

~~TOP SECRET~~

MEMORANDUM FOR: General Cabell

24 September 1954

SUBJECT : Aerial Reconnaissance

I attach herewith the two papers that I mentioned in our conversation in your office. The first is a brief recommendation, together with supporting documents, on the project of a preliminary, small Earth Satellite Vehicle of limited utility which might be launched within two years. The other is an interesting general status report on air reconnaissance programs, prepared for me by a young Air Force officer trainee currently assigned to my office. I especially recommend your attention to the section on "Stripped or Specialized Aircraft" which begins on page 3.

25X1



2 Attachments

25X1

Document No. _____
No Change in Class. <input type="checkbox"/>
<input type="checkbox"/> Declassified
Class. Changed to: TS (S) C
Next Review Date: _____
Auth: NR 73-3
Date: 9 Oct 91

~~TOP SECRET~~

250266

MEMORANDUM FOR: DIRECTOR OF CENTRAL INTELLIGENCE

SUBJECT: Earth Satellite Vehicle (ESV)

1. As a result of the large missile development effort the launching of a small earth satellite in the next three years is almost certainly feasible. Although the Department of Defense has several satellite projects in planning stages, their mission would not justify accelerating satellite development without an outside, high level requirement. The capability of the Soviet Union and the United States of placing in orbit a satellite to collect basic scientific data is approximately the same.

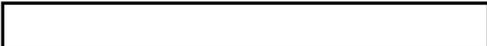
2. Because the satellite will be the greatest scientific advancement since the hydrogen bomb, the United States should do everything possible to gain the prestige of this achievement. The first satellite should be launched in a peaceful setting not only to provide the greatest psychological warfare potential but also to facilitate the launching of future, more elaborate satellites.

3. The International Geophysical Year, 1957-58, offers a unique opportunity. It would provide the United States with maximum favorable publicity, an international setting, worldwide scientific cooperation, a clearly established peaceful motive, and a reaffirmation of Free World scientific values and methods.

4. If we are to have a satellite by 1957 the requirement must be established in the next month or two. If you concur,

I suggest that I arrange informal talks with Mr. Donald Quarles, Department of Defense, and Dr. Allen Waterman, National Science Foundation. The Department of State should also be consulted.

5. If the above parties are favorable, I suggest you send the attached letter to the President recommending that he establish a tentative requirement for a small satellite to be launched in the International Geophysical Year, 1957-58. The letter should be accompanied by a brief discussion of the satellite (Tab A) and of the Soviet/U.S. stage of development (Tab B). The National Science Foundation would direct the project with the Department of Defense responsible for the development and launching of the satellite.


Special Assistant to the Director
for Policy and Coordination

25X1

Attachment:

Draft Letter to the President
with Tabs A and B.

ATTACHMENT

ATTACH-
MENT

DRAFT OF RECOMMENDED DCI LETTER TO THE PRESIDENT

There is a growing interest in both the Soviet Union and the United States in the development of Earth Satellite Vehicles (ESV) as a result of the large-scale missile development effort. It seems inevitable that either the United States or the Soviet Union will place an ESV in space within the next few years.

In order to retain the initiative in the ESV field and yet avoid any military stigma, it would be of great psychological and political advantage for the U.S. to launch a first ESV in a peaceful setting which stressed the scientific research aspects of the development. This would also set an international precedent that would make it easier for the U.S. to conduct future ESV launchings.

The attached CIA staff study has led to the conclusion that the forthcoming International Geophysical Year, 1957-58, affords a unique opportunity for such sponsorship. There is increasing interest in scientific circles in the possibility of launching a small U.S. sponsored ESV as one of the events of that year.

It is therefore recommended that a Presidential Directive be issued as suggested on page 4 of Tab A.

1. A tentative requirement for the development of an ESV in conjunction with the International Geophysical Year, 1957-58.
2. A select scientific group, appointed by and acting under the Scientific Advisory Committee of ODM, to render an official decision on the feasibility of the project, and to implement this decision, if favorable.

Tab A - Satellite Discussion

Tab B - US/Soviet Stage of Development

TAB A

EARTH SATELLITE VEHICLE (ESV)

PROBLEM

To examine the significance and status of Earth Satellite Vehicle (ESV) development in the U.S., and to determine necessary actions at this time in the interests of the national and international security.

