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DEPARTMENT OF STATE

Washington, D.C. 20520

January 29, 1971

MEMORANDUM

TO: PM/ISP - Mr. Leon Sloss

FROM: INR/DFR - Leonard Weiss LW

SUBJECT: Your Memorandum on "Launch-on-Warning"

I want to thank you for your memorandum of December 28 on launch-on-warning. It is a thoughtful memorandum. It will probably come as no surprise to you, however, that it leaves me less than satisfied.

My dissatisfaction stems in part from the semantics used. The term "launch-on-warning", perhaps because of earlier debates on the policy issues involved, seems to generate strong reactions and, in the process, obscures the central points I previously made to you and Sey.

To refresh your memory, in our previous discussion I was questioning the degree of our vulnerability to Soviet nuclear attack, and thus the need for our resorting to measures, such as hard-point defense, which most informed observers feel would blow up the possibility of a SALT agreement. I was also raising in this context the feasibility of an ABM-only agreement consistent with adequate protection of our security interests.

Stripped to its essentials, my reasoning was, and still is, as follows:

1. Our fundamental protection against nuclear attack--and nuclear blackmail--lies in our capability to inflict such intolerable damage on the enemy as to deter him from possible attack.

2. We would appear to have that capability in part in our capacity to get our Minutemen off the ground before any Soviet ICBM's could knock them out should the Russians attempt a nuclear first strike. That is, there would be time between the launching of Soviet missiles and their hitting US targets to get our own missiles on the way.

3. The Soviets would know that we had this capability.

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4. Knowing this, they should be deterred from the possibility of undertaking a first strike. Even if the Soviets might calculate that there is a substantial chance we would not employ this capability, they would still have to allow for the possibility that we would; and even if the possibility were small, it should be sufficient to deter them because of the intolerable destruction they would suffer if the possibility became a reality. In other words, because of the intolerable level of destruction with which they might be visited, they would have to assume "the worst case" in judging what they themselves might do.

5. Thus, I concluded that despite the SS-9's and possible future qualitative improvements by the Soviets we still have a significant deterrent so long as our own Minutemen could get off the ground in time.

6. In addition, and more important, of course, we still have our sea-based missiles and heavy bombers, and the political factor would provide a further heavy constraint on the Soviets as well as ourselves on any first resort to nuclear weapons, though for the sake of analysis we left these considerations aside to focus on the deterrent capability of a land ICBM force.

In these terms your memorandum still leaves me unpersuaded:

1. If I understand your argument correctly, it is in large part that the deterrent is not credible. It implies that we might "launch everything in a spasm" even when the Soviets might launch only a few missiles, and that the Soviets would calculate that we would not engage in mass destruction when they were hitting us with just a few. You suggest, accordingly, that the Soviets would have a strong temptation "to probe below the threshhold" of the number of missiles they could launch before we would react.

I don't find this a very plausible argument. Nuclear weapons are of such tremendous destructive capability that I find it difficult to conceive of the Russians "probing" even with only a few of them. Were they to probe in the sense of actually sending some over, they would have to calculate that we would respond at least to the extent of the amount they may have thrown at us; and they would have at least to allow that the initial exchange would escalate into a more massive one, and thus they should be deterred from starting things in the first place. If they should reason this way--as I would expect them to if they are rational--then I doubt they would even threaten "to probe below the threshhold", as you suggest, since they would appreciate that the threat is not credible. In general, I find this whole concept of probing with missilery below some threshhold highly unrealistic politically.

2. You appear to question the technical feasibility of developing a system which would be sufficiently fast, discriminating and unambiguous in providing the warning required to make such a deterrent credible. I am no expert in these matters but I am advised by Frank Perez and others who are more knowledgeable that this is quite feasible.

Technically it could be politically not feasible.

3. You also suggest that such a warning system would be very costly, perhaps as costly as increased Minutemen survivability. I am advised that the cost is not as great as you suggest. Even if it were, however, I would prefer to see the money going into such an effort than to plunge into hard-point defense with the adverse impact it would have on the possibility of reaching a SALT agreement.

4. I fully endorse your point that "the essence of a strategy of deterrence is to exploit the existence of weapons without actually using them". That is precisely what I am talking about. It seems to me that if in fact we have the capability to strike the Russians a devastating blow if they should attempt a first strike, the Russians cannot afford--as we couldn't either--to assume anything else but that that capability will be used. And in making that assumption, neither they nor we would resort in the first instance either to small ("probing" in your terms) or massive employment of nuclear weapons.

