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FREEZE HEARINGS

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HEARINGS: TO WHAT EXTENT CAN THE ARMS RACE BE FROZEN?

What follows are excerpts from the transcript of a two-day hearing hosted by the FAS in the Dirksen Senate Office Building, September 21-22, 1982. These remarks have been excerpted and made grammatical by FAS for the purpose of this prompt newsletter, but should not be taken as definitive expressions of the views of the participants, as they have not yet had the opportunity to review and clarify their remarks. A complete transcript of the proceedings along with supplementary material will be published in January, 1982, by Brickhouse Press (see back page).

The panel was chaired by Alton Frye, Washington representative of the Council on Foreign Relations. Joining Dr. Frye were Carl Duckett, former Deputy Director for Science and Technology of the Central Intelligence Agency (1966-1976); Adrian Fisher, formerly Deputy Director of the Arms Control and Disarmament Agency and former Dean of the Georgetown University School of Law; Frank von Hippel, Senior Research Physicist of the Center for Energy and Environmental Studies, Princeton University, and Chairman of the Federation of American Scientists; and Dimitri Simes, a Soviet-born political scientist, Director of the Soviet and East European Research Program, the Johns Hopkins University Foreign Policy Institute.

The strategic analysts who provided testimony were: Randall Forsberg, Director of the Boston-based Institute for Defense and Disarmament Studies and author of "Call to Halt the Nuclear Arms Race," the founding document which inspired the national freeze campaign; Richard L. Garwin, an IBM Fellow at the Thomas J. Watson Research Center and a long-time consultant to the U.S. government on matters of military technology and arms control; Paul C. Warnke, a former Director of the Arms Control and Disarmament Agency, Chief SALT negotiator, and Assistant Secretary of Defense; and Robert W.



Dr. Alton Frye

Dean, Deputy Director of the Bureau of Politico-Military Affairs, Department of State.

Opening Remarks by Jeremy Stone

DR. STONE: Widespread public interest in a nuclear weapons freeze obliges the community of arms control, foreign policy, and military analysts to give far more attention to this possibility than they have done heretofore. Accordingly, the Federation is sponsoring these hearings on a crucial underlying question: To what extent can the arms race be frozen?

Our hearings assume that there is an extent to which the arms race can be frozen, just as there are obviously features of the arms competition that cannot. Our intention is to generate information and stimulate thinking on this subject. To that end, we have constructed hearings in which expert questioners will question the expert witnesses. In this way we hope to generate a transcript that will sharpen such issues as the kinds of agreements that might be negotiated and verified to control the deployment, testing, and production of which weapons, and for which periods of time, linked to what arms reduction plans, and so on.

In selecting the panel of questioners, we have not sought to assemble either freeze supporters or opponents, nor have we limited ourselves to members of our organization. Indeed, the panel chairman and most of the panelists are not FAS members. Instead, we sought to collect different kinds of specialists in relevant fields, in whose intellect and integrity we have confidence.

DR. FRYE: Our mission in these two days is to search for more light, not to establish some final conclusion. There are many concepts, many proposals contending for the right to carry the label "nuclear freeze."

...There are vast majorities of the American people reported to favor freezes of various sorts. These currents of popular concern are reflected in many ways in the current political debates. It is an issue which will become a live question in virtually every Congressional race in the United States this fall. As I mentioned already, it is an issue in which the churches are developing renewed commitments to the kind of historic concern with which they are associated, but we believe, and come together with the initial conviction, that there remains a need for critical examination of the substance of freeze proposals.

We expect that in these two days those with some background in the field will have an opportunity to clarify in more detail than perhaps has been customary the components of various freeze concepts, what can be frozen

realistically, how might one do it, when should a freeze in one respect or another take effect, how could it be negotiated, how verifiable might it be. Those are the kinds of questions on which we hope to focus.

There is a precedent which I find it worthwhile to cite at this moment, and I do so by quoting a committee report from the Senate Foreign Relations Committee. It was a report which concluded,

"The Committee believes that the resolution expresses a growing recognition by the American people that no effort must be spared to bring to an end the escalating cycle of the deployment of nuclear weapons systems, a cycle which threatens all mankind with destruction.

"The effect of this resolution is to urge the President to seek an agreement at the outset of negotiations which would freeze this escalation, and to indicate that he has the support of the Senate in such efforts. The resolution supplies a clear expression of the belief that the present time provides an excellent opportunity to prevent the beginning of weapons deployments that will take several years to complete, will in turn inevitably give rise to other weapons systems and will thus complicate the negotiating position with respect to strategic nuclear weapons, perhaps to the point where meaningful agreements will be impossible.

"An interim halt would provide an opportunity to avoid this sequence of events, but it is a fleeting opportunity that must be seized now."

That was the language of the Senate Foreign Relations Committee in reporting to the Senate, in 1970, Senate Resolution 211, which the Senate passed, calling for that kind of freeze by a vote of 72 to 6 in April, 1970. The resolution concluded by proposing an immediate suspension by the United States and by the Union of Soviet Socialist Republics of the further deployment of all offensive and defensive nuclear strategic weapons systems.

I quote those passages to remind us that there is a history to the subject we begin to explore, and to ask us to reflect as we undertake this inquiry whether the security of the United States would have been better or worse had the Senate's advice been taken in 1970.



