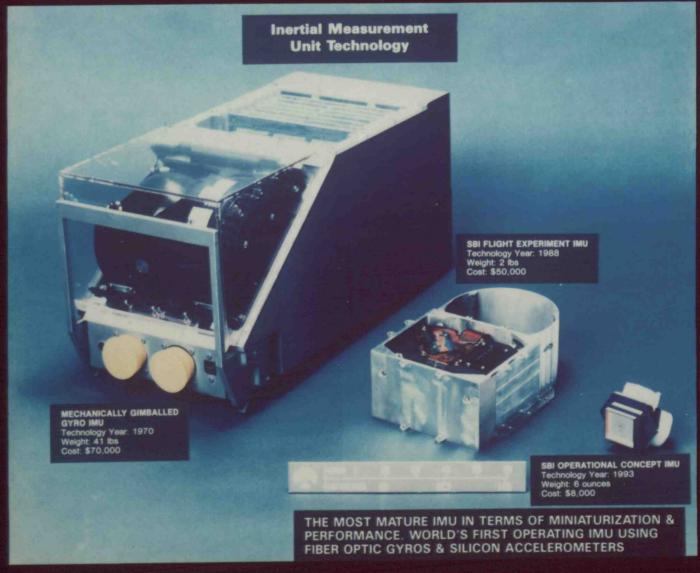


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88U-3895 23 Dec 88



INERTIAL MEASUREMENT UNIT TECHNOLOGY



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88U-3894 23 Dec 88



TECHNOLOGY INTEGRATION



INFRARED SENSOR



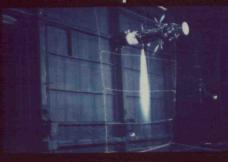
DIVERT AND ATTITUDE CONTROL SYSTEM



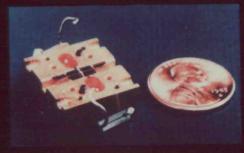
KKV STRUCTURE



IMAGE PROCESSOR



ON-TARGET



60 GHz COMMUNICATIONS







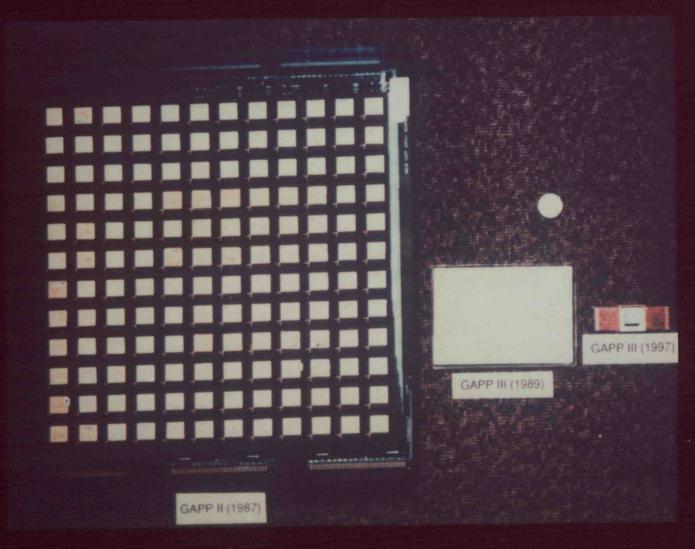
INERTIAL MEASUREMENT UNIT

UNCLASSIFIED

90U-0025 25 Jan 90



PARALLEL PROCESSING TECHNOLOGY



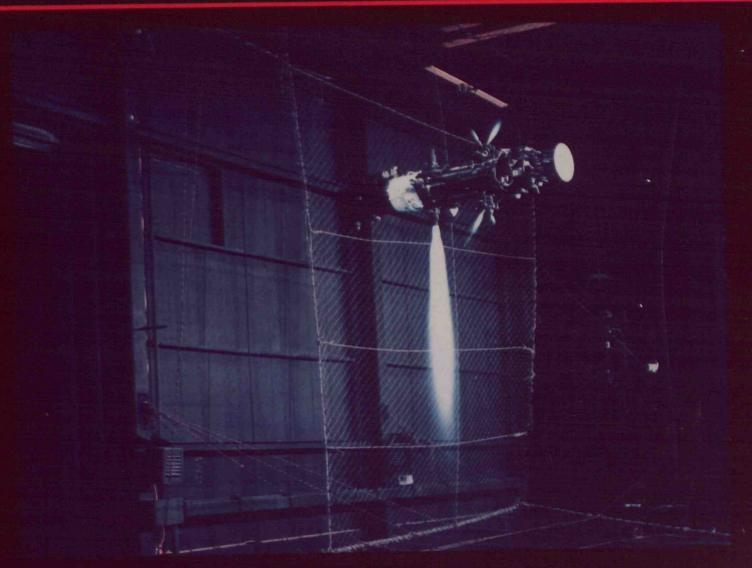