5. Finally, so that our perspective is not lost, let me emphasize that in arguing as I have (a) against ABM action by ourselves which would prejudice the chance of getting a SALT agreement, and (b) for an ABM-only agreement if a more comprehensive agreement covering offensive weapons is not negotiable, I have raised the question of the deterrent capability of our land ICBM force as a subordinate aspect of our total deterrent capability. I expect our principal deterrence to lie in our sea-based force. I have raised the launch-on-warning capability only to illustrate further the immense power at our disposal and to suggest that the concerns about the survivability of our nuclear force and the threat to our security have, in my view, been greatly exaggerated.

Enclosed is a memorandum by Frank Perez which discusses in greater detail some of the technical aspects of the issues raised in your memorandum.

Encl
As stated

cc:
INR-Mr. Cline
PM-Mr. Spiers
S/PC-Mr. S. Weiss
PM-Mr. Garthoff

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DEPARTMENT OF STATE

Washington, D.C. 20520

January 29, 1971

MEMORANDUM

TO: INR/DFR - Mr. Leonard Weiss

FROM: INR/RSG - Frank H. Perez

SUBJECT: Thoughts on Launch-on-Warning.

During the past decade major advances have occurred in the technology relating to ballistic missile early warning, detection, tracking and discrimination. Utilization of these advanced techniques provides high confidence that a flock of geese or an accidental or unauthorized missile launch would not serve to trigger a spasm response with all of its catastrophic results. In fact, technology has progressed to a stage where the unpopular and distasteful subject of "launch-on-warning" should be re-examined in a more rational and less emotional manner, particularly in view of the growing impact of Soviet technology on the survivability of our strategic forces. At this stage, however, it would be more appropriate to talk about a capability to launch on unambiguous warning.

In order to provide such a capability, it would be necessary to construct--in addition to systems already in operation or nearing operational status--perimeter acquisition radars (PAR type) along ICBM approach corridors. The resulting combination of systems would provide unambiguous information on the numbers of attacking objects, where they were launched from, and where they would impact.

The rationale for considering this approach is as follows: If the Soviets were to develop a credible counterforce capability against Minuteman, the possibility of their using it first in a crisis situation would exist. The current DPRC study on strategic force survivability shows that technical advancements, particularly in the form of highly accurate MIRVs, indicate that the Soviets could attain a counterforce capability against the US Minuteman force in the 1975-80 time period.

A significant deterrent to any temptation on the part of the Soviets to use their counterforce capability in a first strike in order to gain an advantage would be the threat to launch Minuteman before it came under direct attack. If the Soviets were uncertain as to the US response, it is doubtful that they would consider a counterforce first strike against Minuteman to be a viable option. The possibility of trading Soviet cities for empty US silos would weigh heavy on the Soviet political leadership in reaching such an awesome decision.

In order to convince the Soviets that the US might respond to an all-out Soviet surprise attack against Minuteman by launching some part or all of the force would require the US to have in being a highly reliable ballistic missile early warning and tracking capability. Such a system would provide warning of a mass missile launch at the time it occurred and would be capable of accurately and reliably determining the nature of the attack in sufficient time for the Minuteman force to be launched on the basis of an informed judgment by the President.

The key to a credible capability would be highly sophisticated and reliable systems to detect mass launches from the Soviet Union as soon as they occurred and they to quickly define the attack in terms of its size and the intended target areas. It would also require rapid procedures to communicate with the President and the National Command Authority.

We already have systems in operation which are designed to provide immediate and continuous warning of mass missile launches from the Soviet Union. These are the 440-L OTH system and the 647 early warning satellite. 440-L is now operational and functioning satisfactorily. The first 647 satellite was launched recently but failed to achieve the desired stationary orbit over the Soviet Union. Instead, it went into a highly elliptical orbit. Nevertheless, we have received sufficient data from the satellite to indicate that its design objective probably will be achieved.

Determining that a mass launch had occurred, while a very important part of a launch-on-warning capability, would not be enough. We would have to have absolute assurance as to the size of the attack and would need to know specifically where the attack originated and to where it was directed. With the deployment along ICBM approach corridors of advanced phased array radars of the type we are putting into Safeguard (Perimeter Acquisition Radars- PARs) we would be able to accurately and reliably determine such factors as the number of attacking objects, where they were launched from and where they were intended to impact. Thus, we would know of a large-scale attack directed against Minuteman in time to be able to launch the Minuteman force or a given portion of it before it comes under direct attack.

