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Doc #	DocType	Doc Info	Classification	Pages	Date	Restriction
~~9~~ 5	~~memo~~	~~Further thoughts on FOBS~~ [Dup #1, NSF, CF, "USSR ... (FOBS)" Box 231] OPEN 9/19/2008	~~S~~	~~2~~	~~[11/27/67]~~	~~A~~
~~10~~	~~memo~~	~~Keeny to Rostow~~ OPEN 9/19/2008 [Dup #2, NSF, CF, USSR, ... (FOBS)" Box 231]	~~TS~~	~~2~~	~~11/15/67~~	~~A~~
~~10a~~	~~memo~~	~~Ginsburgh to Rostow~~ [Dup. #2a, NSF, CF, USSR, ... (FOBS)" Box 231] ~~OPEN 9/19/08~~	~~TS~~	~~1~~	~~11/6/67~~	~~A~~
11	memo	Foster to SecDef exempt per RAC 3.31.04	S	5	10/27/67	A
12	memo	Foster to SecDef exempt per RAC 3.31.04	S	1	[11/3/67]	A
13	memo	Covering Brief exempt per RAC 3.31.04	TS	3	11/3/67	A
13a	memo	to Chmn., JCS exempt per RAC 3.31.04	TS	1	11/6/67	A
13b	memo	to Secy., Air Force exempt per RAC 3.31.04	TS	1	11/6/67	A
~~19~~	~~memo~~	~~Berg to Welsh~~ OPEN 9/19/2008 [Dup #11b, NSF, CF, USSR, ... (FOBS)" Box 231]	~~S~~	~~3~~	~~10/17/67~~	

Collection Title NSF, Files of Spurgeon Keeny
Folder Title "FOBS & RADARS"

Box Number 5

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NEWS RELEASE

OFFICE OF ASSISTANT SECRETARY OF DEFENSE (PUBLIC AFFAIRS)

WASHINGTON, D.C. 20301

PLEASE NOTE DATE

FOR THE PRESS: November 3, 1967 No. 1060-67

OXford 5-3176 (Info)
OXford 7-3189 (Copies

Secretary of Defense Robert S. McNamara today made the following statement:

I would like today to discuss with you certain intelligence information we have collected on a series of space system flight tests being conducted by the Soviet Union. These relate to the possible development by the Soviet of something we have called a Fractional Orbital Bombardment System, or FOBS.

Let me distinguish such a system from the traditional intercontinental ballistic missile. An ICBM normally does not go into orbit, but rather follows a ballistic trajectory from launch point to impact point. On this trajectory it reaches a peak altitude of perhaps 800 miles.

Unlike the ICBM and its ballistic trajectory, the vehicle launched in a FOBS mode is fired into a very low orbit about 100 miles above the earth. At a given point -- generally before the first orbit is complete -- a rocket engine is fired which slows down the payload and causes it to drop out of orbit. The payload then follows a re-entry path similar to the re-entry of a ballistic missile.

Even now it is impossible to be certain of what these tests represent. It is conceivable that the Soviet Union has been testing space vehicles for some re-entry program. But we suspect that the Russians are pursuing the research and development of a FOBS. If this turns out to be true, it is conceivable that they could achieve an initial operational capability during 1968.

Some years ago we ourselves examined the desirability of the FOBS and there was agreement among civilian and military leaders that there was no need for the United States to develop such a system. While development of it could be initiated at any time for relatively rapid deployment, our analyses conclude that it would not improve our strategic offensive posture and consequently we have no intention of revising the decision made years ago.

Like other possible variations, the FOBS offers some characteristics which differ from traditional ICBMs. In our opinion, the disadvantages are overriding.

MORE

Because of the low altitude of their orbits, some trajectories of a FOBS would avoid detection by some early warning radars, including our BMEWS. Also, the impact point cannot be determined until ignition of the rocket engine that deboosts the payload out of orbit -- roughly three minutes and 500 miles from the target. And the flight time can be as much as 10 minutes shorter than an ICBM.

For these characteristics, severe penalties are paid in two critical areas -- accuracy and payload. The accuracy of the Soviet ICBM modified to a FOBS weapon would be significantly less and the payload of the FOBS vehicle would be a fraction of the ICBM.

The FOBS weapon would not be accurate enough for a satisfactory attack upon United States Minutemen missiles, protected in their silos. Perhaps the Soviets might feel it could provide a surprise nuclear strike against United States' soft land targets such as bomber bases.

However, several years ago, anticipating such a capability, we initiated the deployment of equipment to deny this capability. For example, already we are beginning to use operationally over-the-horizon radars which possess a greater capability of detecting FOBS than does BMEWS. These will give us more warning time against a full-scale attack using FOBS missiles than BMEWS gives against a heavy ICBM launch.

Our deterrent rests upon our ability to absorb any surprise nuclear attack and to retaliate with sufficient strength to destroy the attacking nation as a viable society. With three-minute warning, 15-minute warning or no warning at all, we could still absorb a surprise attack and strike back with sufficient power to destroy the attacker. We have that capability today; we will continue to have it in the future.

END

(Dotty Packet)

Mr. Keeny

2

FOBS

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY
WASHINGTON

November 21, 1967

MEMORANDUM

TO : Distribution List

FROM : ACDA/ST - S. N. Graybeal SNG

SUBJECT: FOBS and the Outer Space Treaty

In view of the considerable confusion surrounding the Soviet Fractional Orbital Bombardment System (FOBS) announced by Secretary McNamara on 3 November 1967, we have had prepared a brief unclassified paper which, hopefully, will help clarify some of the confused dialogue.

The attached paper is designed primarily to provide a layman's description of a FOBS and how it differs from an Orbital Bombardment System (OBS) and an ICBM. The paper does comment briefly on the relationship between FOBS and the Outer Space Treaty, but this discussion is far from being a comprehensive treatment of this complex subject.

I am forwarding the attached paper to you for your information and any use thereof that you may wish to make. I have a set of Vu-graphs that go with the figures in the attached paper, should you desire to use them in any briefings you may be called upon to give. Any comments or suggestions that you may wish to make would be appreciated.

Attachment:

A Brief Discussion of the Soviet
Fractional Orbital Bombardment System.

11-27

A BRIEF DISCUSSION OF THE SOVIET FRACTIONAL ORBITAL BOMBARDMENT SYSTEM

In his statement of 3 November 1967 concerning the Soviet fractional orbital bombardment system (FOBS), Secretary of Defense Robert S. McNamara describes the conventional ICBM trajectory as follows:

> "An ICBM normally does not go into orbit but rather follows a ballistic trajectory from launch point to impact point. On this trajectory it reaches a peak altitude of perhaps 800 miles."

Comparing the FOBS trajectory to the ICBM trajectory, Mr. McNamara points out that

> "Unlike the ICBM and its ballistic trajectory, the vehicle launched in a FOBS mode is fired into a very low orbit about 100 miles above the earth. At a given point -- generally before the first orbit is complete -- a rocket engine is fired which slows down the payload and causes it to drop out of orbit. The payload then follows a reentry path similar to the reentry of a ballistic missile."

These differences are illustrated graphically in Figures 1, 2 and 3. Figure 1 illustrates the trajectory of an ICBM fired from the Eurasian land mass to the North American continent. In the illustration the altitude of the trajectory is exaggerated. Actually an apogee of 800 miles corresponds to about one-fifth of the earth's radius. Although the ICBM trajectory is usually referred to as a "ballistic trajectory", it too is, in fact, a part of an orbit. However, this orbit is purposely designed to intersect the surface of the earth at the target. The orbit continued backwards would intersect the earth in the vicinity of the launch point. If the earth were a much smaller sphere of very high density so that its gravity forces were the same as the actual earth, the trajectory illustrated in Figure 1 would be an elliptical orbit about that hypothetical earth. The total time of flight for an ICBM that will travel a range of one quarter of the earth's circumference is on the order of thirty minutes, four to five of which are spent in burning the booster rockets and between one and two of which are spent in flight through the atmosphere to the earth. Thus, when Mr. McNamara says that an ICBM normally does not go into orbit, he is using a vernacular in which the word "orbit" refers to a trajectory that will completely circle the earth.

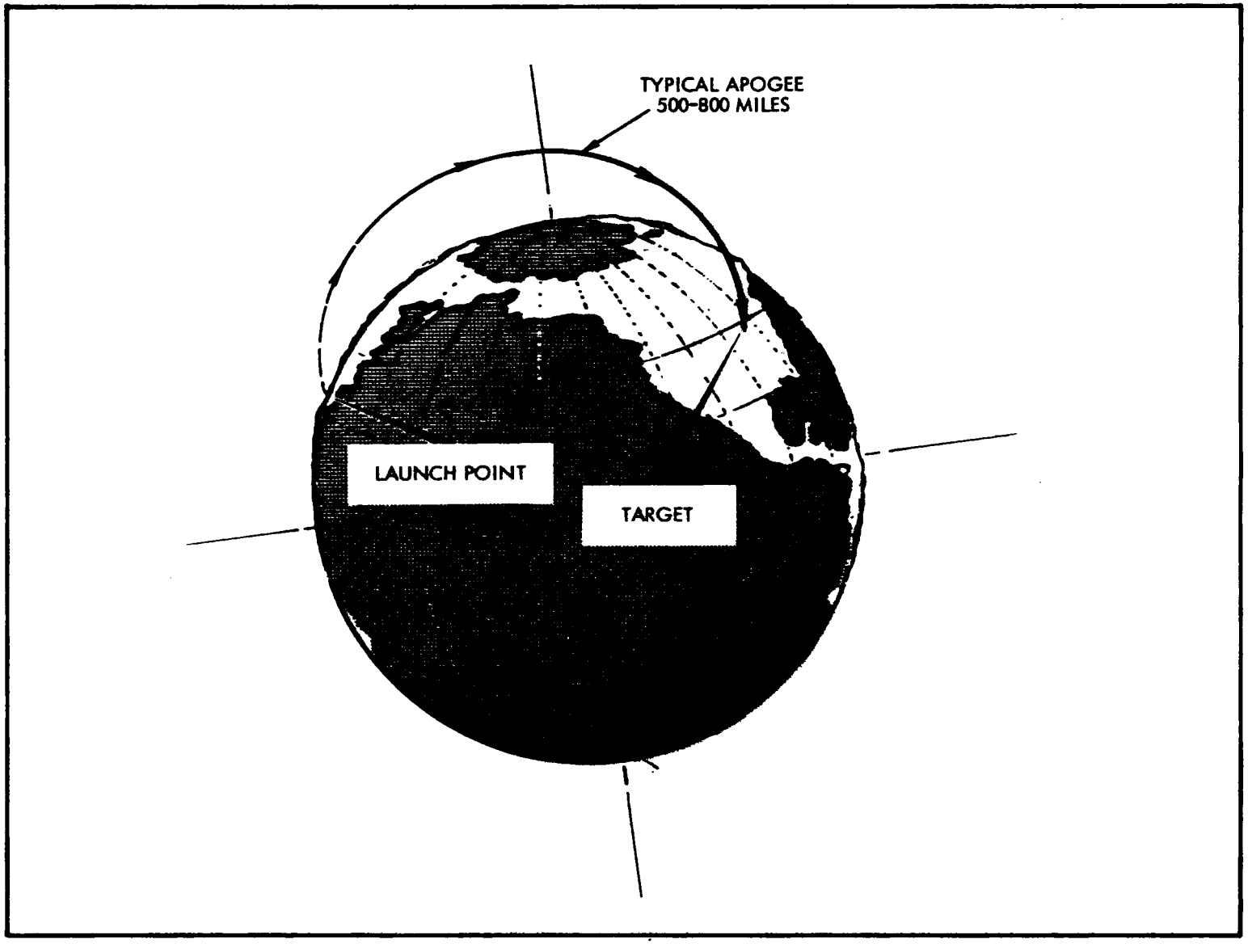

Figure 1. Typical ICBM Trajectory (Altitude Exaggerated)