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89U-0780/1 25 Jan 90





ON TARGET FREE FLIGHT

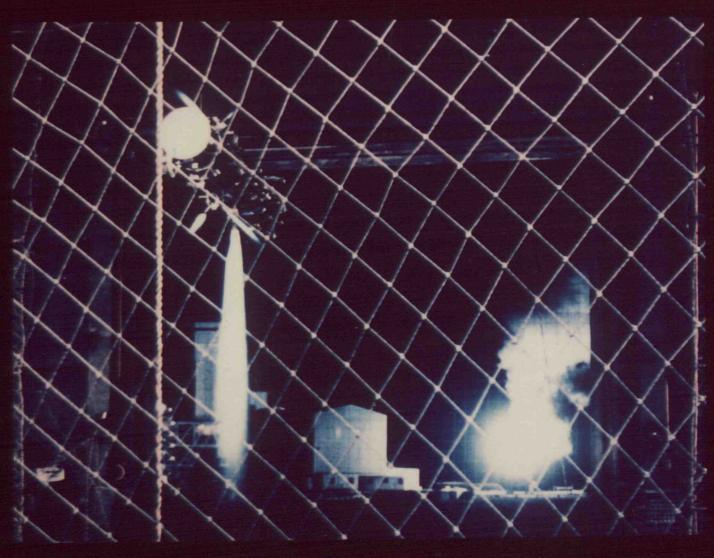


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89U-0953 7 Sep 89



SBI SENSOR TEST ON FLIGHT TEST VEHICLE



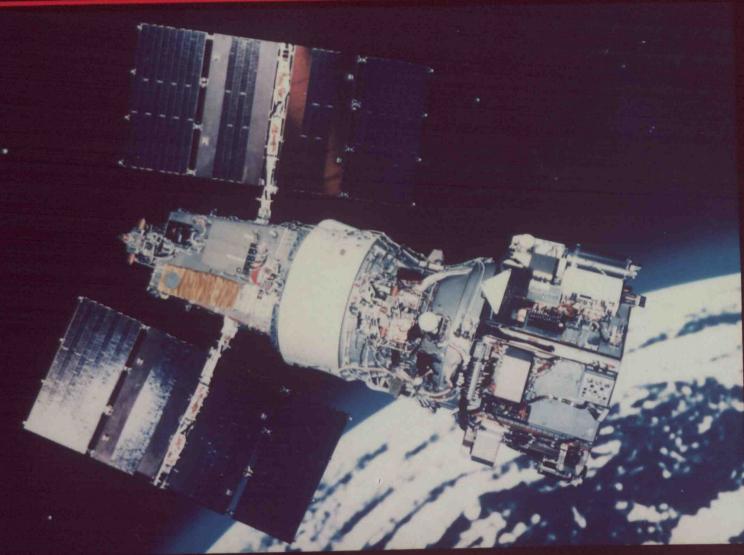
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89U-0909 7 Aug 89



UNCLASSIFIED

DELTA STAR SPACECRAFT



UNCLASSIFIED

89U-0924 25 Aug 89



DELTA STAR (U)

Test Results – Successful Infrared, Visible, And Ultraviolet Collections Of Natural Background, Chemical Releases, And Both Foreign & U.S. Vehicles