DISCUSSION

The launching of an ESV has been a traditional dream of space travel enthusiasts which now gives some promise of early realization. The large-scale development effort in high-altitude, high-power missiles has brought about this possibility. Regardless of when or where an ESV is successfully launched for the first time, it is generally agreed that this event will mark the first step in the conquering of space and thus, the beginning of an entirely new era in human experience.

There are two principal military advantages. First, in its earliest form the ESV will help pave the way for the full development of an intercontinental ballistic missile through data acquired, and second, in its more developed form it will provide a platform for continuous photographic surveillance of denied areas, a direct intelligence application. The more immediate advantages to be realized, however, are political and purely scientific in nature. The ESV will bring potent benefits to scientific research in providing an extremely high altitude observation platform. From a political point of view, the ESV may bring rich prestige rewards to the sponsoring nation. This aspect appears especially important at this time.

TAB
A

It is difficult to comprehend fully the world reaction to a public announcement of an ESV and the advantage which would accrue to the nation which first succeeded in this effort. If the Soviet Union made such an announcement, which would be verifiable by radar observation, and if Soviet propaganda took full advantage of the accomplishment, it might sway the balance of power significantly in their favor at a strategic moment. From a military point of view, it would indicate a developing capability for the achievement of an intercontinental ballistic missile, as well as for the eventual development of a larger ESV which in itself might become a dangerous military weapon. The psychological threat, however, might far exceed the actual threat, if the development timing and the public announcement were properly handled. Whether or not the Soviet Union actually made public announcement and took full psychological advantage of such an accomplishment, a capability in this area, not properly anticipated and neutralized, would represent a serious threat to U.S. national security.

All of these questions surrounding ESV development find their simplest and most complete resolution in a suggestion which is now gaining favor in U.S. scientific circles--that a small U.S.-sponsored ESV be launched publicly as a part of the International Geophysical Year, 1957-58, in the interests of scientific research. It would be quite possible to launch an ESV publicly without revealing design details of military security connotation and it might be a very effective gesture on the part of the U.S. to invite international

participation in such an event. This would make it possible for the U.S. to take the necessary initiative in this area with a clearly peaceful intent.

U.S. development is now thought to be sufficiently advanced to test-launch successfully a small ESV carrying telemetering equipment by 1957-58. The ESV development capability of the Soviet Union is estimated to be sufficiently close to that of the U.S. to justify the concern expressed in this memorandum.

CONCLUSIONS

1. In the interests of the national and international security, the first ESV should be launched on the initiative of the U.S., but in an overt atmosphere of healthy international scientific cooperation.
2. In pursuance of this objective, the U.S. Government should give clear and over-all backing to the development of a small ESV in conjunction with the International Geophysical Year, 1957-58.

RECOMMENDATIONS

1. That the U.S. Government establish a tentative requirement for the development of an ESV in conjunction with the International Geophysical Year, 1957-58, to insure U.S. supremacy in this field and the full exploitation of this capability on the part of the U.S. in the interests of world stability.
2. That a select scientific group be appointed by action of the Scientific Advisory Committee of ODM to render an official decision, in collaboration with the Defense Department and the National Science Foundation, on the feasibility of developing an ESV in conjunction

with the International Geophysical Year, and if a favorable decision is reached, to establish and monitor the program of development.

3. Should the program be established, that the National Science Foundation be designated as the sponsoring agent and official U.S. representative for international liaison and planning in connection with this event, and that the Defense Department be given responsibility, as agent for the National Science Foundation, for the development of an appropriate EKV for test launching in conjunction with the International Geophysical Year, 1957-58.

-4-

TAB B

STATUS OF EARTH SATELLITE VEHICLE (ESV) DEVELOPMENT

SOVIET UNION

Although the Soviet Union has disclaimed any military intent in such a development, their traditional interest in the entire field of space travel is very clear. There is a substantial body of Soviet literature on this subject, some of which was recently reported in a special feature in Look magazine (27 July 1954). A recent statement by a Soviet scientist (V. Dobronravov, Deputy Chairman of the Scientific-Technical Committee of Cosmic Navigation, Central Air Club of the Soviet Union) has confirmed Soviet interest in the possibility of launching an artificial earth satellite to circle the earth. The statement predicted that the Russians would create such a satellite within ten years, and that this would be the first step in the realization of interplanetary flight. This interest was also indicated by German returnee [redacted] who was interrogated the early part of this year on the Soviet missile development program. He reported that he found a "love for the missile problem" in the Soviet Union which he had not experienced in Germany--it is typical of such enthusiasm to look for the ultimate in missile development, the space travel possibilities. It is known that Stalin himself took a personal interest in long-range missile possibilities.