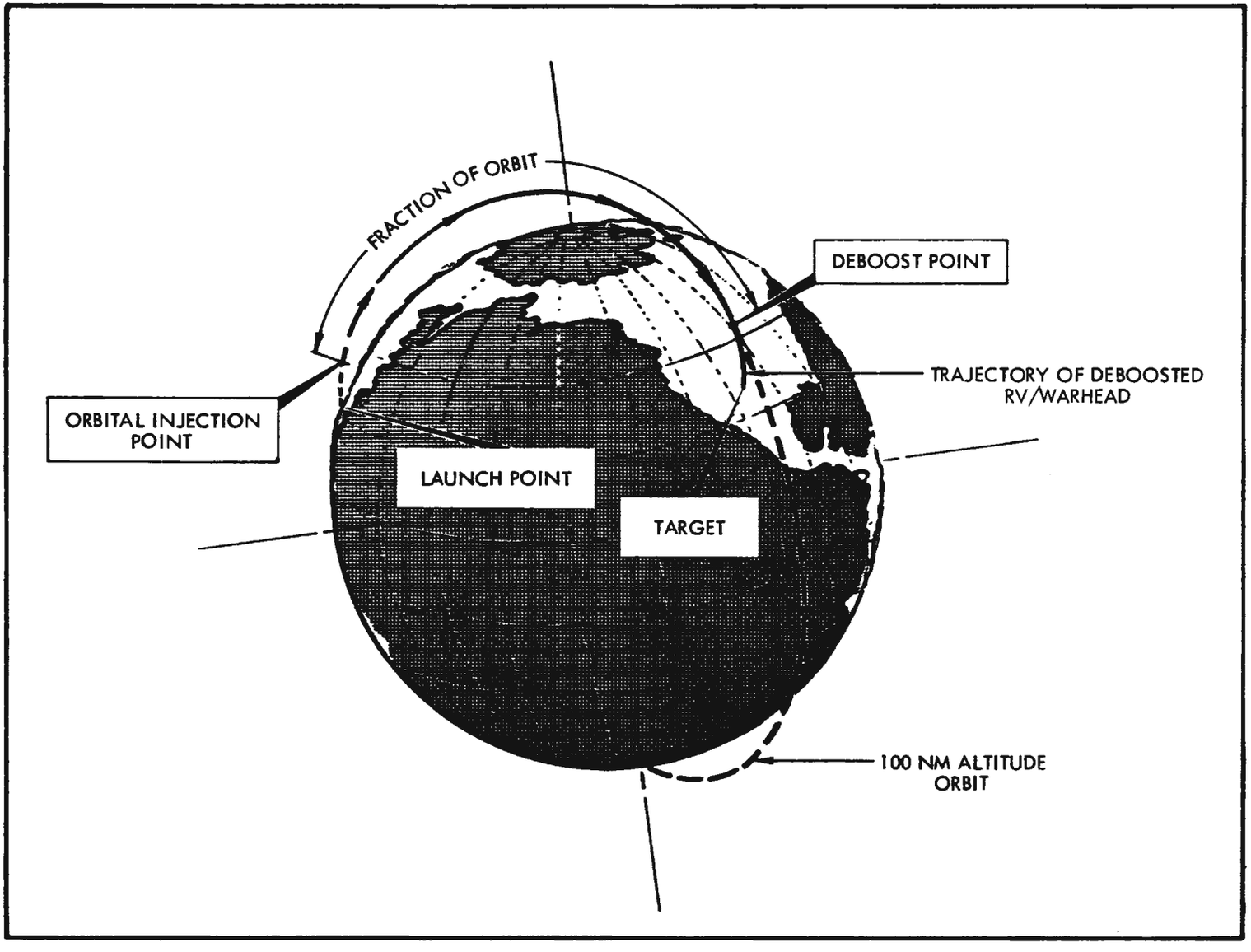

Figure 2. A North-Fired FOBS Trajectory (Altitude Exaggerated)

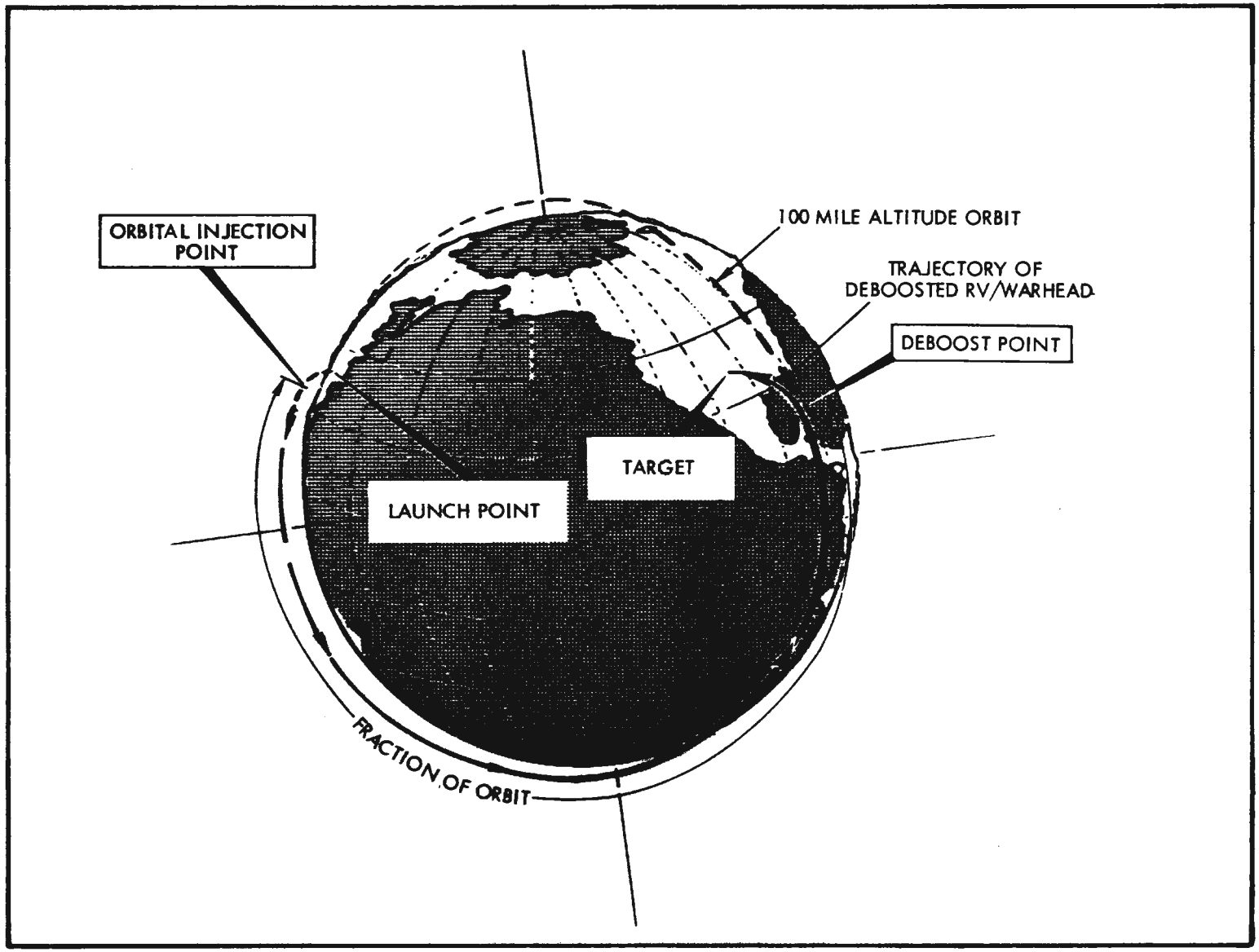

Figure 3. A South-Fired FOBS Trajectory (Altitude Exaggerated)

Figure 2 shows the trajectory of a FOBS fired in a northerly direction from a point in the Eurasian land mass. At the point labeled "orbital injection point" the booster rockets' first two stages have ceased to burn and have imparted the appropriate velocity to the third stage to put it into an orbit which would continue to circle the earth at, say, 100 miles altitude as indicated by the dashed line continuation of the solid line were it not for the fact that it is "deboosted" so as to "fall" (ballistically) on a target in the North American continent. Thus, only a fraction of an orbit was actually flown by the third stage. A typical total time of flight here would be on the order of 26 minutes. As indicated later in Mr. McNamara's statement, the last three minutes of this time would be devoted to the deboosting operation and the subsequent "fall" to the earth. Regardless of where on the trajectory illustrated in Figure 2 the "deboost point" is to occur, the operation is essentially the same, commencing some 500 miles before impact.

Figure 3 shows the trajectory of a FOBS fired in a southerly direction from a point in the Eurasian land mass so as to give it a nearly polar orbit which passes over the North American continent. As in the case of the northerly fired FOBS of Figure 2, the payload may be deboosted at any point along the trajectory, requiring some three minutes and 500 miles of range from the beginning of the operation to impact. The dashed line indicates the continuation of the orbit which the body would fly were it not deboosted. In this case, the total time of flight is on the order of 70 minutes.

Figure 4 illustrates the deboost operation. In that figure, the third stage is seen in a 100-mile orbit coming from the left and changing its attitude (the orbit remains unchanged, the third stage body merely reorients itself) to prepare to deboost. When the proper attitude has been achieved to point the third stage engine, the engine is fired in a direction more or less opposite to the direction of travel as indicated in the cartoon. This then subtracts sufficient velocity from the orbital velocity so that the vehicle travels as indicated along a trajectory down through the atmosphere much as does the reentry vehicle of an ICBM. In practice it is necessary to orient the thrust vector to give the deboosted reentry vehicle a flight path like that of an ICBM.

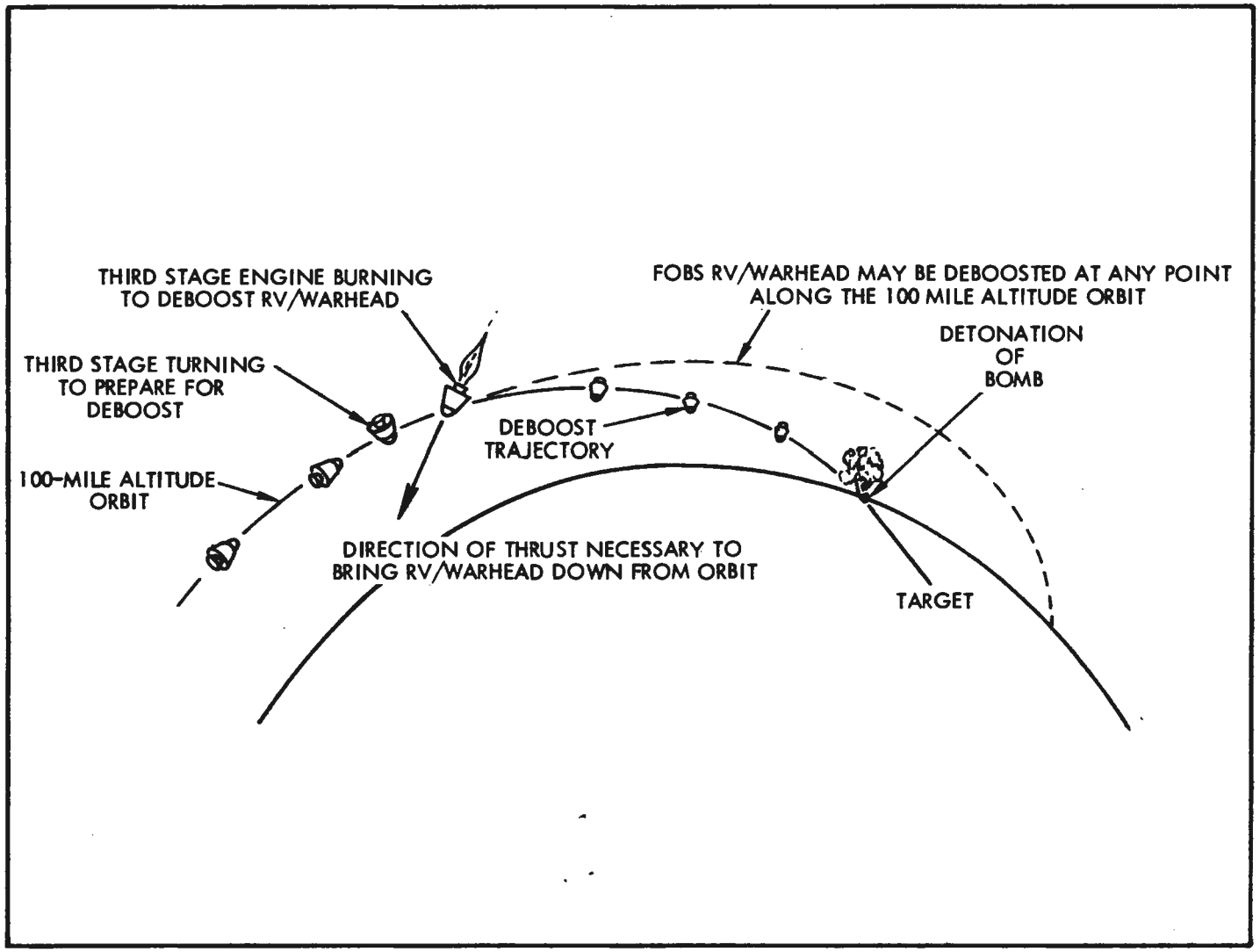

Figure 4. FOBS Trajectory in the Vicinity of the Deboost Operation

The dashed line in the figure illustrates the continuation of the 100-mile orbit from which the deboost can be performed essentially in the same manner (small adjustments in the attitude of the engine and the total burn time of the engine are required) regardless of the location in that orbit. Thus in either case, whether fired to the north or to the south, only a fraction of an earth orbit is flown to the point of deboost where the vehicle is deboosted to the target. Were the payload not deboosted, the vehicle would continue in orbit about the earth as illustrated in Figure 5. There it is seen that on consecutive orbits the earth rotates so as to displace the orbit with respect to the earth. In one orbit the earth will have rotated approximately 22 degrees. Thus, for the original target to present itself in the appropriate place with respect to the orbit would require a wait of some 15 orbits (90 minutes per orbit). Additionally, the accuracy of the system degrades radically with each orbit due to the unpredictable component of the drag of the earth's atmosphere on the vehicle. A 100-mile altitude orbit without adjustments will decay into the earth's atmosphere and burn up in a matter of 3 or 4 days. This is mentioned to point out the difficulties in using such a system for other than a fractional orbital bombardment system. The type of system that would remain indefinitely in orbit ready to attack targets at will is obviously not the type of system that Mr. McNamara is describing in his statement.

To return to the FOBS, the Secretary of Defense says that for the advantages of a FOBS

> ". . . . severe penalties are paid in two critical areas -- accuracy and payload. The accuracy of the Soviet ICBM modified to a FOB weapon would be significantly less and the payload (weight) of the FOBS vehicle would be but a fraction of the ICBM."