- · Six Months Of On-Orbit Operations
- 4500 Reels Of Magnetic Tape
- Natural Background 35 Earth Background Observations
 - Site Surveys Of Tyuratam
 - Earth Limb And Aurora
 - Lunar Eclipse: Imaged Earth Atmosphere Projected On Moon
- 32 Space Objects & Launch Observations
 - Soviet MIR Space Station, SL12, SL4
 - Afterburning Aircraft (Tornados)
- · Ten Cooperative Laser Tests
 - Laser Transponder
 - Laser Attack Warning
 - High Energy (MIRCL)
- Six Specific Atmospheric Observations
 - Rocket Fuel Chemical Releases
 - 4 Wallops Island, Virginia
 - 2 Poker Flats, Alaska





NATIONAL TEST BED

- PROVIDES CAPABILITY TO DEVELOP, TEST AND VERIFY STRATEGIC DEFENSE SYSTEM CONCEPTS
- TIED TO NATIONWIDE NETWORK OF TEST RANGES, MILITARY ORGANIZATIONS, LABORATORIES AND INDUSTRIAL CENTERS



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ADVANCED BAFFLE MATERIALS TECHNOLOGY SPINOFF

- SDIO TECHNOLOGY PROGRAM TO DEVELOP CERAMIC-COATED, HIGH-SURFACE-AREA OPTICAL BAFFLE MATERIALS
- IMPROVED HEART PACEMAKER ELECTRODES
 - -HIGH SURFACE AREA
 - —BETTER TISSUE ATTACHMENT
 - -LOWER CONTACT RESISTANCE



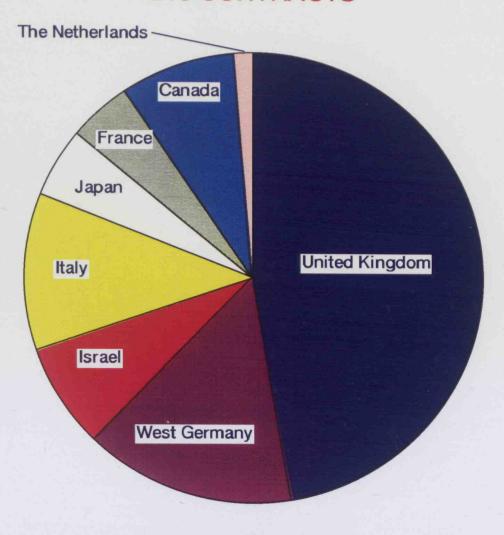


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ALLIED PARTICIPATION

218 CONTRACTS



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UK TEST BED OBJECTIVES



- Provide Direct Experimentation Linkage With The NTB As Required For SDS Evaluation
- Augment The UK Air Defense Test Bed Into A Flexible, Cost-effective, Computer Based Analysis Center
 - Evaluation Of Theater Level System Requirements, Architectures And Defense Concepts
 - Analysis Of Mixes And Interactions Of Various Weapon Systems In National And Multinational Contexts
 - Development And Evaluation Of Doctrine And Battle Planning
 - Integration And Resolution Of Critical System Issues
- Build Theater Unique Software To Augment EADTB Supplied Common TMD Software



UK TEST BED STATUS



- Concept Definition Study Complete
- Integrated Modeling Support Environment (IMSE)
 - Requirements Report Completed
 - Decision Made On Tools
- Joint US / UK EADTB Integration Meeting
 - Ensure Fully Coordinated Effort Toward Common Goals
- Evaluation Initiated On Extended Air Defense Simulation Software Package
- Hardware Installed And Operational
 - Convex C220



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OVERVIEW

- Strategic Review
- Program Direction
- Technical Progress



Summary

SUMMARY

- Technology Is At Hand To Develop And Deploy A Strategic Defense System
 - Supported By Many Independent Evaluations By The Scientific Community
 - Engineering Task Is Formidable
- · Issues Are Political, Economic, And Strategic
 - Treaty Questions Demand Consideration