TAB
B

[redacted]

[redacted]

It is

also of special interest that Lt. Col. Leonid Pivnev, formerly of the

SECRET

25X1

25X1

Soviet Embassy in Washington and recently returned to the Soviet Union because of espionage activity in the U.S., applied for membership in the Baltimore Chapter of the American Rocket Society, an organization which has space travel as one of its main interests.

K1
Current Project [] estimates give the Soviet Union an intercontinental missile capability in 1960 at the earliest, but most probably in 1963. This would indicate a possible ESV capability prior to 1960 since the ESV is a simpler technical problem and represents a natural preliminary step in developing the intercontinental ballistic missile. Until information is received to the contrary, it must be assumed that the Soviet Union will endeavor to launch an ESV at the earliest possible date, that she has a development capability to do so which is very close to that of the U.S., and that she would capitalize fully on the propaganda value to be realized in the event of a successful launching.

UNITED STATES

Considerable missile development work is being carried on in the U.S. which has direct application to the development of an ESV and much thought has been given to the ESV problem. There are two missile developments which provide the most immediate possibility for the launching of an ESV. The Army REDSTONE missile being developed at Redstone Arsenal, Alabama, under the direction of the famous German Dr. Von Braun; and the Air Force ATLAS, being developed by Consolidated Vultee Corporation, California, this project having been recently

revived under high-level control. The ATLAS will provide the ultimate in power, and will make possible the launching of a relatively large ESV, capable of all the applications discussed. The REDSTONE will be more quickly available, but will be capable of launching only a relatively small ESV. Additional missile stages would be used with REDSTONE, various designs having been visualized.

Several U.S. study efforts on the ESV have grown out of the basic missile development work. The Air Force Project [] was a long-term design study carried out by the Rand Corporation over the period 1946-54. It considered in detail the use of the ESV for pioneer photographic reconnaissance of the U.S.S.R., or any other potential enemy territory. It contemplated the use of a launching missile similar to ATLAS. The project has resulted in a detailed engineering proposal for the development of an ESV over a seven-year period at a cost of 160 million dollars. 25X1

Dr. Von Braun has given considerable thought to the use of the REDSTONE missile to launch an ESV, and has in mind several possible versions. Only recently, however, has he been authorized by the Army to make detailed design studies. It is very likely that Dr. Von Braun's work will lead to the first actual ESV possibility, although it will be very small.

Dr. Fred Singer of the University of Maryland has also been a very active ESV proponent. He has been in contact with ONR on this work, but his studies have been carried out largely on his own initiative under the name Project [] and contemplate the use of the REDSTONE missile. K1

25X1

An actual requirement for the development and launching of an ESV has not existed until recently. The Air Force has now established an official requirement, however, by action of the Air Force Requirements Committee. The Air Force effort will probably be a long-term program based on the ATLAS and projects.

ONR has also established a study very recently, which incorporates a series of satellite projects of increasing complexity. Their work on the initial satellite proposals, either a slug or small package capable of telemetering basic scientific data, would very likely form a suitable basis for the International Geophysical Year plan. The Navy recently obtained consent from the Army to use the REDSTONE missile in their research.

STAT

MEMORANDUM FOR: -

*Instead of letter to Pres on
ESV why not an action
paper for OCB to Pres?*

*Rec a/c : Letter DCI to
A. F. supporting special
a/c pending NSC approval*

Balloons - OCB ?

(DATE)
250266

FORM NO. 10.101 JAN 1952 (47)

617
9-9878/A

2430 E Street, N. W.
Washington 25, D. C.
January 6, 1958

STAT

Mr. Loftus Becker
Department of State
4264 New State
Washington 25, D. C.