The latter point, the weight penalty, is illustrated in Figure 6. There, the payload atop the second stage of the ICBM consists only of a thermonuclear device and the protective reentry vehicle so that on the order of 80 percent of the weight above the second stage is devoted to a thermonuclear device. On the other hand, only about 40 percent of the same weight above the second stage of the FOBS booster can be devoted to a thermonuclear device because the weight of the deboost engines and fuel tanks as well as the

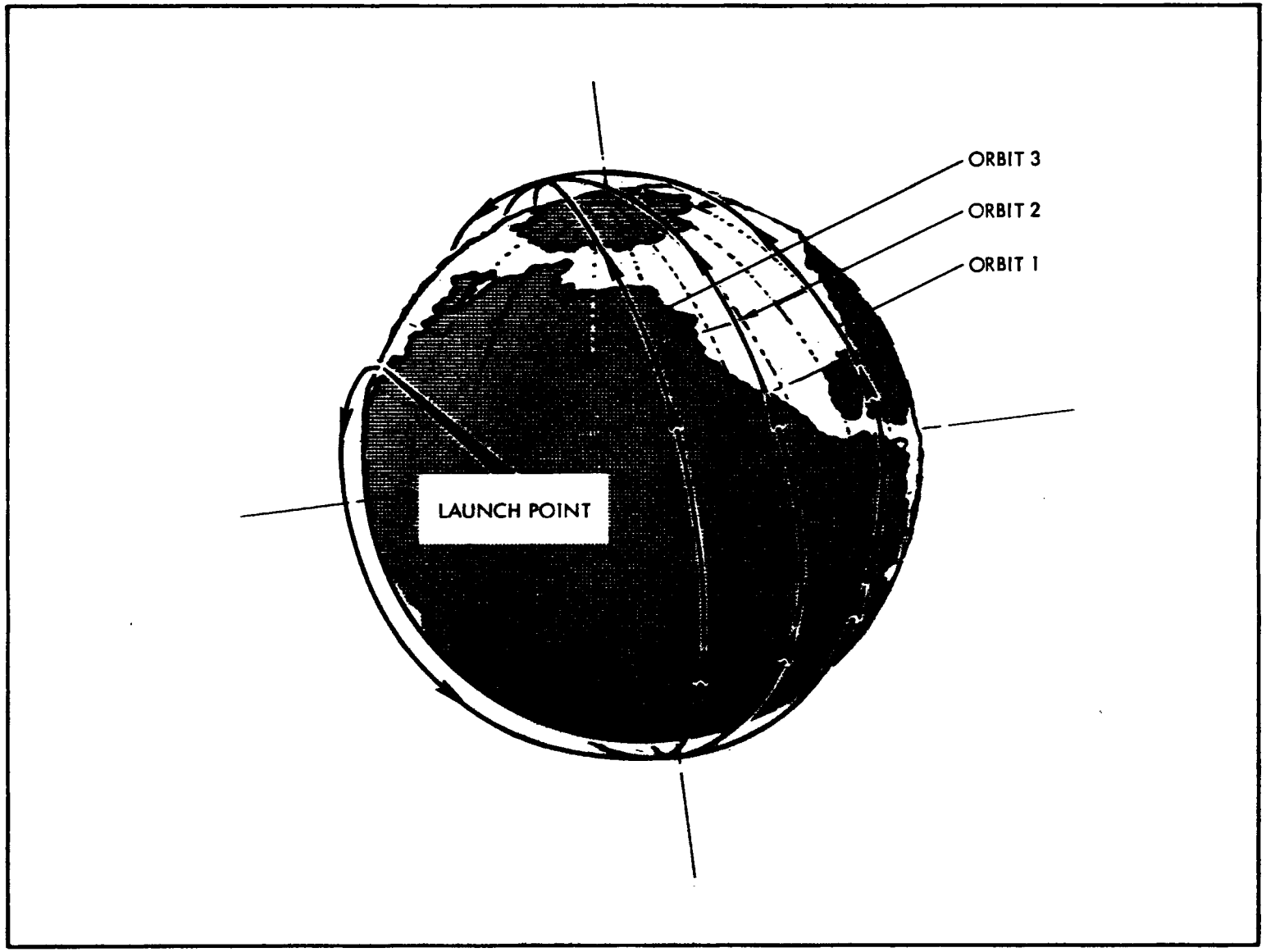

Figure 5. Illustration of Multiple Orbits

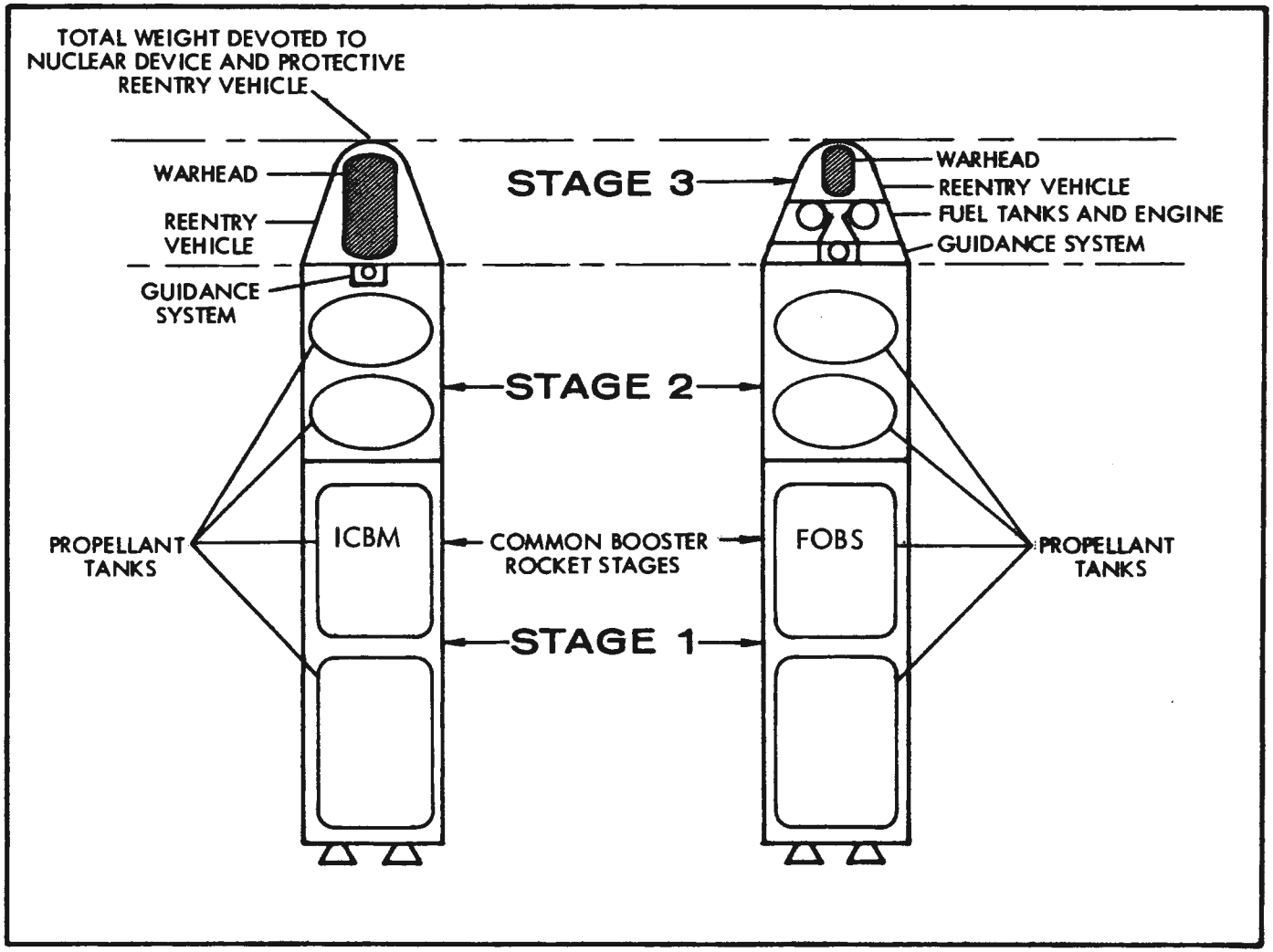

Figure 6. Comparison of ICBM and FOBS Payloads

guidance system and reentry vehicle must be accommodated. Thus, the warhead weight is halved and assuming that the thermonuclear yield is proportional to warhead weight, the megatonnage (yield) of the FOBS bomb is halved. While it cannot be shown graphically, it is generally true that the FOBS-type system is less accurate than an ICBM performing the same mission. The size of a FOBS dispersion pattern will be from 2 to 4 times as great as for an ICBM. Assuming then that the FOB has only half the yield of an ICBM and is only half as accurate, then for targets which an ICBM could kill with a probability of 99 percent, the FOBS could kill with only slightly greater than 50-percent probability. Thus, the statement of the Secretary to the effect that

> "The FOBS weapon would not be accurate enough for a satisfactory attack upon United States Minuteman vehicles, protected in their silos."

However, against "soft" targets which have not been protected by silos impervious to high blast and shock levels, the probability of kill is not so highly sensitive to accuracy and yield as implicitly indicated by Mr. McNamara in his speculation that

> "Perhaps the Soviets might feel it could provide a surprise nuclear attack against United States' soft land targets such as bomber bases."

Such soft land targets could, of course, be attacked by ICBMs also but as Mr. McNamara points out

> "Because of the low altitude of their orbits, some trajectories of a FOBS would avoid detection by some early warning radars including our BMEWS. Also, the impact point cannot be determined until ignition of the rocket engine that deboosts the payload out of orbit -- roughly 3 minutes and 500 miles from the target."

Continuing later in the statement, he says that the United States has recaptured the warning time by operational deployment of recently developed over-the-horizon radars which

> ". . . . will give us more warning time against a full-scale attack using FOBS missiles than BMEWS does against the ICBM launch."

Thus, the FOBS weapon differs from the standard ICBM in three ways pertinent to the strategic balance between the U.S. and the USSR: (1) It has a much lower trajectory which may escape detection by BMEWS, (2) It can approach the U.S. from the south rather than the north, and (3) Its payload/accuracy combination is inferior to that of an ICBM of comparable size. The first two differences would have been disadvantages to the U.S. were it not for the OHD radars which are to FOBS as the old BMEWS are to ICBMs. The last difference restricts the use of FOBS to soft targets. These differences, one concludes from the statement, do little, if anything, to alter the basic deterrent capability of the U.S. which

> ". . . . rests upon our ability to absorb any surprise nuclear attack and to retaliate with sufficient strength to destroy the attacking nation as a viable society. With 3-minute warning, 15-minute warning or no warning at all, we could still absorb a surprise attack and strike back with sufficient power to destroy the attacker. We have that capability today; we will continue to have it in the future."

The question naturally arises as to how such a weapon is to be viewed in light of Article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies whose signatories have agreed, in part, on the following:

ARTICLE IV

> "States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.
>
> "The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited."

Note that Article IV states that the parties will not "....place in orbit around the earth, any objects carrying nuclear weapons...". The underlined phrase is the operative phrase in viewing the FOBS. As described by Secretary McNamara, the FOBS does not orbit around the earth in the sense of completing one or more orbits. As previously explained, an ICBM itself flies a fraction of an orbit, the only difference from the FOBS fraction of an orbit being that the FOBS payload, if not deboosted, would circle the earth while the ICBM payload's orbit will intersect the surface of the earth by design. Article IV of the Treaty is intended to prohibit the "basing" of nuclear weapons in space; i.e., stationing nuclear weapons in orbit about the earth (or elsewhere in outer space) to be used as a weapon at some indefinite time in the future. The FOBS system described above, once launched, has a defined time of arrival at the target, something less than 90 minutes. The same is true for an ICBM. Once it is launched, it has a defined time of arrival at the target, on the average something like 30 to 40 minutes. Thus, a FOBS, like an ICBM, with a live warhead and a programmed target is not to be fired from its launcher unless in anger. Orbital basing concepts which put weapons

into continuing orbits about the earth without a definite time for their use are equivalent to weapons with the launchers in space so that only when they are fired from their "space launcher" on command from the ground are they fired in anger. The placing in orbit from the earth of the "space launcher" is a tentative act as far as actual use as a weapon is concerned and thus could become a subject for questions under Article IV rather than the FOBS per se.

The basic consideration involves the main intent of Article IV of the Outer Space Treaty; the primary intent of this Article is to preclude the stationing of nuclear weapons or other weapons of mass destruction in outer space. The FOBS, as we understand it, does not involve such stationing of nuclear weapons; if a FOBS is fired with a live nuclear weapon, then we are at war and treaties have very little meaning. Thus, the FOBS is basically similar in mission to an ICBM but flies a different trajectory. It must also be noted that the Outer Space Treaty does not prohibit research and development activities which do not involve the actual stationing of nuclear weapons in outer space. If the U.S. so desired, we could also develop and deploy in ground-based sites a FOBS system without in any way violating either the wording or intent of the Outer Space Treaty.

STATEMENT ON FOBS

I have been most concerned by the many alarmist statements in the last few days that the new Soviet missile system identified by Secretary McNamara as a Fractional Orbit Bombardment System (FOBS) may have a critically adverse effect on the balance of strategic power between the Soviet Union and ourselvds. Certainly, any Soviet commitment to a major new strategic system is a matter of importance and concern to us. I believe, however, that any objective review of the facts relating to this development indicates that it will not constitute a major new factor in the strategic balance. As I understand it, the Soviets, in an effort to achieve an element of surprise, have created a system with an appreciable sacrifice in both the yield and the accuracy of delivery that can be obtained from a given missile booster. New developments in technology, however, have deprived the Soviets of the advantage of surprise that they might have anticipated from this system. As Secretary McNamara has revealed, we are

already operating new over-the-horizon radars which can give us more warning time against a full-scale attack with FOBS missiles than BMEWS would against an ICBM attack. There is a real possibility, therefore, that rather than increase their military capabilities, the Soviets may actually reduce their net capabilities by deploying FOBS rather than ICBMs. I believe it important for us to recognize that the mere fact that something is new does not make it good or the fact that the Soviets have done something dictate that we must follow their lead.