10 DOWNING STREET LONDON SWIA 2AA From the Private Secretary 30 January 1990 PRIME MINISTER'S MEETING WITH GENERAL MONAHAN The Prime Minister had a talk this morning with Lieutenant General George Monahan, Director of the Strategic Defence Initiative Organisation. The American Ambassador was also present. The main purpose of the meeting was to brief the Prime Minister on progress with the project. This he did with the aid of the enclosed briefing book (which has the advantage of making it largely unnecessary for me to produce a full record). His presentation centred in particular on the Brilliant Pebbles concept, which he explained in considerable detail. The Prime Minister expressed her strong support for continuing the SDI programme. She enquired about the position over compliance with the narrow interpretation of the ABM Treaty. General Monahan said that the current programme could go ahead until 1994-5 without flouting the narrow interpretation, but thereafter there would be serious problems. He explained that the next major political debate on SDI would probably occur in 1992, when the President would have to request funds from Congress for full development. In answer to a question from the Prime Minister, General Monahan said that Soviet work on SDI-type systems was continuing. But they had lagged well behind the United States in miniaturisation of the components of an SDI system. The Prime Minister said that she would very much like to meet some of the young scientists and engineers working on the SDI programme. If she were to take up an invitation to address the Aspen Institute in Colorado in early August, there might be an opportunity to do so. General Monahan said that he would be very happy to arrange a visit then, which might take in the National Test Bed in Colorado Springs and the Los Alamos Laboratory in New Mexico. It was agreed that we would let General Monahan know if the Prime Minister wished to pursue this further. I am copying this letter (but not enclosure) to Stephen Wall (Foreign and Commonwealth Office) and to Sonia Phippard (Cabinet Office). C. D. POWELL Simon Webb, Esq., Ministry of Defence. SECRET

200

PRIME MINISTER

MEETING WITH GENERAL MONAHAN

You are seeing General Monahan on Tuesday: he succeeded General Abrahamson as Director of the SDI programme, and came with the latter to your last meeting in January 1989. General Monahan will brief you on progress with the SDI programme since then.

Much of the fanfare and ballyhoo which accompanied SDI under the Reagan Administration has disappeared. It is something of a relief to find that solid work goes on. Although requests for funding have been cut back, the funding has risen steadily since 1985 with only a small cutback this year. The current intention is to move to full development of a sensor satellite system in 1991, with a decision to go to full development of a Phase I SDI system in 1993 (ie after the next Presidential election).

On the technical front, the main development has been the firm decision to go for Brilliant Pebbles (with 4-5000 autonomous interceptors in low earth orbit) rather than the larger and heavier Space-based interceptors previously planned. The purpose would be to blanket any attack with a fusillade of small interceptors - with ground-based interceptors to catch those that get through. Ministry of Defence experts assess that a system based on Brilliant Pebbles is now technically possible. More generally, our experts have been favourably impressed by the prototype equipment now coming forward.

On the <u>political</u> front, the Administration continues to keep tests within the narrow definition of the ABM Treaty. But a decision to deploy a full system based on Brilliant Pebbles would necessitate abrogation of the Treaty.

Our performance in winning SDI contracts remains very modest: about \$100 million to date (this does not exactly match the predictions of the last Defence Secretary but one). But we have benefited considerably from technical information exchange.

h

You will want to ask for General Monahan's assessment of the state of <u>Soviet work</u> on SDI.

Some fuller notes by the Ministry of Defence are in the folder.

CDS

C. D. POWELL

26 January 1990

C:\FOREIGN\MONAHAN.DAS

Covering SECRET UK EYES A



MO 30/1S

MINISTRY OF DEFENCE MAIN BUILDING WHITEHALL LONDON SW1A 2HB

Telephone 01-218 2111/3

26 January 1990

Dear Charles

Thank you for your letter of 18th January about the call on the Prime Minister by General Monahan. I am enclosing a brief.

Since the Prime Minister will be seeing him alone we should be grateful, as ever, for your full record.

Lun or ceily

strol

A copy of this letter goes to Richard Gozney (FCO).