Dear Lofty:

Several weeks ago when you were in Mr. Allen W. Dulles' office, you expressed some interest in a draft "open" letter to be sent to the Soviet Government. Shortly thereafter I sent you a copy of this draft, which had been prepared by Mr. [redacted] He has now redone his draft and seems to me to have improved it. I have no idea whether you are at all seriously interested in it, but I am sending along a copy of this paper herewith.

STA

Very sincerely yours,

/s/

[redacted signature box]

STAT

Enclosure:
Draft Letter (ER 9-9878)

STAT

[redacted] (3 Jan 58)
1-Forward
1-SA/P/DCI Chrono
1-SA/P/DCI Subject (w/draft)

250267

MEMORANDUM FOR: GENERAL CABELL

Herewith is another draft of [redacted] proposed communication to the Soviet Government. He asked that I pass this to you for whatever interest it may have. I am sending a copy also to Lofty Becker who expressed interest in an earlier draft.

STAT

[redacted]

STAT

6 January 1958
(DATE)

Attachment - As Stated.

FORM NO. 101 REPLACES FORM 10-101
1 AUG 54 WHICH MAY BE USED.

250267 (47)

Executive Registry
9-9876

[Redacted]

Boston 15, Mass.
December 30, 1957

STAT

[Redacted]

Washington, D. C.

Dear Dick:

Enclosed are three copies of my latest redraft of that letter. I believe some of the changes considerably strengthen it.

If you have no objections, would you be good enough to pass a copy along to General Cabell.

Sincerely,

Dick

Enc.

[Redacted]

250267

STAT

STAT

CONFIDENTIAL

Executive Registry

9-9818

e43

Draft No. 3

30 December 1957

25X1

A Suggested Letter from President Eisenhower

Dear Marshall Bulganin:

Your letter of December 10 brings particularly to mind that since our exchange of letters a year ago, two highly significant events have commanded the attention of the world. One is felicitous for mankind -- the other, ominously foreboding.

The happy event is the successful launching of the Russian satellites. I would be glad if, in my behalf, you would extend sincere congratulations to those responsible for this important achievement.

The tragic event is the failure of the disarmament negotiations to achieve any concrete success. Though differences have been narrowed, agreement still eludes us. And the arms control problem, difficult enough in itself, is now badly compounded by failures to agree even on procedures for future negotiations.

The implications of a continued technological arms race are quite evidently as clear and of as heavy concern to you as they are to us. The future will be tragic for humankind if technology remains harnessed to serve War, rather than Peace and the noble purposes of Man.

In this letter I would like to deal with specific actions pertaining to both these events. Some of these actions the U. S. Government is now taking. Others I would like to suggest for your consideration.

With regard to satellites and space flight, it would seem important that our scientists and engineers work together on specific projects wherever possible. Such measures will help achieve an end we both prayerfully seek -- that space may be used by men only for peaceful pursuits. Indeed, your letter also notes the benefits from peaceful collaboration by scientists of our two countries.

To this end, I would like to offer Soviet scientists, for use in Soviet launchings, some of the satellite instrumentations which our scientists have built for the I. G. Y. I believe such collaboration would produce certain scientific answers sooner than could either of our programs separately. It would also start joint endeavors between us for the peaceful exploration of space.

There is a second step which we should take immediately. As you know, during the recent disarmament negotiations, the U. S. Government suggested that an international scientific group be convened immediately to study the technical problems involved in controlling the use of space for peace. Could we not take prompt action, and thus embark immediately on yet another joint effort in space affairs?

CONFIDENTIAL

250267

CONFIDENTIAL

Page 2

30 December 1957

I note that ~~one of~~ your satellites ^{ARE} ~~is~~ still passing over all countries of the world. It will surely be unusual in the future not to find one vehicle or another over national air spaces. In this nuclear age, we cannot assume that overflights are always for peaceful purposes. I therefore suggest that we immediately work out an arrangement to provide for the prior registration and inspection of all overflight vehicles above those air spaces which most nations can today control themselves and which therefore can clearly be considered sovereign -- namely, the practical operating height of defensive military aircraft of the type broadly distributed among nations of the world.

On the horizon lies the exploration of the moon and planets. The U.S. Government would be pleased to examine with the Soviet Government the possibility of pooling our resources for interplanetary exploration, and thus to develop yet another area for peaceful scientific collaboration.