The charge has been made that the Soviet FOBS program constitutes a direct violation of the Outer Space Treaty. While I wish to emphasize that I do not in any way condone or excuse this unnecessary action on the part of the Soviets that further escalates the nuclear arms race, I do think that we must recognize that their action does not constitute a violation of the Outer Space Treaty.

Article IV of the Outer Space Treaty states:

> "States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. . . ."

The wording of this Article makes it absolutely clear that the Treaty is intended to prohibit the "carrying of nuclear weapons." The Treaty does not and was not intended to in any way prohibit the development or even the testing of systems capable of carrying nuclear weapons. I understand that there is no evidence of any kind or any reason to believe that nuclear weapons were associated with any of the Soviet tests of the FOBS.

Beyond this fundamental consideration that would exclude the violation of the Treaty, I believe it important to recognize that the intent of this Article was to outlaw military systems that would station nuclear weapons in orbit above the earth as a terror or blackmail threat during peacetime. To this end, the wording in the [illegible] Article, "not to place in orbit around the earth" was chosen with the intent of

covering a system that would circle the earth many times. The wording was not intended to cover ICBMs or systems such as the FOBS which presumably would only be used with nuclear weapons in time of war.

I believe that the Outer Space Treaty is an important international obligation to which the major countries of the world have solemnly committed themselves. This Treaty can serve a most important role in preventing the proliferation of nuclear weapons to the new environment of outer space. If we wish to develop the stature of this Treaty, we must be prepared to insist that its true obligations are honored. At the same time, we must be careful to avoid vague charges which cannot be substantiated that the Treaty has been violated. Such hasty actions can lead to counter charges that we are interested in employing the Treaty for a tactical, political advantage when it so serves our purpose. This can only serve to degrade the Treaty in the eyes of the world.

# # #

4

CROSS FILE SHEET

ACDA memo 11/21/67 fm Graybeal, subj:

FOBS and the Outer Space Treaty

is located in the packet of Doty Group papers (11/30/67)

SECRET

5/

Further Thoughts on FOBS

1. Confidence. In the strategic business "high" confidence usually means better than 97%. On this basis 90% is not high. Furthermore, this is a prediction not a fact. In September, DOD was talking about only 80% confidence. The 13 detections of 18 night launches detected by 440L comes out to only 70%.

2. Operational Readiness. The February readiness date for the interim detection system is a new target date for initial operational capability. As of 1 November we were talking in terms of March. Experience on other weapon systems indicates that there is usually some time lag between an initial operational capability and a dependable capability. Nevertheless, this interim detection system should be fully operational by the summer of 1968 which is probably the earliest time that the Soviets would have an operational FOBS.

3. Pindown Tactics. A postulated Soviet tactic would involve launching a FOBS every two minutes for a period of perhaps 35 minutes. By that time, ICBMs would take over the pindown job for the balance of the 10 hours required for Soviet bombers to attack our pindowned missiles. FOBS would also be targeted against some SAC alert forces. Since SAC alert forces require 15 minutes warning and since effective warning times for FOBS would be between 11 and 16 minutes some proportion of the alert forces would be destroyed on the ground. Remaining SAC forces would be struck by ICBMs. SLBMs might also be subjected to pindown. But certainly some SLBMs, some aircraft and some MINUTEMEN (after riding out pindown and aircraft bombing) would be launched. Even though Soviet air and ABM defenses would cause further attrition (perhaps fairly high because of smaller numbers and ragged coordination) the USSR would, of course, not get off scot-free.

4. The Future. The period after mid-1970 is not currently at issue. If our developments work out as planned, we should have an improved detection capability and our missiles should be less vulnerable to pindown.

746 on 11-27-67

5. FOBS vs SLBMs vs ICBMs. The use of FOBS rather than SLBMs or ICBMs for pindown is a question of tactics rather than weapons capabilities. Initial use of FOBS would provide less warning and the warning would be more equivocal than ICBMs. FOBS would probably provide more warning time than SLBMs, but (1) sub deployments run the risk of detection days ahead of time and (2) unless the subs had already been pre-positioned, the time between a decision to pre-empt and the launching of an attack might involve several days -- or weeks.

6. Likelihood of Pre-emption. Nevertheless, I agree that under normal conditions, pre-emption out of the blue does not seem especially attractive for the Soviets. However, it does seem to me that FOBS could lower the threshold for a pre-emptive decision. Thus I think that the period between now and mid-1970 could be more dangerous for us because of FOBS.

7. The main point I wish to make, however, was that a Soviet decision to go the FOBS route was not militarily irrational. Had their FOBS development been somewhat faster and our detection development somewhat slower, the danger would have been greater and lasted for a longer time.

ROBERT N. GINSBURGH

For Presidential press conference 11:00 am, Friday, 11/17/67

no Q. asked

6

SOVIET FOBS (FRACTIONAL ORBIT BOMBARDMENT SYSTEM)

QUESTION: Are you concerned by the new military threat posed by the Sovidt FOBS development, which was recently announced by Secretary McNamara; and does the Soviet testing of this system constitute a violation of the Outer Space Treaty?

ANSWER: I am naturally concerned about the possible implications of any Soviet commitment to a major new military system. However, as Secretary McNamara has already explained in detail, the Soviet FOBS development does not really pose a new threat or alter the present military balance. I believe it important to recognize that the fact that something is different does not make it good or the fact that something has been done by the Soviets dictate that we should follow their lead.

The Soviet testing of FOBS does not represent a violation of the Outer Space Treaty. The treaty was clearly designed to prohibit the carrying of nuclear weapons in orbit around the earth. The treaty does not prohibit the development or testing of systems that might be capable of carrying nuclear weapons. There is no evidence that the Soviet FOBS (?) have carried nuclear weapons. Moreover, the treaty was not intended to cover systems such as ICBMs or FOBS that are not in full orbit around the earth.

SMK file 7

Nov. 9, 1967

NOTE FOR MR. MOOSE

Dick--

As you requested, I have prepared the attached statement on FOBS for Senator Cooper.

I have included some introductory material on the significance of FOBS (first two paragraphs), which you may or may not want to send forward, before turning to the basic question of its position under the Outer Space Treaty.

Spurgeon Keeny

Att.

Nov. 9, 1967

NOTE FOR MR. ROSTOW

Walt--

I think you will be interested in the attached statement on FOBS which I prepared at Dick Moose's request for possible use by Senator Cooper.

Spurgeon Keeny

Att.

Nov. 9, 1967

NOTE FOR MR. JOHNSON

Chuck--

Attached for your information is ~~the~~ a ~~final version of the~~ statement on FOBS that I prepared for Dick Moose for possible use in the Senate.

Spurgeon

Att.

Nov. 9, 1967

NOTE FOR DR. HORNIG

Don--

Attached for your information are a memo I prepared for Walt on the FOBS and the Outer Space Treaty and a draft statement for possible use in the Senate on the same subject.

Spurgeon

Atts.

SMKeeny:jb:11-9-67 / bcc: SMK file and chron / Statement Del'd by smk abt 1:30 pm, 11-9-67. to Moose

Moose sent statement directly to Sen. Cooper.
[illegible] copy for this file, [illegible]

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STATEMENT ON FOBS

I have been very troubled by the many alarmist statements in the last few days concerning the Soviet Fractional Orbit Bombardment System (FOBS). Certainly, any Soviet commitment to a major new strategic weapons system is a matter of importance and concern. I believe, however, that an objective review of the facts relating to this development leads to the conclusion that it will not constitute a major new factor in the strategic balance.

In developing the FOBS, the Soviets may have been attempting to achieve an element of surprise by underflying or circumventing our BMEWS radars. The FOBS, however, involves a major sacrifice in both the yield and the accuracy of delivery that can be obtained with a given missile booster as compared with its use as an ICBM. New developments in technology, however, have deprived the Soviets of the advantage of surprise that they might have hoped to achieve with this system. We are already operating new over-the-horizon radars which can give us more warning time against a full-scale attack with FOBS missiles than BMEWS would against an ICBM attack. Moreover, if the Soviets should attack from the south or put weapons in multiple orbits, these new radars (which detect at launch) would give us even greater warning of an impending attack. There is a real possibility, therefore, that rather than increase their military capabilities, the

Soviets ~~have~~ would actually reduced their net capabilities ~~by deploying~~ if they decide to FOBS rather than ICBMs. I believe it important for us to recognize that the fact that something is different does not make it good and the fact that something has been done by the Soviets does not dictate that we must follow their lead.

I am also concerned that the charge has been made that the Soviet FOBS program constitutes a direct violation of the Outer Space Treaty. While I wish to emphasize that I do not in any way condone or excuse this unnecessary action on the part of the Soviets that further escalates the nuclear arms race, I do think that we must recognize that their action does not constitute a violation of the Outer Space Treaty.

Article IV of the Outer Space Treaty states:

> "States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. ..."

The wording of this Article makes it absolutely clear that the Treaty is intended to prohibit the "carrying of nuclear weapons." The Treaty does not and was not intended to in any way prohibit the development or even the testing of systems capable of carrying nuclear weapons. I understand that there is no evidence of any kind or any reason to

believe that nuclear weapons were associated with any of the Soviet tests of the FOBS.

Beyond this fundamental consideration that excludes a violation of the Treaty, I believe it important to recognize that the intent of this Article was to outlaw military systems that would station nuclear weapons in orbit above the earth as a terror or blackmail threat during peacetime. To this end, the wording in the Article, "not to place in orbit around the earth," was chosen with the intent of covering a system that would circle the earth many times. The wording was not intended to cover ICBMs or systems such as the FOBS which presumably would only be used with nuclear weapons in time of war.

I believe that the Outer Space Treaty is an important international obligation to which most of the major countries of the world have solemnly committed themselves. This Treaty can serve a most important role in preventing the proliferation of nuclear weapons to the new environment of outer space. If we wish to develop the stature of this Treaty, we must be prepared to insist that its true obligations are honored. At the same time, we must be careful to avoid vague charges which cannot be substantiated that the Treaty has been violated. Such hasty actions can lead to counter charges that we are interested in employing the Treaty for a tactical, political

advantage when it so serves our purpose. This can only serve to degrade the Treaty in the eyes of the world.

# # #

11-9-67

Stenographic Transcript Of

HEARINGS

Before The

SUBCOMMITTEE ON MILITARY APPLICATIONS

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

SCOPE, MAGNITUDE AND IMPLICATIONS
OF THE UNITED STATES ABM PROGRAM

DEP SEC DEF NITZE
+
DR. Foster

Washington, D. C.

NOVEMBER 6, 1967

Alderson Reporting Company, Inc.

Official Reporters

300 Seventh St., S. W. Washington, D. C.

NA 8-2345

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440-L are
forward scatter radars

~~TOP SECRET~~

November 15, 1967

MEMORANDUM FOR MR. ROSTOW

Subject: Military Significance of Soviet FOBS

I have a number of comments on Bob Ginsburgh's recent memo (attached) concerning the possible military significance of the Soviet FOBS.

To begin with, I have a fundamental difference with his over-all appraisal since I do not agree with his statement that we will not have a high confidence FOBS detection capability until the end of 1969. Our forward-scatter radar system now has very good detection capability over the Soviet missile testing area and some capability in the area of SS-9 deployment. By February, 1968, we are scheduled to have completed the expansion of our present facilities into a fully operational interim system that will give good coverage of all potential FOBS launch sites. While it is difficult to associate numbers with such a system, DDR&E estimates this system will have 90% confidence against single launches and very high confidence against multiple launches. The system will be further augmented by mid-1969 with additional transmitters at the same sites in order to increase frequency diversity for higher reliability. (With regard to reliability, it is interesting to note that the present system has detected 105 out of 109 launches; and, even more significantly, when operated against SS-7 missiles (which would be similar to a FOBS), the system detected on a real time basis 13 out of 20 launches in daytime and 13 out of 13 at night. Moreover, it has been demonstrated that the system can communicate warning to SAC as fast or faster than the existing BMEWS system.)

In view of the above, I don't believe that the FOBS really contributes anything to the "pindown" tactic that could not be achieved with SLBMs or ICBMs. With regard to the pindown tactic itself, I do not believe that the Soviets would possibly conclude that it provided an acceptable concept on which to base a pre-emptive military attack. In the first place, an enemy could never have much confidence about the effectiveness of this tactic against a specific missile since the effects involved

are dependent upon minor details or defects in design. In the second place, since this tactic would require a nuclear detonation every minute or so over the United States, the pindown of US missiles for up to "ten hours," while awaiting the arrival of Soviet bombers, would involve the expenditure of a large portion of the Soviet ICBM force without any direct effect on the US or its military forces. In the meantime, all of SAC, not only alert forces, would be on the way to Soviet targets; POLARIS could conduct a counter force strike; and MINUTEMAN would be undamaged and in a position either to take its chances with the pindown or to wait out the pindown and follow-up aircraft attack.

Looking to the future, I would also note that the vulnerability of the MINUTEMAN force to a possible pindown attack will be reduced with the introduction of various modifications and in particular with the introduction of MINUTEMAN III which will be much less vulnerable during launch to nuclear bursts than MINUTEMAN I and II. In addition, beginning in mid-1970, the 949 infrared strategic surveillance satellite will independently provide high confidence, real time warning of Soviet and Chinese missile launches.

Spurgeon Keeny

Att.:
TS memo dtd 11/3

cc: RNGinsburgh

SMKeeny:jb:11-15-67, 5:45pm
bcc: SMK file and chron

~~SECRET~~

10a

8 November 1967

MEMORANDUM FOR MR. ROSTOW

SUBJECT: Military Significance of Soviet FOBS

1. In staff meeting the other day, the question was raised as to why the Soviets would be interested in a fractional orbital bomb system in view of what seemed to be its limited military significance.