Somi hos

(S WEBB) Private Secretary

SDI PROGRAMME STATUS

Background

Phase 1 SDS

- 1. The Prime Minister is aware of the background to SDI and the progress that has been made in the technical areas in the past six years. MOD officials who have recently had the opportunity to visit some of the prime contractors working in the various areas have been highly impressed with the prototype equipment which is now becoming available for evaluation. Concepts which appeared to be purely speculative at the start of the programme are now being realised in terms of research hardware and there is little doubt that the ability is being developed to meet the US Joint Chiefs of Staff (JCS) requirements for the performance of a Phase 1 system. These criteria are:
 - a. it should meet the Congressional requirement for man-in-the-loop control;
 - b. there should be a high degree of effectiveness against limited scope attacks;
 - c. against a full-scale attack (at pre-START levels of offensive weapons), the system should be capable of destroying 50% of the first wave of SS18s and 30% of other systems;

- d. the overall aim should be to enhance deterrence by ensuring that the structure of a full-scale attack could be disrupted.
- 2. At the time of General Abrahamson's last visit (January 1989) the major elements of the Phase 1 architecture were:

BSTS	Boost	Surveillance	and	Tracking	System

SSTS - Space Surveillance and Tracking System

GSTS - Ground-Based Surveillance and Tracking System

GBR - Ground-Based Radar (Pending)

CC - Command Center

GBI - Ground-Based Interceptor

SBI - Space-Based Interceptor

These are shown in Chart 1

3. In October 1988 revisions were made to the planned architecture for Phase 1 SDS; this involved reducing the number of space-based interceptor (SBI) carrier vehicles (each containing about 10 interceptors) from some 300 to around 150, whilst at the same time increasing the numbers of ground-based interceptors. This reduced the estimated total cost from \$115B to \$69B.

Brilliant Pebbles

- 4. During discussions with UK officials last week, General Monahan (Abrahamson's successor) revealed that the decision has now been taken to replace the SBI with Brilliant Pebbles. (See Charts 2 and 3). This seems likely to have significant political effects going beyond the ABM Treaty implications since the architecture calls for some 4000-5000 autonomous interceptors in low earth orbit. As with SDI, full development of Brilliant Pebbles will certainly necessitate either re-negotiation or abrogation of the ABM Treaty. Among the many reasons for this recent decision to modify the architecture are:
 - a. The estimated cost of the system will be decreased by a further \$14B because of the comparative simplicity of the pebbles and the ease with which they may be launched.
 - b. The recognition by the US that discrimination between warheads and sophisticated decoys during the mid-course phase will be much more difficult than they first envisaged. (Interaction with the UK through architecture studies and through US/UK research exchange groups (SCORE) has contributed significantly to this increased realism). They have, therefore, to enhance the capability of the defence in the boost phase to destroy more boosters before they can deploy the decoys.

This recent progress does not mean that it is certain that a total system is technically feasible, but rather that the possibility must now for the first time be taken very seriously and its consequences addressed.

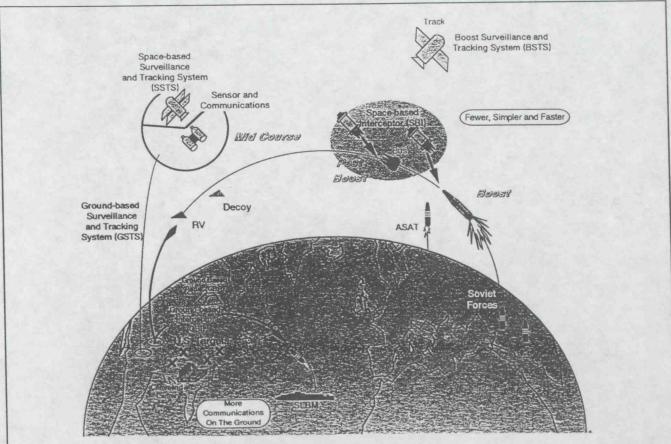
Funding

5. Funding levels for SDI were steadily increased from \$1.6B in FY 85 to \$4.1B in FY 89 (including the US Department of Energy element). The programme received its first cut in expenditure this year to a level of \$3.8B. Although the cut is small, the budget is significantly lower than the \$4.9B bid. The consequence of this is that programme timetables have slipped.