By over-flying the U.S. with satellites, the Soviet Government has raised the legal question of national sovereignty in the upward direction. It has been pointed out that the situation may be analogous to that which led to the establishment of the 3-mile sovereignty limit for international waters in relation to the range of coastal gun fire at the time. The Soviet vehicles suggest that there now may be limits to national sovereignty vertically toward the open skies, as well as toward the open seas. Undoubtedly an international group should be convened to begin technical discussions on this subject. Such deliberations would represent still another area of collaboration in the pursuit of the peaceful use of space.

Turning now to the subject of arms controls, you know from my suggestions when we met at Geneva in July 1955, that I deeply believe mutual over-flying of each other's territory can very beneficially serve the interests of Peace. Thus, in no way does the U.S. Government intend to protest non-aggressive overflights by the Soviet Government, regardless of whether your vehicles are used primarily for scientific observations of space, or for observations of the earth's surface as in aerial inspection. It has been intimated that observation of U.S. military activity is or will be accomplished by Soviet satellites. If so, I welcome this initiative by the Soviet Government as a concrete step toward "open skies" inspection.

Despite patient expositions by the U.S. Government throughout recent disarmament negotiations, the Soviet Government still evidences misunderstanding of the U.S. position regarding aerial inspection. There continue to be statements that the U.S. proposal is but a screen for U.S. intelligence activities. Because this matter, insofar as the U.S. is concerned, lies at the crux of the arms control problem, I would like to try to correct these misunderstandings and to clarify once again the U.S. position.

It should be evident that military intelligence and arms inspection are but two faces of the same coin. Although one implies secrecy and the other openness and agreement, they both represent information about military affairs and arms. Certainly one of the major problems which both our governments face in the construction of any rational world security system is the steady conversion of our reliance on secret intelligence activities to a reliance on open inspection

CONFIDENTIAL

CONFIDENTIAL

Page 4

30 December 1957

Regarding "open skies" inspection by the U.S. of USSR territory, we are able today to conduct our aerial inspection of the USSR at altitudes much higher than those defended today by Soviet military aircraft. Both the powered vehicles and free balloons we have built for this peaceful purpose are of course unarmed, and fly much higher than your normal military or commercial air traffic. We do not believe that you will be caused any trouble whatsoever by these inspection flights. If they should have unforeseen difficulties, I am confident that the Soviet Government will provide for their safe conduct and return.

If you would prefer to put our aerial inspection of the USSR on the same basis we have offered to you -- namely, flights from a Soviet port of entry at lower altitudes that are clearly within Soviet sovereign air spaces -- we will be pleased to operate our aerial inspection in this manner. But the above interim system will suffice until hopefully you may be able to designate a port of entry and arrange other particulars for normal aerial inspection.

Additionally, the U.S. has under construction space satellites for "open skies" inspection, to supplement inspection aircraft. We intend to commence test flights in 1959. Assuming that a U.N. Arms Control Agency is then in operation, we expect to make results from this inspection satellite available to that agency. In this connection your government might wish to collaborate with us in making the best possible satellite inspection system available to the U.N.

Mutual inspection by space satellites, as you are aware, is inevitable. What I am proposing is that it be established in such a way that its full potentialities are used to facilitate international arms control agreements.

I would like to tell you now of the other actions the U.S. Government is taking to break the disarmament deadlock and bridge the gap that unfortunately failed of negotiation in the recent talks. You will find much in the following that meets the Soviet position, and in particular the suggestions in your letter of December 10.

1. The U.S. Government is temporarily suspending all tests of nuclear weapons. The continuation of this suspension depends on certain actions of the Soviet and others Governments, and I would like to state these provisos clearly.

First and foremost, if the Soviet Government objects to, or interferes with the conduct of mutual aerial inspection as set forth above, the U.S. Government will immediately resume its nuclear test program. In the absence of reliable information about Soviet military arms, the U.S. Government has no choice but to pursue its security through continued development of modern arms.

Second, the U.S. will immediately resume its test program if we discover through inspection or otherwise that any other nation in the world has conducted nuclear bomb tests.

Third, within two years there must be an international agreement to limit nuclear tests and an inspection system in being to control the agreed limitations.