2. There is one possible use which could make FOBS especially significant. For some time we have been concerned that in a nuclear exchange the Soviets might use tactics to "pin down" our ICBMs and prevent effective retaliation. We have speculated that the most effective way to initiate such an attack would involve the use of about 40 submarine-launched ballistic missiles from subs off our coast. These would initially pin down our ICMBs until the Soviet ICBMs with longer flight times would take over the job. Pindown would continue for about ten hours during which time Soviet bombers could strike our missile sites.

3. Between now and the end of 1969 (when we expect to have a high confidence FOBS detection capability), FOBS could be substituted for SLBMs in the pin down role. Such substitution would (1) decrease detection time, (2) avoid the possibility that submarine deployments might put us on alert, and (3) release SLBMs for other tasks.

ROBERT N. GINSBURGH

cc: Spurgeon Keeny

~~TOP SECRET~~

Department of State TELEGRAM

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FOBS

PAGE 01 STATE 67963

2
ORIGIN GPM 03

INFO SS 20,SP 02,SC 01,L 03,H 02,NEA 15,EUR 20,EA 15,ARA 15,AF 18,
RSC 01,IO 15,P 04,USIA 12,NSC 10,INR 07,CIA 04,NSA 02,DOD 01,
ACDA 17,SCI 05,AEC 11,NASA 04,OST 01,/208 R

DRAFTED BY DOD/ISA"DR HALPERIN/MR ANDERSON
APPROVED BY G/PM PHILIP FARLEY
ATSD/AE DR WALSKE
JCS COL VANHOZER
OSD MR ALMOND
WHITE HOUSE MR KEENY
OSD DR SELIN
L MR MEEKER
G/PM MR GARTHOFF
OSD MR BROCKWAY
G/PM MR TRIPPE
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SUBJECT FOBS

1. ON 3 NOVEMBER SECRETARY MCNAMARA ANNOUNCED THAT THE SOVIETS APPEAR TO BE DEVELOPING A FRACTIONAL ORBITAL BOMBARDMENT SYSTEM (FOBS). DEFENSE CABLE 1993 (BEING REPEATED TO ALL ADDRESSEES) QUOTES THE SECRETARY'S STATEMENT WHICH PROVIDED DETAILS OF THE

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PAGE 02 STATE 67963

SYSTEM. TRANSCRIPT OF SECRETARY MCNAMARA'S PRESS CONFERENCE WAS TRANSMITTED IN USIA WIRELESS FILE EUF 135 AND 138 AND EPF 110 AND 114 DATED 3 NOVEMBER 1967. SINCE THE ANNOUNCEMENT THERE HAS BEEN WIDESPREAD PUBLIC INTEREST IN THIS DEVELOPMENT. SOME OF THE MORE FREQUENT QUESTIONS THAT HAVE ARISEN ALONG WITH RELEVANT FACTS AND US VIEWS WHICH MAY BE DRAWN ON WHERE

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RESPONSE IS NECESSARY ARE LISTED BELOW:

A. DOES THE SOVIET FOBS VIOLATE THE SPACE TREATY ?

1. ARTICLE IV OF THE TREATY REQUIRES THAT "STATES PARTIES TO THE TREATY UNDERTAKE NOT TO PLACE IN ORBIT AROUND THE EARTH ANY OBJECTS CARRYING NUCLEAR WEAPONS OR ANY OTHER KINDS OF WEAPONS OF MASS DESTRUCTION. INSTALL SUCH WEAPONS ON CELESTRIAL BODIES OR STATION SUCH WEAPONS IN OUTER SPACE IN ANY OTHER MANNER." THE WORDING OF THIS ARTICLE MAKES IT CLEAR THAT THE TREATY IS CONCERNED WITH "THE CARRYING OF NUCLEAR WEAPONS"; THE TREATY DOES NOT PROHIBIT THE DEVELOPMENT OR EVEN TESTING OF SYSTEMS CAPABLE OF CARRYING NUCLEAR WEAPONS. THERE IS NO EVIDENCE OR REASON TO BELIEVE THAT NUCLEAR WEAPONS ARE ASSOCIATED WITH ANY OF THE SOVIET FOBS TESTS. MOREOVER THE FOBS IS A LAND-BASED SYSTEM WHICH ACTS ESSENTIALLY AS AN INTERCONTINENTAL MISSILE AND DOES NOT GO INTO A COMPLETE ORBIT AROUND THE EARTH BEFORE LANDING ON TARGET (HENCE THE NAME "FRACTIONAL ORBITAL BOMBARDMENT SYSTEM" FOBS). AN ORBITAL BOMBARDMENT SYSTEM ON THE OTHER HAND WOULD INVOLVE WEAPONS BASED ON DEPLOYED IN SPACE FOR LONGER

PAGE 3 RUEHC 67963 UNCLAS
PERIODS OF TIME.

2. BOTH THE LANGUAGE AND THE INTENT OF THE TREATY HAVE THE PURPOSE OF PREVENTING THE STATIONING OF MASS DESTRUCTION WEAPONS IN SPACE. THE DEVELOPMENT AND DEPLOYMENT OF ANY SPACE WEAPONS AT GROUND INSTALLATIONS ARE NOT RPT NOT PROHIBITED. WE DO NOT BELIEVE THAT THE SOVIETS WOULD TEST FOBS WITH A

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LIVE NUCLEAR WARHEAD. HOWEVER, EVEN IF THEY WERE TO DO SO, IT WOULD NOT BE A VIOLATION OF THE TREATY SINCE THE WARHEAD WOULD NOT COMPLETE AN ORBIT AROUND THE EARTH.

2. WE HAVE THEREFORE CONCLUDED THAT THE SOVIETS HAVE NOT VIOLATED THE TREATY.

B. WHAT ARE THE ADVANTAGES AND DISADVANTAGES OF FOBS ?

1. FOBS TRAVEL AT ALTITUDES MUCH LOWER THAN THE HIGH PORTION OF ICBM TRAJECTORIES AND BECAUSE OF THEIR GREATER RANGE THEY COULD ATTACK TARGETS FROM DIFFERENT DIRECTIONS. A SOVIET FOBS FOR EXAMPLE COULD ATTACK THE US FROM THE SOUTH. THESE CHARACTERISTICS

PAGE 4 RUEHC 67963 UNCLAS
MIGHT ENABLE A FOBS TO AVOID SOME OF OUR RADARS SUCH AS THOSE OF THE BMEWS. THE US HOWEVER HAS RECENTLY DEPLOYED OVER-THE-HORIZON RADARS WHICH CAN DETECT FOBS LAUNCHES. SOME ARE ALREADY IN OPERATION. WARNING TIME OF A FOBS ATTACK FROM THES RADARS WOULD ACTUALLY BE GREATER THAN THE WARNING TIME OF AN ICBM ATTACK FROM THE BMEWS.

2. ON THE DEBIT SIDE, THE FOBS HAVE TWO SEVERE DRAWBACKS. THE ACCURACY OF ICBMS MODIFIED INTO A FOBS WOULD BE SIGNIFICANTLY LESS THAN ICBMS AND THEIR PAYLOAD WOULD BE CONSIDERABLY REDUCED. THUS THERE ARE PENALTIES IN BOTH PAYLOAD AND ACCURACY THAT EXACT A HIGH PRICE FOR USE OF THIS WEAPONS SYSTEM.

C. DOES THE US PLAN TO DEVELOP A FOBS ?

1. SOME YEARS AGO THE EXAMINED THE DESIRABILITY OF THE SYSTEM AND DECIDED THAT THE DISADVANTAGES WERE OVERRIDING. WE HAVE NO INTENTION OF REVISING THIS DECISION BUT WE WOULD IN NO WAY FEEL OURSELVES CONSTRAINED BY THE SPACE TREATY FROM SUCH DEVELOPMENT AND DEPLOYMENT IF WE CONCLUDED THAT IT WAS IN

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PAGE 04 STATE 67963

OUR INTEREST.

5. IN VIEW OF THE DRAWBACKS WHY ARE THE SOVIETS DEVELOPING THIS SYSTEM ?

T. THEY MAY OF COURSE COME TO THE SAME CONCLUSION THAT WE HAVE AND NEVER DEPLOY THESE WEAPONS.

2. SOME YEARS AGO THEY MAY HAVE CONSIDERED THAT THIS SYSTEM OFFERED A MEANS OF ATTACKING ELEMENTS OF THE US BOMBER FORCE BY SURPRISE BY AVOIDING THE US RADAR WARNING SYSTEM WHICH WOULD OTHERWISE ALERT THE BOMBERS ALLOWING THEM TO BECOME AIRBORNE AND SO REACH SAFETY. OUR NEW RADARS OBVIATE THIS POSSIBILITY. IF THEY DO DEPLOY IT, IT WILL SIMPLY BE A LESS EFFECTIVE USE OF THE RESOURCES EXPENDED THAN WOULD A COMPARABLE INVESTMENT IN THEIR ICBM FORCES. RUSK

For Keeny 103 3537 mailed

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OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

9 November 1967

MEMORANDUM FOR MR. KEENY, WH
MR. GARTHOFF, STATE
DR. SCOVILLE, ACDA
JCS, SAAC (COL VAN HOOZER)
SA (Dr. Selin)
DDR&E (Mr. Brockway)
GC (MR. AIMOND)
PA (Col Ruskin)

Request telephone clearance by COB 9 November.

DHH

DONALD H. HUMPHRIES
Colonel USAF
Director for Arms Control
Code 11, 57315

Para 1a changed as SmK's suggestion
11/9

11/9

Dubose

15a

DRAFT/Mr. Anderson/Dr. Halperin/9 Nov 67

Proposed STATE-DEFENSE Cable for Guidance to all Embassies

On 3 November Secretary McNamara announced that the Soviets appear to be developing a fractional orbital bombardment system (FOBS). Defense cable 1993 (being repeated to all addressees) quotes the Secretary's statement which provided details of the system.

Since the announcement there has been widespread public interest in this development. Some of the more frequent questions that have risen, along with suggested responses, are listed below.

1. Does the Soviet FOBS violate the Space Treaty?

A. Article IV of the Treaty requires that "States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner."

The FOBS is a land-based system which acts essentially as an ICBM which goes into a fractional orbit before landing on target. An orbital bombardment system, on the other hand, would involve weapons based or deployed in space for long periods of time.

Both the language and the intent of the Treaty have the purpose of preventing the stationing of mass destruction weapons in space. The deployment of any space weapons at ground installations is not prohibited.

We do not believe that the Soviets would test FOBS with a live nuclear warhead. However, even if they were to do so, it would not

be a violation of the treaty since the warhead would briefly be in a fractional orbit but no nuclear weapon would be placed in orbit around the earth or otherwise stationed there.

We have therefore concluded that the Soviets have not violated the treaty.

2. What are the advantages and disadvantages of FOBS?

A. FOBS travel at altitudes much lower than the high portion of ICBM trajectories and, because of their greater range, they could attack targets from different directions. A Soviet FOBS, for example, could attack the US from the south. These characteristics might enable a FOBS to avoid some of our radars such as those of the BMEWS. The US, however, has recently deployed over-the-horizon radars which can detect FOBS launches. Some are already in operation. Warning time of a FOBS attack from these radars would actually be greater than the warning time of an ICBM attack from the BMEWS.

On the debit side, the FOBS has two severe drawbacks. The accuracy of ICBMs modified into a FOBS would be significantly less than ICBMs and their payload would be considerably reduced. Thus there are penalties in both payload and accuracy that exact a high price for use of this weapons system. Earlier warning.

3. Does the US plan to develop a FOBS?

A. Some years ago the US examined the desirability of the system and decided that the disadvantages were overriding. We have no intention of revising this decision, but we would in no way feel ourselves constrained by the Space Treaty from such a deployment if we concluded that it was in our interest.

4. In view of the drawbacks, why are the Soviets developing this system?

A. They may, of course, come to the same conclusion that we have and never deploy these weapons.

Some years ago, however, they may have considered that this system offered a means of attacking elements of the US bomber force by surprise by avoiding the US radar warning system, which would otherwise alert the bombers allowing them to become airborne and so reach safety. Our new radars obviate this possibility.

S.W.K. [illegible]

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November 8, 1967

MEMORANDUM FOR MR. ROSTOW

Subject: FOBS and the Outer Space Treaty

I agree with Ed Welsh's basic point in the attached memo that the fundamental reason FOBS is not in violation of the Outer Space Treaty is that there is no evidence that it was carrying a nuclear warhead. I do not, however, agree with his additional technical point that a FOBS is in orbit within the meaning of the Treaty.

Incidentally, the confusion on this issue appears to have been created in part by the fact that McNamara was quoted (as reported by Ed Welsh) out of context. While McNamara's statement was still not very clear, what he actually said, in answer to a question as to whether this was a violation of the Outer Space Treaty, was:

> "No. They have agreed not to place warheads in full orbit. That is why this is a fractional orbit, not a full orbit, and therefore not a violation of that agreement."

Article IV of the Outer Space Treaty states:

> "States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. ..."

It is completely clear from the wording of the Article that it is meant to prohibit "carrying nuclear weapons." It does not in any way prohibit the development or even the testing of systems capable of carrying nuclear weapons. It is certainly implicit from the wording, "place in orbit around the earth," that the Article was meant to cover systems that would orbit the earth at least once and presumably many times. Considering the legislative history of the Treaty, the threat that it

sought to outlaw was clearly that of stationing of nuclear weapons in space as a terror or blackmail threat during peacetime. The Treaty specifically avoided dealing with the question of military delivery systems such as ICBMs which might go into space.