In terms of cost, such a warning and tracking capability would not appear to be excessive. The 440-L OTH system is already in being and the program for the 647 early warning satellite system already has been approved and is in the initial phase. We are also in the process of constructing PAR radars at Malmstrom and Grank Forks which will perform the acquisition function for all of our Safeguard deployment at defended Minuteman complexes. Additional PAR type radars required to assure a highly reliable and redundant assessment of the threat would not appear to represent an additional major cost factor. In any case, this approach would be significantly less expensive than other solutions being considered for the Minuteman survivability problem--ABM defense of Minuteman, rebasing Minuteman in a mobile mode or the phase-out or phase-down of Minuteman with greater emphasis on SLBMs and bombers.

The argument could be made that the Soviets might first attack ballistic missile detection and tracking radars (PAR type) so as to blind the US, and then follow with an all-out counterforce attack against Minuteman. This, however, would be a dangerous tactic on the part of the Soviets. Such a radar attack would alert the US and could permit the US to launch its missiles after a mass missile launch against the US was detected by 440-L and 647. To mitigate the remote possibility of such a radar attack the US could elect to protect a key segment of its ballistic missile warning and tracking network with ABMs. In the SALT context we could propose our NCA defense be not around Washington, but rather at Malmstrom which is one of two safeguard sites currently being constructed. From Malmstrom alone we probably would still be able to track and identify with sufficient precision and reliability a major ICBM attack directed at our Minuteman complexes.

Once the attack had started, the Soviets would know that around 30 minutes would be available in which to alert the US President and the National Command Authority and to make a decision to launch Minuteman. However, about 15-20 minutes probably would pass before the nature of the attack would be sufficiently defined so as to determine whether it was in fact a major attack directed against Minuteman. Thus, in any system designed to permit launching of Minuteman on unambiguous warning would require highly sophisticated and reliable procedures for alerting the President and the National Command Authority so that they would be fully informed on a continuing basis of developments as they occurred. However, it is most unlikely that a Soviet first strike would occur except in a period of extreme tension, and in such a situation the President and the National Command Authority would be especially alert to react to Soviet initiation of an attack.

A Soviet counterforce attack against Minuteman might be conducted without concurrent attacks against US population and industrial centers. Launching the Minuteman force against SIOP targets, which include Soviet population and industrial targets, probably would cause the Soviets to retaliate in kind. Therefore, it might be prudent to earmark a certain portion of the Minuteman force, say 200 or 300 missiles, which could be

launched against high value military targets away from population and industrial centers while the remainder of the Minuteman force rode out the attack. In such an attack, high value targets could include isolated heavy bomber bases, submarine bases, nuclear storage sites, military depots, R & D centers, etc. Thus, if the Soviets did destroy the bulk of the remaining Minutemen, they will have suffered relatively greater losses and will have expended a large number of their missiles.

On balance, even if we were to provide ABM defense of Minuteman as a deterrent to a first strike, there would still be considerable merit in having a highly reliable integrated ballistic missile early warning and tracking system which would give the President the option to respond to a Soviet attack based on his assessment of the situation. This would seem preferable to no option other than to ride out the attack and then respond with what residual remained. As noted in the draft DPRC study on strategic force survivability, uncertainties surround even a dedicated hard-site defense of Minuteman because "there is considerable uncertainty about future Soviet penetration aids and re-entry vehicle technology."

In summary, an unambiguous launch-on-warning capability could serve to deter the Soviets from seeking to develop a counterforce capability against Minuteman. More importantly, it could serve to significantly reduce any incentive to use such a force in a pre-emptive strike in the hopes of gaining some strategic advantage. This latter consideration is particularly important, since the primary objective of US strategic forces is to deter nuclear attack on the US. To obtain the deterrent effect inherent in the capability to launch-on-unambiguous-warning would not require the US to announce a launch-on-warning policy. The mere fact that we had developed and deployed the sophisticated components required for such a capability would serve as a signal to the Soviets that the US was prepared to exercise this option.

It is recognized that this memorandum has only scratched the surface of this very complex and emotional issue. It is emphasized that this memorandum is not advocating the adoption of a launch-on-warning policy; rather it is raising issues and arguments which need more careful examination and study in light of changing conditions, both in terms of the military threat and technological opportunities.