The Way Forward

6. During discussions with General Monahan he confirmed that, despite delays to the programme as a whole, the FY 91 budget will provide for the start-up of full development of BSTS, the sensor satellite suite in geosynchronous orbit. He acknowledged that the request would be for a "degraded" system that would be ABM treaty compliant. Nonetheless he was adamant that by 1993 the decision to commence full development for the SDS Phase 1 system including Brilliant Pebbles would be made. He indicated that the reluctance to face the treaty problems in 1991 was associated more with the forthcoming Presidential election in 1992 rather than an avoidance of the issue itself. Time will tell.





The key to effectively defend against ballistic missile attack is to intercept the missiles and their warheads throughout their flight. Such a system would combine both space- and ground-based components to counter ballistic missiles. Illustrated here is the current Phase One concept of a Strategic Defense System (SDS). It includes space- and ground-based sensors, space- and ground-based interceptors and command and control systems.



BRILLIANT PEBBLES CONCEPT - SBI

Functions

- Destruction Of Boosters And PBVs
- Surveillance And Target Acquisition
- · Laser 2-Way Communications

Characteristics

- Interceptor Orbits In Protective Shell / Life Jacket
- Low Cost / Light Weight (88 Lbs)
- Highly Survivable Singlets
- · Hit-To-Kill



SDS ALTERNATIVE ARCHITECTURE

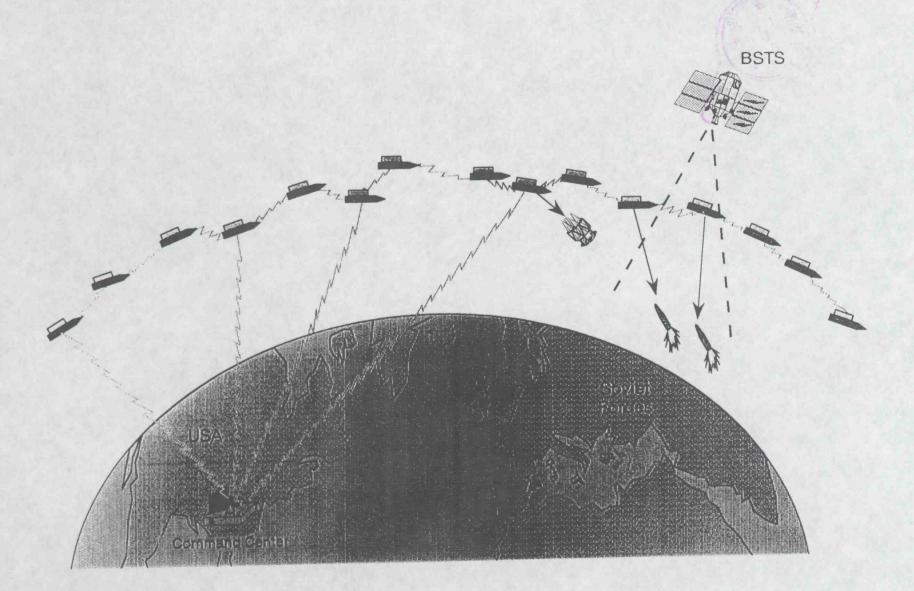


CHART 3

DEFENCE: Lasers à spice!

COMMERCIAL IN CONFIDENCE UK PARTICIPATION IN SDI RESEARCH

- 1. This note covers:
 - a. US-funded work in the UK;
 - b. Technical information exchange;
 - c. Joint US/UK experimental activities.

US-Funded Work

- 2. By the end of 1989 the value of awards to UK entities was over \$100M, of which over \$80M had been spent or obligated. This represents over 100 contracts or sub-contracts.
- 3. The subject matter of these US awards is very broad ranging from theoretical studies to the production of highly complex test assemblies. Approximately half the funds have been channelled through the UK Participation Office, with the work being managed by MOD R&D Establishments but undertaken in industry. The policy has been for at least 85% of the value of each contract to be placed with the industrial participant. The rest of the awards have been direct contracts from US agencies to British companies or Universities or Sub-contracts from major US primes.
- 4. Even allowing for the fact that constraints on the SDI budget have meant that the opportunities have been on a much smaller scale than originally expected, few UK companies have really exploited fully the potential which still exists within the SDI programme.