Ed Welsh makes an interesting technical point that a FOBS has in fact been placed in an orbit (as its name indicates). However, I believe that it is clear that it was not the meaning or intent of Article IV to cover this case. For Treaty purposes FOBS should be considered as an extension of the ICBM problem. At the same time, I think McNamara and his interpretors have confused the issue and possibly created a problem for us by making such a sharp distinction between a FOBS and a MOBS since the Soviet system is clearly capable of multiple orbits. A MOBS would also clearly not be in violation of the Treaty unless it contained a nuclear weapon. However, in making a major point of the distinction between FOBS and MOBS, we are at least suggesting that a MOBS would be a Treaty violation. I do not believe we have really thought through how we would deal with a future Soviet MOBS firing in the absence of any evidence that it contains a nuclear warhead. I would therefore recommend soft pedalling this point until we know where we are going.

I have discussed the problem with Len Meeker, Ray Garthoff, and Mort Halperin, and I believe all would agree with my interpretation of the Treaty. I have asked ISA and G/PM to prepare a cable of instructions to the field on this subject. I believe that the preparation and clearance of this cable will help clear up the policy issue on this question. Although I have not yet seen the transcript, I understand that Nitze's testimony on Monday before the Joint Committee has helped clear up the confusion on the relation of FOBS to the Outer Space Treaty.

Spurgeon Keeny

Attachment:
Returned - Welsh memo dtd 11/4

SMKeeny:jb:11-8-67
bcc: SMK file and chron
CEJ/DFH 11/9
Del'd by jb to ln -1:00pm, 11-8.

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON 20502

EXECUTIVE SECRETARY

November 4, 1967

MEMORANDUM FOR THE HONORABLE WALT ROSTOW

Subject: FOBS

I have not yet seen the actual transcript of Secretary McNamara's press conference in which he is reported to have spoken at length regarding a Soviet fractional orbit bombardment system. However, from what I have read in the newspaper and on the AP ticker, I would have to register disagreement with the interpretation regarding the space treaty.

The Secretary is reported as having said, "This is a fractional orbit, not a full orbit, and therefore not a violation of that agreement."

Article 4 of the treaty says nothing about a "full orbit." Rather, it expresses a prohibition against placing weapons of mass destruction "in orbit around the earth . . . on celestial bodies . . . or in outer space in any other manner."

Obviously, if the Soviet system contains no warhead, putting the object into space is not a violation of the treaty. Just as obvious, however, if an object is put into space with a warhead of mass destruction, it is violating the treaty.

It is incorrect to conclude that a space object has not attained orbit until it has made a complete revolution of the earth. Once having been launched, a spacecraft is in orbit as soon as it attains an altitude and speed which would permit it to make a complete revolution of the earth. To bring down such an object before it has made a complete revolution does not amend in any regard a statement that it was an object in orbit around the earth.

E. C. Welsh

19

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BULLETIN

RUSSIAN BOMB

WASHINGTON (AP)-SECRETARY OF DEFENSE ROBERT S. MCNAMARA ANNOUNCED TODAY THE RUSSIANS HAVE BEEN TESTING AN APPARENT ORBITAL BOMB SYSTEM WHICH CONCEIVABLY COULD BE COMBAT-READY NEXT YEAR.
WE414PES NOV 3

127
WASHINGTON--ADD RUSSIAN BOMB (126)

HE TOLD A NEWS CONFERENCE "I'M NOT CONCERNED," BECAUSE THE UNITED STATES IS BEGINNING TO PUT INTO OPERATION AN OVER-THE-HORIZON RADAR TO FOIL THE ORBITAL BOMBS' ABILITY TO AVOID DETECTION BY THE EARLY WARNING RADAR, WHICH WAS DESIGNED TO WATCH FOR INTERCONTINENTAL BALLISTIC MISSILE OR BOMBER ATTACK.

MCNAMARA SAID HE BELIEVES THE ORBITAL SYSTEM IS INTENDED AS A WEAPON AGAINST AMERICAN BOMBER BASES RATHER THAN CITIES.

"WE HAVE SYSTEMS THAT ARE CAPABLE OF DESTROYING SATELLITES OR OBJECTS IN ORBIT, SHOULD THAT BECOME NECESSARY," MCNAMARA SAID.

HOWEVER, HE ACKNOWLEDGED THERE IS NO WAY NOW TO PROTECT AMERICAN CITIES IF THEY SHOULD BE THE TARGET.

AND HE SAID THAT "VERY DEFINITELY" THE UNITED STATES IS RELYING ON THE ENORMOUS POWER OF ITS MORE THAN 1,000 INTERCONTINENTAL MISSILES, MORE THAN 650 SUBMARINE-LAUNCHED MISSILES AND SOME 600 LONG-RANGE BOMBERS TO DETER ANY SOVIET ATTACK.

MCNAMARA SAID THE RUSSIAN ORBITAL BOMB PROBABLY COULD LAUNCH A WARHEAD WITH THE BLAST POWER OF FROM ONE TO THREE MILLION TONS OF TNT. HE ADDED THAT AS FAR AS CAN BE LEARNED IT WOULD NOT HAVE ANY MULTIPLE WRHEADS WHICH COULD BE TARGETED AGAINST A NUMBER OF DIFFERENT OBJECTIVES AT THE SAME TIME.

THE SYSTEMS THAT MCNAMARA SAID COULD BE USED AGAINST HOSTILE SATELLITES ARE A NIKE ZEUS ANTIBALLISTIC MISSILE INSTALLATION AND A THOR MISSILE SITE, BOTH IN THE MID-PACIFIC.

BUT HE ACKNOWLEDGED THEY COULD PROVIDE ONLY LIMITED COVERAGE.

MCNAMARA SAID THERE WOULD BE A MAXIMUM OF 15 MINUTES WARNING TIME--ABOUT THE SAME MAXIMUM THAT CAN NOW BE EXPECTED AGAINST A LONG RANGE MISSILE ATTACK.

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File FOBS

00 WTE10
DE WTE 2305

FROM SECRETARY MCNAMARA
TO THE PRESIDENT
INFO GEORGE CHRISTIAN
CITE CAP67899

~~C O N F I D E N T I A L~~

OCTOBER 28, 1967

Ed Soviet orbital missile system

MEMORANDUM FOR THE PRESIDENT

FOR SOME TIME WE HAVE OBSERVED SOVIET TEST CONSISTENT WITH THE DEVELOPMENT OF A FRACTIONAL ORBITAL BOMBARDMENT SYSTEM (FOBS). THE MOST RECENT TESTS SEEM TO CONFIRM INTELLIGENCE EVIDENCE THAT THE SOVIET IS MOVING IN THAT DIRECTION.

THE COMMITTEES OF CONGRESS HAVE ASKED FOR BRIEFINGS FROM THE DEFENSE INTELLIGENCE AGENCY; WE HAVE PROVIDED THOSE BRIEFINGS. WE ANTICIPATED THAT THERE WOULD BE LEAKS TO THE PRESS AND SOME OF THOSE LEAKS ARE BEGINNING TO APPERAR.

WE THINK, THEREFORE, THAT WE SHOULD INITIATE A STATEMENT ON THE SOVIET TESTS RATHER THAN WAITING TO HAVE THE INFORMATION DRAGGED FROM US. ATTACHED IS THE STATEMENT WE PROPOSE TO RELEASE. I WANTED YOU TO HAVE A COPY BEFORE IT IS PUT OUT.

SIGNED: ROBERT S. MCNAMARA

DRAFT PRESS RELEASE

SOVIET FRACTIONAL ORBITAL BOMBARDMENT SYSTEM

IN ORDER TO PROTECT OUR INTELLIGENCE-GATHERING METHODS, WE HAVE ACTED WITH GREAT CARE OVER THE LAST SEVEN YEARS IN DISCUSSING INFORMATION COLLECTED BY THE INTELLIGENCE COMMUNITY. HOWEVER, WE HAVE NOT HESITATED TO RELEASE INTELLIGENCE DATA WHEN WE HAVE THOUGHT THAT IT WAS IN THE BEST INTERESTS OF THE NATION TO DO SO.

ONE EXAPLE OF THIS IS THE INFORMATION ON THE SOVIET UNION STRATEGIC NUCLEAR FORCE. THROUGH MY ANNUAL POSTURE STATEMENTS TO CONGRESS, AND AT VARIOUS OTHER TIMES, WE HAVE DECLASSIFIED INFORMATION ON THE SOVIET STRATEGIC FORCE IN ORDER TO HELP EXPLAIN NUCLEAR ISSUES OF MAJOR IMPORTANCE TO OUR PEOPLE AND OUR ALLIES.

SIMILARLY, WE HAVE PUBLICIZED UNPRECEDENTED AMOUNTS OF INFORMATION ON U.S. STRATEGIC FORCES. OF COURSE THIS GIVES INFORMATION OF VALUE TO THE POTENTIAL ENEMY. BUT OUR DETERRENCE RESTS NOT ONLY ON OUR CAPABILITY TO DESTROY ANY ATTACKER BUT ALSO ON THE ENEMY'S KNOWLEDGE THAT WE HAVE THAT CAPABILITY AND THAT WE HAVE THE WILL TO USE IT.

I WOULD LIKE TODAY TO DISCUSS WITH YOU CERTAIN INTELLIGENCE INFORMATION WHICH WE HAVE COLLECTED ON A SERIES OF SPACE SYSTEM FLIGHT TESTS BEING CONDUCTED BY THE SOVIET UNION.

AS YOU KNOW, AN INTERCONTINENTAL BALLISTIC MISSILE (ICBM) NORMALLY DOES NOT GO INTO ORBIT BUT RATHER FOLLOWS A BALLISTIC TRAJECTORY FROM LAUNCH POINT TO IMPACT POINT. IT REACHES A PEAK ALTITUDE OF PERHAPS 800 MILES ON THIS TRAJECTORY.

AS LONG AS TWO YEARS AGO, WE OBSERVED THAT THE SOVIETS HAD INITIATED TESTS INVOLVING A DIFFERENT TYPE OF TRAJECTORY OF MUCH LOWER ALTITUDE.

INFORMATION WE NOW HAVE CAUSES US TO ACCEPT THE LIKELIHOOD THAT IN THOSE LOWER ALTITUDE TESTS THE SOVIETS WERE WORKING ON SOMETHING WE HAVE CALLED A FRACTIONAL ORBITAL BOMBARDMENT SYSTEM (FOBS).

UNLIKE THE ICBM WHICH FOLLOWS A BALLISTIC TRAJECTORY, THE VEHICLE LAUNCHED IN A FRACTIONAL ORBITAL BOMBARDMENT MODE IS FIRED INTO A VERY LOW ORBIT ABOUT 100 MILES ABOVE THE EARTH'S ATMOSPHERE. AT A GIVEN POINT -- GENERALLY BEFORE THE FIRST ORBIT IS COMPLETE -- A ROCKET ENGINE IS FIRED WHICH SLOWS DOWN THE PAYLOAD AND CAUSES IT TO DROP OUT OF ORBIT. THE PAYLOAD THEN FOLLOWS A RE-ENTRY PATH SIMILAR TO THE RE-ENTRY OF A BALLISTIC MISSILE.

EVEN NOW IT IS IMPOSSIBLE TO BE CERTAIN OF WHAT THESE TESTS REPRESENT. IT IS CONCEIVABLE THAT THE SOVIET UNION HAS BEEN TESTING SPACE VEHICLES FOR SOME RE-ENTRY PROGRAM. IT IS ALSO POSSIBLE THAT THE RUSSIANS ARE CONDUCTING TESTS OF SOME SORT OF POST-STRIKE RECONNAISSANCE SYSTEM. BUT WE SUSPECT THAT THE RUSSIANS ARE PURSUING THE RESEARCH AND DEVELOPMENT OF A FOBS. IF THIS TURNS OUT TO BE TRUE, IT IS CONCEIVABLE THAT THEY COULD ACHIEVE AN INITIAL OPERATIONAL CAPABILITY DURING 1968.

SOME YEARS AGO WE OURSELVES EXAMINED THE DESIRABILITY OF THE FOBS AND THERE WAS AGREEMENT AMONG CIVILIAN AND MILITARY LEADERS THAT THE SYSTEM OFFERED NO ADVANTAGES TO THE UNITED STATES. WHILE DEVELOPMENT OF IT COULD BE INITIATED AT ANY TIME FOR RELATIVELY RAPID DEPLOYMENT, OUR ANALYSES CONCLUDE IT WOULD NOT IMPROVE OUR STRATEGIC OFFENSIVE POSTURE AND CONSEQUENTLY WE HAVE NO INTENTION OF REVISISNG THE DECISION MADE YEARS AGO.

LIKE ANY OTHER WEAPONS SYSTEM, THE FOBS OFFERS BOTH ADVANTAGES AND DISADVANTAGES OVER TRADITIONAL ICBMS. IN OUR OPINION, THE DISADVANTAGES FAR OUTWEIGH THE ADVANTAGES.

THE MAIN ADVANTAGE IS THAT SOME TRAJECTORIES OF A FOBS WOULD, BECAUSE OF THE LOW ALTITUDE OF THEIR ORBITS, AVIOD DETECTION BY SOME EARLY WARNING RADARS, INCLUDING OUR BMEWS. A SECOND IS THAT THE IMPACT POINT CANNOT BE DETERMINED UNTIL IGNITION OF THE ROCKET ENGINE THAT DEBOOSTS THE PAYLOAD OUT OF ORBIT -- ROUGHLY THREE MINUTES AND 500 MILES FROM THE TARGET. WHILE THE VEHICLE IS IN ORBIT, IT MAY BE DIFFICULT TO DETERMINE WHETHER IT IS A WEAPON OR A SATELLITE. ALSO, THE FLIGHT TIME IS AS MUCH AS 10 MINUTES SHORTER THAN AN ICBM.