CONFIDENTIAL

CONFIDENTIAL

Page 5

30 December 1957

At the present moment, it would appear that such an agreement could best be a limitation rather than a total ban on all tests. The possibilities for undetected testing, deep underground or high in outer space, are such that a total ban may be impractical to enforce. Also, it may actually contribute more to a rationally constructed, world security system to permit a few limited and U.N. supervised tests by the present nuclear powers, so they may develop nuclear bombs with a little or even no radioactive effects. Both the Soviet and U.S. Governments recognize that inspection for nuclear bombs is no longer reliable, and that a rational world security system must perforce be based at first on mutual nuclear deterrence. Until the distant future when means may be found to eliminate present national arsenals of nuclear weapons, it would clearly be better to convert these arsenals into a less radioactive variety.

Thus, while I can foresee an enforceable test limitation agreement that would prevent the further build-up of radioactive materials in the world, I am not sure that a total test ban would best serve the interest of rational world security. But this matter can readily be studied and negotiated within two years. Meanwhile the U.S. will suspend its tests.

Fourth, the continuation of our test suspension beyond two years is conditional on reaching international agreement and installing inspection controls within that period, to permit future production of nuclear materials only for peaceful purposes.

2. With regard to the question of inspection at ground control posts which you urged upon me at Geneva, we are prepared to receive immediately up to 500 Soviet inspectors in the U.S. for two years and arrange for their posting to watch our military movements at airfields, ports, railway centers and other such points of your choice. The arrangement can be extended if within this period, we can install a similar number in the USSR, or hopefully negotiate a more complete international agreement that would extend the area and objects of such control, and would also provide for mobile ground inspection operations.

3. Within six months the U.S. Government will reduce the number of its military effectives to 2,500,000. If the Soviet Government takes similar action, if we can install a mutually satisfactory inspection system to verify conventional force levels, and if certain outstanding world political problems can be resolved, then the U.S. is prepared to make further reductions.

4. With regard to renouncing the use of nuclear weapons, the U.S. has already renounced their use except in self-defense. However, we stand prepared to clarify in an international convention just what is meant by their use in self-defense against both conventional and nuclear aggressions.

The U.S. Government rejects categorically the implications in your letter of December 10 that it may no longer be feasible to limit local wars. Since World War II, there have been fifteen local military actions of substantial proportions. These have been limited geographically and with regard to the weapons employed. While such wars are deplorable, we cannot count on their absence in the future, particularly as they may occur from causes completely beyond the control of our two Governments. Thus, our Governments face two types of problems with regard to local wars. First, we must contribute to

CONFIDENTIAL

CONFIDENTIAL

Page 6

30 December 1957

collective security arrangements to deter the initiation of local wars. Second, and even more important, we must take all possible measures to limit the spread of local wars that may be started through circumstances beyond our control.

International understanding and, if possible, explicit agreement on the type of weapons and manner of their use in self-defense and in support of local defensive actions could go far to limit the spread of local military actions. But regardless of what can be done to clarify weapons used for collective security and for self-defense, your Government and my own must, in our mutual interest to avoid self-destruction, reject any notion that local wars cannot be limited. We must jointly address ourselves both to the problem of deterring and to the problem of limiting local conflicts.

5. Regarding your suggestion that nuclear arms be withheld by the U.S., British and Soviet Governments from the Governments of Germany, Poland and Czechoslovakia, we agree to this action for a period of two years. We will continue with this measure, provided that within this two year period an agreement satisfactory to all governments concerned can be reached to continue a controlled limitation of this sort.

6. Further to advance disarmament action, I am today writing the President of the U.N. General Assembly to tell him of our plans to construct an inspection satellite and to offer its results to a U.N. Arms Control Agency. I will also tell him that the U.S. Government is willing to organize immediately an aerial inspection force and place it under the control of such a U.N. Agency, to cover areas of the world not inspected under mutual arrangements. I shall also point out that all results from U.S. inspection efforts will be made available to that U.N. Agency, on request.

I feel sure you will regard sympathetically these actions to break the disarmament deadlock and to move concretely to free technology better to serve mankind in his peaceful pursuits. If our collaboration to this end can be advanced by meeting to discuss the above, or other arms control measures, I will be delighted at an appropriate time to meet under U.N. auspices with you and with the heads of such other U.N. Governments as may be indicated.

Sincerely yours,

CONFIDENTIAL