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Some UK organisations have highly been successful, notably UKAEA's Culham Laboratory who have a unique technology to offer and have alone secured contracts to the value of \$26M. Some small British companies have shown great tenacity and enterprise in pursuing SDI research awards, eg Advanced Systems Architectures have won a series of contracts to the value of some \$830K.

Information Exchange

- 5. The MoU on SDI participation made specific provision for a technical information exchange at Government level, across the spectrum of technologies relevant to SDI, using the 1958 Atomic Energy Agreement as a model.
- 6. The SDI information exchange, which occurs under a series of management Groups known as SCORE Groups and sub-groups is now well established and proving to be highly successful, even leading to joint working and the placing of contracts. Within this exchange framework the UK has participated in peer reviews of US proposals even to the extent of reviewing the technical specification for the Phase 1 Strategic Defence System (SDS). There were considerable delays before this highly sensitive information was released to the UK Participation Office and as a result we have yet to evaluate the claim made by the former Director SDIO General Abrahamson, when he briefed the Prime Minister in January 1989 that the SDS would provide a measure of protection for Europe.

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Joint UK/US Trials

- 7. An area of activity which has grown beyond the original expectations of the SDI MoU is participation in joint trials. The UK gains considerably through this cooperation by participating in tests which would be prohibitively expensive to mount alone. Close visibility of advanced US technical capabilities is obtained in the process. Additional opportunities are being explored for further joint trials.
- 8. The first such trial Gollum I took place in November 1987; since then the US and the UK have cooperated over the following joint trials:

Gollum I

Recording of Lance missile flight by airborne dual waveband imaging radiometer (DUWIR).

Gollum II

Recording of Sea Dart interception of
Lance missile by same sensor. This
indicated that the Sea Dart system
appears to have potential to be
effective against this important
class of threat.

Trial Talk

A series of trials to collect aircraft signature data. The first two using sensors on board the US Argus aircraft as for the Gollum

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experiments; the third using sensors on board the Delta Star spacecraft.

Zodiac Beauchamp

A flight programme in preparation to characterise and test the novel UK penetration concept of thrusted decoys at the Kwajalein range in the Pacific. The first flight in this series is planned for early 1991.

Delta Star

US imaging spacecraft launched in March 1989 now nearing the end of its useful life. The UK Participation Office has a seat on the Science Working Group which tasks the satellite: this has given the UK unique visibility of the satellite's capabilities and access to valuable data sets, previously not releasable to the UK

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10 DOWNING STREET LONDON SWIA 2AA

From the Private Secretary

18 January 1990

I think I informed the Department that General Monahan will be seeing the Prime Minister on 30 January to bring her up to date on the Strategic Defence Initiative programme. The Prime Minister invariably sees him alone. But it would be helpful to have a background brief beforehand about the state of play on the SDI and the participation of British firms in it.

BF- 11

CHARLES POWELL

Simon Webb Esq Ministry of Defence

RESTRICTED

EMBASSY OF THE

EMBASSY OF THE UNITED STATES OF AMERICA
LONDON

January 12, 1990

Dear Prime Minister:

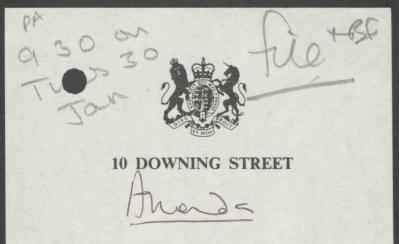
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Thank you very much for making time available to receive an update on the Strategic Defence Initiative when Lieutenant General Monahan visits on January 30, 1990. As you know, the Bush administration considers this program among the most important the United States is pursuing for the common defence of the West.

Sincerely,

Ambassador

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



Ordie Homes from
The Awrican (misons)
phonds
It for Majnhan work
to brief he phi on the
Sor programme. He's
here on 29th and
30th Sanvary—he
would prefor to see
her on 29th.