FOR THESE POSSIBLE ADVANTAGES, SEVERE PENALTIES ARE PAID IN TWO CRITICAL AREAS -- ACCURACY AND PAYLOAD. THE ACCURACY OF THE SOVIET ICBM MODIFIED TO A FOBS WEAPON WOULD BE SIGNIFICANTLY LESS AND THE PAYLOAD OF THE FOBS VEHICLE WOULD BE A FRACTION OF THE ICBM.

THE FOBS WEAPON WOULD NOT BE ACCURATE ENOUGH FOR A SATISFACTORY ATTACK UPON UNITED STATES MINUTEMEN MISSILES, PROTECTED IN THEIR SILOS. PERHAPS THE SOVIETS MIGHT FEEL IT COULD PROVIDE A SURPRISE NUCLEAR STRIKE AGAINST UNITED STATES' SOFT LAND TARGETS SUCH AS BOMBER BASES.

HOWEVER, SEVERAL YEARS AGO, ANTICIPATING SUCH A CAPABILITY, WE INITIATED THE DEPLOYMENT OF EQUIPMENTS TO DENY THIS CAPABILITY. FOR EXAMPLE, WE HAVE OVER-THE-HORIZON RADAR, POSSESSING A GREATER CAPABILITY OF DETECTING FOBS THAN DOES BMEWS, AND GIVING US MORE WARNING TIME AGAINST A FULL-SCALE ATTACK USING FOBS MISSILES THAN BMEWS GIVES AGAINST A HEAVY ICBM LAUNCH.

OUR "DETERRENT" RESTS UPON OUR ABILITY TO ABSORB ANY SURPRISE NUCLEAR ATTACK AND TO RETALIATE WITH SUFFICIENT STRENGTH TO DESTROY THE ATTACKING NATION AS A VIABLE SOCIETY. WITH THREE-MINUTE WARNING, 15-MINUTE WARNING OR NO WARNING AT ALL, WE CAN STILL ABSORB A SURPRISE ATTACK AND STRIKE BACK WITH SUFFICIENT POWER TO DESTROY THE ATTACKER. WE HAVE THAT CAPABILITY TODAY; WE WILL CONTINUE TO HAVE IT IN THE FUTURE.

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October 17, 1967

MEMORANDUM FOR DR. E. C. WELSH

Subject: Soviet One-Orbit Space Operations

The October 16, 1967, TIMES article by Evert Clark, concerning the possible significance of the recent flurry of Soviet one-orbit space operations, may mislead the readers.

The orbits used in these tests have an apogee of about 115 n. miles, a perigee of 73 n. miles, an inclination of 49.6°, and a period of about 87.8 minutes. The launch is conducted from Tyuratam in a due east direction. The Recovery takes place just prior to completing one orbit at Kapustin Yar. The following discussion identifies a variety of possible test objectives for these operations.

Possibility I - (Fractional) Orbital Bombardment System
Such a system could approach every target on the surface of the earth from any direction. While the information available on these tests is not necessarily in conflict with this objective, the SL-11 launch vehicle, as modified for these tests, does not have the payload carrying capability to carry this payload in a weapon system. With a launch due east, this vehicle thrusts until fuel exhaustion. In order to strike targets in the United States, a launch to the north or south is needed. This reduces the earth rotation advantage inherent in an easterly launch. Therefore, an upgraded or new launch vehicle will be needed to make this system operational. Such a change requires a major launch vehicle-payload integration task.

Contrary Arguments -

1. In the absence of a northward viewing U. S. ABM system, no plausible void exists in the Soviet weapon spectrum which could be filled by a FOBS.

2. The need to substitute a new or modified launch vehicle for operational deployment raises a serious question of why the recent flurry of tests.

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Possibility II - Low Altitude Ballistic Missile System
Such a system would use an orbital or near-orbital velocity, low 100 n. mile altitude trajectory and then de-orbit as the warhead approaches the target area from the usual minimum-distance trajectory direction. A weapon of this type could evade early detection by BMEWS and thereby reduce the warning time available to the U. S. to launch its counter strike. This would presumably increase the probability of destroying the U. S. missiles while still in their silos.

Contrary Arguments - The need to retro-thrust during the re-entry phase increases the complexity of the vehicle system and the operation, thereby degrading its accuracy, and increasing the probability of missing the target.

Possibility III - A Penetration-Aids Development or Other Warhead Re-entry Development Program
The United States has been conducting an extensive Penetration Aids and Warhead Re-entry Development Programs by launching re-entry test payloads into the highly instrumented Kwajalein complex. The Soviets have no long range test target complex with equivalent instrumentation. Therefore, in order to conduct tests of this type, it may be necessary to bring the test re-entry body all the way around the globe and conduct the actual experimental measurements near the highly instrumented Kapustin Yar launch complex.

Contrary Arguments - Intelligence sources, to my knowledge, have not detected signals which support this possibility. The low altitude of the final phase of the re-entry operation may preclude this detection.

Possibility IV - Earth Re-entry System Development for Lunar Operations
Because of the high northern latitude of the Soviet mainland and the primary lunar tracking and control station in Crimea, the Soviets have an exceedingly difficult problem in their prospective lunar return operation. Because of the particular moon-earth geometry, a ballistic re-entry to earth favors landing in the lower latitudes. A landing in the Soviet Union requires shooting for a very narrow re-entry window. If the window is "over-shot,"

a retro-fire can save the operation. If the window is "under-shot," the landing will fall short. The footprint of this probable landing area includes the Western Indian Ocean, the Arabian Sea, and the Soviet mainland to the north. Recent representations by the Soviets to the U. K. and Malagasy Republic indicate that they are concerned with the possibility of an emergency operation in this part of the Indian Ocean.

Contrary Arguments - The signals intercepted during these one-orbit operations indicate that the terminal phase uses instruments similar to or are the same as are being used during the warhead re-entry tests of the conventional ballistic missile systems.

Conclusion - In order for the Soviets to conduct lunar return operations within the constraints imposed on them by geography, the earth-moon geometry, their desire for land recovery in the Soviet mainland, and their restricted access to a global tracking system, I conclude that the most likely possibility is Possibility IV, the development of Earth Re-entry System for Lunar Operations.

Winfred E. Berg

NEWS CONFERENCE

of

SECRETARY OF DEFENSE

Robert S. McNamara

at

Pentagon

Friday, November 3, 1967

* * *

Mr. Goulding: Gentlemen, this is our normal Thursday backgrounder with a couple of exceptions: first, that we are holding it on Friday instead of Thursday, and second, we have a couple of announcements so the entire thing will be on the record.

Secretary McNamara: We do have two announcements that I want to make. Afterwards I'll be happy to take your questions. The first relates to what we call a Fractional Orbital Bombardment System, and in connection with this I want to discuss with you certain intelligence information we have collected on a series of space system flight tests being conducted by the Soviet Union. These relate to the possible development by the Soviets of something which, as I say, we call a Fractional Orbital Bombardment System, that I'll hereafter refer to as FOBS -- a rather inelegant term.

Let me distinguish the FOBS system from the traditional intercontinental ballistic missile. An ICBM, as you know, normally does not go into orbit, but rather follows a ballistic trajectory from launch point to impact point. On this trajectory it reaches a peak altitude of about 800 miles.

Now, unlike the ICBM and this ballistic trajectory, the vehicle launched in a FOBS mode is fired into a very low orbit about 100 miles above the earth. At a given point -- generally before the first orbit is complete -- a rocket engine is fired which slows down the payload and causes it to drop out of orbit. The payload then follows a re-entry path similar to the re-entry of a ballistic missile.

Even now it is impossible to be certain of what these Soviet tests represent. It is conceivable that the Soviet Union has been testing space vehicles for some re-entry program. But we suspect the Russians are pursuing the research and development of a FOBS. If this turns out to be true, it's conceivable that they could achieve an initial operational capability during the next year, 1968.

Some years ago we ourselves examined the desirability of the FOBS system, and there was agreement among civilian and military leaders that there was no need for our country to develop a FOBS system. While development of it could be initiated at any time for relatively rapid deployment, our analyses conclude that it would not improve our strategic offensive posture and consequently we have no intention of revising the decision made, some years ago.

Like other possible variations, the FOBS offers some characteristics which differ from traditional ICBMs. In our opinion, the disadvantages of the FOBS system are overriding.

Because of the low altitude of the FOBS' orbits, some of their trajectories would avoid detection by some early warning radars, including our BMEWS. Also, the impact point cannot be determined until ignition of the rocket engine that deboosts the payload out of orbit -- and that occurs roughly three minutes and some 500 miles from the target. And the flight path can be as much as 10 minutes shorter than that of an ICBM.

For these characteristics, severe penalties are paid in two critical areas -- accuracy and payload. The accuracy of the Soviet ICBM modified to a FOBS weapon would be significantly less, and the payload of the FOBS vehicle would be a fraction of the ICBM.

The FOBS weapon would not be accurate enough for a satisfactory attack upon United States Minutemen missiles, protected in their silos. Perhaps the Soviets might feel it could provide a surprise nuclear strike against U.S. soft land targets such as bomber bases.

However, several years ago, anticipating such Soviet capability, we initiated the deployment of equipment to deny that capability. For example, already we are beginning to use operationally over-the-horizon radars which possess a greater capability of detecting FOBS than do the BMEWS. These will give us more warning time against a full-scale attack using FOBS missiles than BMEWS does against a heavy ICBM launch.

As you know, our deterrent rests upon our ability to absorb any surprise attack and to retaliate with sufficient strength to destroy the attacking nation as a viable society. With three-minute warning, a 15-minute warning or no warning at all, we could still absorb a surprise attack and strike back with sufficient power to destroy the attacker. We have that capability today; and we'll continue to have it in the future.

Now in the second announcement, I want to tell you that we have approved the name SENTINEL for the Chinese-oriented anti-ballistic missile system. Moreover, Lieutenant General Alfred D. Starbird, USA, has been named as the Army's System Manager for the Sentinel System. General Starbird is currently serving as Director of the Defense Communications Agency as you know. He'll assume his new position on November 15.

The System when deployed will provide a defense against the Chinese ICBM force, (assuming they go ahead to deploy such a force), of the mid-1970's. As System Manager, General Starbird will be responsible for the Sentinel's development and deployment.

His organization will have three main elements. The first will be the System Office in this area. It will be an element of the Office, Chief of Staff of the Army. The second will be the Systems Command at Huntsville, Alabama. They will develop, procure, and install the Sentinel System and the third element will be an Evaluation Agency with headquarters at the White Sands Missile Range, responsible for the evaluation, review and testing of the system.

The Sentinel organization will be supported by existing Army agencies such as the Corps of Engineers, the Materiel Command, the Army Communications Command, the Continental Army Command, and the Air Defense Command.

The NIKE-X organization will continue separately from the Sentinel organization. NIKE-X will carry on research and development on systems, the objective of which would be to protect population centers against large-scale attacks. The NIKE-X program will also design equipment to be used for tests of the penetration capabilities of our offensive missiles. Lieutenant General Austin W. Betts, who as you know is Chief of Research and Development for the Army, will continue to be responsible for the NIKE-X program.

Now I will be happy to try to take your questions.

Question: Of the two possibilities you mentioned in the FOBS announcement, either the development of FOBS or a new re-entry program for space, to which do you give the greater weight at this stage?

Secretary McNamara: I think it more likely they are working on the Fractional Orbital Bombardment System than they are on new re-entry vehicles for space systems. It's too early to be absolutely sure, but the weight of evidence is in favor of the former.

Question: Would this stimulate our effort in Bambi type of concepts as interception by satellite?

Secretary McNamara: No, I think not.

Question: Why is that?

Secretary McNamara: We have other ways of obtaining warning and the problem of protecting the population by destruction of the warhead as we have said before cannot be met by technology available to us today, taking account of the almost certain reaction of the Soviets to any ballistic missile defense that we would put up.

Question: Mr. Secretary, is this the orbital bomb that the Russians themselves have referred to and if it is as bad as you say it is, sir, why on earth are they considering the thing? I don't men to be facetious . . .

Secretary McNamara: Let me first say I don't know what they were referring to when Khrushchev made the statement. I believe it was Khrushchev who made the statement about an orbital bomb. I don't know whether this was what he had in mind or not. He didn't tell us, but secondly, why are they doing it? I think the most logical explanation is that we have maintained a very large bomber force in contrast to their bomber force, intercontinental bomber force, and as you know, we have plans to continue to maintain such a force in the future. They have perhaps thought that this force was a problem to them and that they could reduce the effectiveness of the force by designing a weapon that would eliminate the warning that the force needs to survive. As you know, our bomber force is highly vulnerable to missile attack, and we have protected a percentage of the bomber force against missile attack by putting it on an alert status such that it could take off and advance into the atmosphere during the period of warning of the missile attack. That is the primary advantage of BMEWS.

What the FOBS does is circumvent BMEWS. So if you were a Soviet planner, possibly concerned about the bomber element of our force, this might be one action you would take to meet that threat.

We countered their action with a reaction which is our over-the-horizon radar to recapture the warning time necessary to preserve a portion of our bomber force.

Question: Mr. Secretary, some of us met this morning with Senator Jackson and he brought up this Fractional Orbital device problem, and he is not all as sanguine as you are about our ability to detect. In fact, he made that statement it would completely confound our defense and would come in by the back door. Do you have any comment on that?

Secretary McNamara: He hasn't said that to me so I don't want to try to read what was in his mind, but we do have as I say an over-the-horizon radar system which we have been working on for some time, which we are beginning to use operationally at the present time and which will be fully operational early next year. And which does provide warning of potential attacks of this kind. Whether he is aware of that or remembered it when he made the statement he did, I can't say. Perhaps he can raise the question again. Mr. Nitze is appearing in public session before his Committee on the subject of ABMs on Monday.

Question: What you have on your hands here -- I know what the headlines are going to be -- that they have a three-minute bomb. It's not going to make any difference about whether it's aimed at a soft target like our bombers, as far as the American public is going to be concerned, is possibly a terror weapon. Is this the kind of irresponsible act that perhaps the German scientists did on the V-2 when they were sending these things over London?

Secretary McNamara: I think any such headline, of course, would be a false statement of the characteristics of the weapon and a misleading indication to the American people of the character of that weapon. This is a less accurate, less efficient weapon than the intercontinental ballistic missile. It does have the characteristics of flying, if you call it that, at an altitude and in certain areas of space such that it perhaps would not be detected by our Ballistic Missile Early Warning System. In anticipating that possibility several years ago, we developed a supplementary warning system -- the over-the-horizon radar. I recall speaking of it publicly, I believe in 1964, so we've had it under development for a long period of time for exactly this purpose. It's becoming operational at the present time, it will be fully operational before their FOB system is in effect, and therefore the FOB system is just what we indicated -- a system in which the disadvantages far outweigh the advantages as far as the attacker is concerned.

Question: There are four parts to this. (a). does this make an attack from over the South Pole far more likely? (b). how long have we known about their development of the FOBS? (c) where are they testing it? (d) what do we think of it as our main defensive weapon against it -- the Thor-based system you referred to in '64, anti-satellite, or the NIKE-X?

Secretary McNamara: Taking the last one first, as we have said before, we don't believe that there is a defense today in their hands or ours against a large-scale intercontinental ballistic attack on population centers. That, of course, is why we decided against deployment of an anti-ballistic missile system designed to protect population centers against heavy missile attacks.

Secondly, it's only been in the past month or two that we've seen enough evidence of testing to lead us to believe that it's more likely than not that these space shots are associated with a FOB system in contrast to a possible re-entry development of the space system.

Thirdly, where are they testing from? I'd rather not discuss that. It exposes some of our intelligence gathering information.

Fourthly, does this make an attack from the south more likely than not? I think not because there are severe penalties, as I have indicated, they pay for a FOBS orbit. A FOBS orbit need not come from the south. It could come from the north. But in any case, where it's to come from the south, it would be far less efficient way of delivering their warhead than an intercontinental missile trajectory, and I think that if they were to use it, it would be a specialized form of attack against such soft targets as, such time-urgent soft targets, as bomber bases.

Question: Will you go into why you are announcing it at this point? Is it in some way an effort to convey something to the Russians?

Secretary McNamara: No. It's only been in the last month or two that we've seen enough tests, enough evidence of tests, to lead us to this conclusion, and it's only been in the matter of the past few days that we've finished classified briefings on the subject of Congressional Committees. It was quite appropriate, therefore, I think, that we announce it publicly at this time.

Question: Could you describe how far along they are, Mr. Secretary, in an advanced stage of experimentation?

Secretary McNamara: As I indicated to you, we think it could become operational, if they choose to deploy it, sometime in 1968.

Question: Is this tied in with the 7 Cosmos shots in the past week? Are they related?

Secretary McNamara: I don't think they are related.

Question: Are these connected with the mystery shots?

Secretary McNamara: Let me just take this. I'll come to you next.

Question: I was going to ask that, too. Also, what do you estimate the payload is of these things? In terms of megatons?

Secretary McNamara: I don't whether to give that out or not. I'd say one to three megatons.

Question: Are they multi-warheads, sir?

Secretary McNamara: No.

Question: Is our third stage, the new stage for the ..... sufficient to counteract this?

Secretary McNamara: The Chinese-oriented ABM system is designed to protect against a Chinese attack in the mid-70s and not a Soviet attack.

Question: We are developing a new third stage against the FOBS system?

Secretary McNamara: The Chinese-oriented ABM system is designed to effect against the Chinese and not against the Soviets. Yes?

Question: I asked earlier whether these recent space shots were described as so-called mystery shots that we were not discussing, were those so-called FOBS tests, there were about eight or nine?

Secretary McNamara: Let me ask Phil to check this. I'm not entirely sure that I know which shots you're talking about -- the mystery shots. Well let me ask Phil to ask the question. I don't think of these shots as mystery shots. I hope there aren't any mysteries.

Question: Talking about over-the-horizon radar and warning. What kind of warning will you be able to get if this takes only about a few minutes for the warhead to come down?

Secretary McNamara: We will have warning of the movement to us, toward us, of . . . . objects.

Question: How will we know if it is one of the FOBS?

Secretary McNamara: When we see the kind of the FOBS attack that would be designed against our model bases, we'll know it's that, it's a FOBS, and over-the-horizon radar.

Question: . . . . Do you have this over-the-horizon radar deployed all around the city too?

Secretary McNamara: The over-the-horizon radar warns of the incoming objects whether they be targets against cities or bombers. There's no particular reason for them to use a FOBS as opposed to an ICBM against the city. The only purpose of using FOBS instead of ICBM's would be to avoid the warning, reduce the warning time and this becomes important only in relation to time-urgent targets. Cities aren't going to move in the next ten minutes, we can't do anything to move them. The bombers can move and we can act to move them and its this characteristic of the target that leads to this choice of weapon to be used against it and we counter that charge as I say by a new type of warning that recaptures the warning time.

Question: But my question sir is do you have enough of this over the horizon radar to protect the countries residents --

Secretary McNamara: To warn of attacks on any part of the country and the answer is yes.

Question: Mr. McNamara, is it possible, though.... I want to get one thing straight on this thing, when you speak of an orbit. Is it possible for them to put this thing up in orbit and go around and around the earth several times before they fire this rocket off?

Secretary McNamara: The answer it is possible, but there is no advantage to it. As a matter of fact, there is a penalty to them for doing that. It exposes the weapon to destruction, it's a violation of an agreement they've entered into, it gives additional warning and for all of these reasons it's a very unlikely tactic.

Question: But if this thing is capable of orbit, how are you going to know when they put this thing up and it starts orbiting that they are not simply orbiting some sort of satellite and that they are actually orbiting a FOBS. Couldn't they orbit this thing, let it go around once, and then fire the damn thing off. And you only have 3 minutes warning.

Secretary McNamara: And of course it isn't one you are thinking about. One is of no value to them. We have roughly 40 SAC bomber bases. It would take a very substantial number of warheads targeted on those bases to destroy them and quite clearly they are not going to put that substantial number X into orbit.

Question: Mr. Secretary, you said they were destroyable? What would you destroy them with?

Secretary McNamara: We have systems that are capable of destroying them -- Satellites. We can put objects in orbit if that becomes desirable or necessary.

Question: Sir . . .

Secretary McNamara: Let me take someone else, yes.

Question: On the over-the-horizon radar, I understand this is one of the first developments in which we were actually using it as we were developing it. What I want to get clear is whether this is what you mean by saying it has become operational and also is it still confined to the test area -- whether it be Florida or wherever?

Secretary McNamara: No. The over-the-horizon radar has been in development for several years. In a test made, we have been actually using it to --

Question: Where is that?

Secretary McNamara: We don't disclose the sites of it.

Question: Is this airborne radar?

Secretary McNamara: No. Ground-based radar. A ground-based system. I'm not going to discuss any more than I have. It has been in development for a number of years. It's been in use as a test system for a number of years, measuring and obtaining flight information on Soviet launches for that period of time, and within the last 60 days -- am I right on that -- within the last 60 days we've put it in the operational status. I'ts not yet fully operational. It wont be fully operational until February of next year.

Question: Can I ask you a question of . . . . .

Secretary McNamara: I'll take this one.

Question: What kind of warning time does it give us on the FOBS?

Secretary McNamara: Roughly the same as the BMEWS. Slightly more, but roughly the same.

Question: Fifteen minutes?

Secretary McNamara: Roughly fifteen minutes.

Question: On the warhead itself, just to get it into perspective, you say that the payload of the FOBS would be a fraction of the ICBM and you put the actual as between one and three megaton. Isn't that about equivalent to Polaris or Minuteman?

Secretary McNamara: They have to use a very large launch vehicle, and the large launch vehicle would carry larger warhead on an intercontinental ballistic missile flight. But you degrade the capability in order to use it for this purpose, and you degrade it in two respects, One, as in reducing the payload, and the other, and far more important, degradation, is in reducing the accuracy.

Question: Well, actually the warheads would be equal to our own warheads?

Secretary McNamara: Yes, roughly so. The accuracy, of course, is far, far less than our warheads and therefore the destruction capability which is a function of accuracy and payload is far, far less.

Question: As a follow-up on that, would they be capable of using MIRV in these bombs to get really messed up, multiple warheads in the bombs? And why couldn't they increase the accuracy?

Secretary McNamara: They have a number of inaccurate objects, possibly.

Question: Can't they increase -- just like everything else is perfected, just increases accuracy where it would be.

Secretary McNamara: The length of the flight and the characteristic of the orbit -- they will never be able to get the accuracy in this kind of a system that they could get, applying the same technology to an intercontinental ballistic missile system. The object, therefore, is to reduce warning time. That's why you sacrifice payload, why you sacrifice accuracy, and our counter to that, as I say, is to develop a new warning system. I am correct in saying, Phil, Dan, and I announced this in 1964, am I not?

Mr. Goulding: It was before I was on board, sir.

Question: How do they get them in orbit? Doesn't that imply improved accuracy?

Secretary McNamara: No. Low orbit is one of the things that takes additional power.

Question: Isn't that a new re-entry vehicle?

Question: There are so many important questions asked about this today, won't you please give us a little more time and a few more questions?

Secretary McNamara: No. I have a terribly busy day. Let me just take this question here. I can't answer the question of yours about the new re-entry vehicle, but Phil, will you get the answer to that?

Question: Will your satellite observation station network at Hawaii and ....., will they be able to identify those objects?

Secretary McNamara: These objects are identified by the over-the-horizon radar system, the sites of which are classified, and I just don't want to get into a discussion that throws any light at all on where these sites are, or the character of the over-the-horizon system.

Question: Your whole presentation here seems to be based on the assumption that the Russians don't think much of our over-the-horizon radar. If this thing works, then it knocks the hell out of their reason for using it.

Secretary McNamara: It negates the advantage that they may have hoped to get from it. It's exactly the reason why we decided not to go ahead with it. On the other hand, they are faced with the bomber threat that is very substantial and they are quite clearly taking action to counter that bomber threat. There's no question but what if you are sitting in the Soviet shoes and you look at our bomber force as it has been, and as it is, and as it will be, it's a much larger bomber force than they have.

Question: We're not developing a new bomber?

Secretary McNamara: We have today how many bombers?

Voice: 600.

Secretary McNamara: 500 to 600? How many are we going to have tomorrow?

Question: We're phasing out the B-52s.

Secretary McNamara: Oh, no, we're going to have hundreds of bombers as far in the future as any of you can look. . . . If you are looking at this problem from a Soviet point of view, you are going to be concerned about it. Particularly you would have been concerned about it 4 or 5 years ago. I don't think there is any doubt but that is what is behind the Tallinn system. For our planning, we must assume the Tallinn system has an ABM capability. There's an uncertainty whether it does or doesn't. But its' very clear indeed that it is an advanced air defense system. It was designed to take account of the stated plans of the United States to maintain a large bomber force for a number of years. So it's very clear that our decision to maintain a bomber force has led to their reaction.

There's no argument about that. This is simply another illustration of the theme I tried to advance in San Francisco, that in strategic force planning, action leads to reaction. It's absolutely fundamental to each party that they maintain a deterrent, so long as technology and financial capability permits, and technology and financial capability both the Soviets and the U. S. make possible the reaction of one to the action of the other. So this is -- you are seeing it every day. You see it in our action, Our Posiedon is in part a reaction to their potential ABM force, we said so at the time we introduced the Posiedon into the research and development program two or three years ago; we said it again when we introduced it into the deployment schedule this past year.

You can continue to expect that, and this is the reason why this government so strongly believes that it is in our national interest to engage in discussions of this subject with the Soviets.

Question: Did we have an agreement with them -- I've forgotten the status of the agreements -- did we have an agreement with the Soviets that we wouldn't get into using weapons in space?

Secretary McNamara: No. They have agreed not to place warheads in full orbit. That is why this is a fractional orbit, not a full orbit, and therefore not a violation of that agreement.

Question: You said a moment ago, it could go around the earth.

Secretary McNamara: I said they could, but they haven't.

Question: Well now, maybe they will.

Secretary McNamara: Maybe they will violate and if they will we will observe it, but the point is that this Fractional Orbit Bombardment System is not a violation of that agreement.

Question: You are going to say this is not a violation of that agreement?

Secretary McNamara: Read the agreement and you will see why it isn't. I will be happy to give you a copy of the text.

Question: You say we have systems which are capable of destroying satellites of this nature. I take that to mean, the very limited installations we have out in the Pacific.

Secretary McNamara: Yes, that is right.

Question: This doesn't provide very much coverage, does it?

Secretary McNamara: I don't want to imply that we can defend population centers of this country against heavy Soviet attacks. We can't.

Question: Is your position now that we are still relying on deterrent as your basic defense against it?

Secretary McNamara: Yes, very, very, definitely so. We are still relying on the deterrent and that is what they are relying on. There is no other basis on which to rely at the present time and no technology, either ours nor theirs, would permit any other basis. One more question.

Question: We would like to have you characterize your concern, whether this means a new round in the arms race. . . .

Secretary McNamara: I'm not concerned for the reasons I have outlined to you.

Question: Should our European allies be concerned, Mr. Secretary, who don't have over-the-horizon radar?

Secretary McNamara: The European allies face different problems. They face the medium-range ballistic missiles and the intermediate-range ballistic missiles and they did not have and cannot obtain the period of warning that we have. Theirs is quite a different problem.

Thank you very much.