Charles said are showld find him a MA. Could you have a go and got back to Oute Hands.

CONFIDENTIAL FM WASHINGTON TO PRIORITY FCO TELNO 1650 OF 142250Z JUNE 89 INFO PRIORITY UKMIS GENEVA, UKDEL NATO, PARIS, BONN, MOSCOW

PS TO PRIME MINISTER NO 10 DOWNING ST

US POLICY REVIEW: DEFENCE AND SPACE

SUMMARY

- 1. A STATUS QUO OUTCOME. US NEGOTIATORS WILL RETURN TO GENEVA WITH POLICY BASICALLY UNCHANGED.
- DETAIL
- 2. THE REVIEW OF THE US POSITION FOR THE DEFENCE AND SPACE (DST) NEGOTIATION IN GENEVA ENDED ON 7 JUNE WHEN THE NATIONAL SECURITY COUNCIL DECIDED THAT THERE WOULD BE NO CHANGES FOR THE TIME BEING. AS THE POLITICO-MILITARY BUREAU IN STATE DEPARTMENT PUT IT WHEN WE SPOKE TO THEM QUOTE THE POLICY HAS BEEN MOTHBALLED UNQUOTE.
- 3. WE UNDERSTAND THAT THE IDEA OF A SEARCHING LOOK AT POLICY IN THIS AREA WAS PROMOTED BY THE SDI COMMUNITY (WANTING MORE FLEXIBILITY FOR SPACE-BASED TESTING) BUT WAS OPPOSED BY THE REST OF THE ADMINISTRATION AND WAS NEVER SERIOUSLY ENTERTAINED. A COMBINATION OF TACTICAL AND SUBSTANTIVE CONSIDERATIONS INFLUENCED THE DECISION. THESE INCLUDED: (A) RECOGNITION OF THE NARROW ROOM AVAILABLE FOR MANOEUVRE, IN VIEW OF SOVIET AND CONGRESSIONAL ATTITUDES.
- (B) THE ABSENCE OF ANY PRACTICAL NEED TO EASE CONSTRAINTS ON SPACE-BASED TESTING FOR THE PRESENT, GIVEN THE DELAYS IN THE SDI PROGRAMME (ESTIMATES OF WHEN SUCH TESTING MIGHT BE REQUIRED VARY, BUT LIE BETWEEN 2 AND 4 YEARS HENCE). (C) THE EXPECTATION THAT THE RUSSIANS ARE UNLIKELY TO
- PLAY UP THE IMPORTANCE OF DST OR MAKE IT AN EARLY STICKING POINT IN THE START NEGOTIATIONS.

PROBABLY WANT TO WAIT AND SEE HOW THE WIND BLOWS - FROM THE

(D) COUNTER PRESSURE FROM THE JOINT CHIEFS WHO ARE INCREASINGLY UNHAPPY ABOUT A COMPREHENSIVE SDI PROGRAMMME (MAINLY FOR BUDGETARY REASONS) AND WHO INDICATED THAT THEIR OBJECTIVE IN ANY FUNDAMENTAL REVIEW WOULD BE TO SCALE DOWN PLANS IN A WAY WHICH WOULD NOT REQUIRE FUNDAMENTAL CHANGE TO THE ABM TREATY AT THE END OF THE PROPOSED NON-WITHDRAWAL PERIOD. 4. THIS OUTCOME ONLY DEFERS THE DAY OF RECKONING. BUT GIVEN THE CROSS CURRENTS AND SENSITIVITIES, THE ADMINISTRATION WILL

> PAGE 1 CONFIDENTIAL

SOVIET NEGOTIATORS IN GENEVA AND FRPM THE CONGRESSIONAL BUDGET CUTTERS AT HOME - BEFORE TAKING ANY NEW POSITION. 5. THE EXISTING DST NEGOTIATOR, AMBASSADOR COOPER, IS EXPECTED TO REMAIN FOR AT LEAST THE FIRST NEW ROUND BEGINNING NEXT WEEK. HIS SUCCESSOR HAS YET TO BE NOMINATED FORMALLY AND CONFIRMATION WILL TAKE SOME TIME.

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