Ambassador Adrian Fisher

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Testimony of Randall Forsberg

MS. FORSBERG: Specifically, of course, the freeze proposes to move toward a stable demilitarized peace very slowly. It proposes a mere, slight first step toward that world in which we maintain peace without the threat of annihilation. This small first step has two essential components. The first is stopping the production of nuclear warheads, an activity which more than any other single activity constitutes what we mean in ordinary language by the phrase "nuclear arms race."

...The second major element of the freeze proposal is to stop the steady advances in technology, in the delivery systems associated with nuclear weapons.

The Call to Halt the Nuclear Arms Race describes, demands as a goal, the cutoff in production of those delivery vehicles which are either "dedicated" nuclear delivery vehicles or primarily intended to deliver nuclear weapons rather than conventional weapons. Under that definition, strategic bombers would also be cut off, although they do of course have the capacity, as B-52s showed in Vietnam, of delivering conventional munitions.

A short answer to the question, "what should a nuclear freeze cover," is that it would be desirable and feasible for the freeze to encompass: a cutoff in the production of nuclear warheads as well as, of course, the testing of nuclear warheads and new deployment of warheads; a cutoff in the testing, production and deployment of new dedicated nuclear delivery systems which have been clearly identified as nuclear delivery systems on both sides in almost all cases throughout the postwar period; and thirdly, a supplementary limitation on the number of major dual-capable delivery systems, which could be replaced on a one-to-one basis, looking primarily here at tactical aircraft, major naval combat vessels, and nuclear-capable artillery or howitzers.

In terms of how and why a freeze might be introduced, it seems to me that it would be vastly preferable for a freeze to begin by fiat on very short notice and to be comprehensive when it was introduced; in other words, to be introduced by negotiated agreement, tacit or formal, more or less public, with some sort of brief discussions conducted over a period of maybe several months preceding announcement of a moratorium on all of those things which the freeze is intended eventually to stop permanently. This moratorium would be sustained for a period of negotiations which might...reasonably extend somewhere between six months and eighteen months.

Those negotiations would be expected to cover points that would be announced at the time that the moratorium was introduced. For example, there are items that would not be settled before the moratorium but would be negotiated afterward, prior to the signing of a final formal freeze agreement. Such items include: confidence tests of nuclear warheads or nuclear missiles, or both; supplementary, agreed or cooperative verification measures to supplement national means of verification that would be relied on at the outset; the strengthening of the machinery that exists already, negotiated in SALT I, for dealing with challenges concerning possible violations of the freeze regime, which might well include a review by experts or



Ms. Randall Forsberg

designated individuals from third parties, other countries or international agencies, not merely by U.S. and Soviet participants.

A freeze could, of course, be introduced by the United States unilaterally. In fact, as I understand it, Congress would have the power...to force the President's hand, so to speak, in prompting him, prodding him to move toward a freeze with the Soviet Union by putting an amendment on the Defense appropriations bills providing that no funds could be appropriated for any of those activities to be banned under a freeze unless and until the President proposed a freeze to the Soviet Union and was turned down.

It has been very widely assumed in the press, and I think in some expert writing, over the last year that we can relatively easily verify a cutoff of deployment or testing of nuclear delivery systems, at least the larger nuclear delivery systems, but that verifying a cutoff of production in a freeze would be difficult, extremely difficult, or impossible.

I would like to argue that in some cases a freeze might be easier, rather than more difficult, to verify if it included a ban on production. This applies particularly to a ban on production of nuclear warheads. While I have not worked within the intelligence agencies and thus I can't speak truly authoritatively on this matter...my suspicion is that the Soviet nuclear weapons production complex is like the U.S. warhead production complex in that it involves a relatively small number of large, highly specialized facilities which are well known....It would be possible to monitor a complete shutdown of the nuclear warhead production facilities by observing relatively simple signs of activity.

Moreover, the risk of detection would be particularly high relative to the advantage that the Soviets might conceivably gain from a relatively small number of warheads, which could not be deployed on major intermediate range or intercontinental range systems, because the production and joining together of these systems with these warheads, I argue, would be virtually impossible to achieve without detection. So that the risk [to U.S. security] would be lowered even further by the fact that there would be no high payoff from a successful clandestine violation of the treaty.

Forsberg Testimony: Questions and Answers

MR. DUCKETT: I thank you very much for a first class presentation of your views. I guess I first need to understand what you mean by "production of nuclear weapons." Now, by that I mean the fact that some might describe this as the final assembly of a set of components into what would be in fact a usable weapon. Others might describe this as the manufacturing of the many hundreds of components which go to make up that weapon. And I think it is very critical to understand what we mean when we say "production of nuclear weapons," if I could start with that inquiry.

MS. FORSBERG: Well, what I had in mind were the following pieces of the production process, beginning with the extraction of highly enriched uranium or plutonium from military reactors or uranium enrichment plants intended for weapons purposes....Essentially all production, reprocessing of plutonium and production of highly enriched uranium, except to fuel naval reactors, would be banned under this proposal.

Secondly, I am thinking about the fabrication particularly of those nuclear parts—the trigger made out of the uranium 235 or plutonium and the hydrogen fuel parts—which are most obviously designed for nuclear warheads rather than any other potential uses, and then the assembly of the nuclear components with the non-nuclear components.

MR. DUCKETT: Okay. Thank you. I think that it is critical that we understand that the production process is a very complex one made up of many parts, and I suspect that the question of establishing initial inventory may be one of the most critical in this particular area.

The exact quantity of the material now on hand, et cetera, it seems to me is not well understood. At least to my knowledge we do not have a clear understanding of that.

I think the other point that I would just mention for openness is...I would be very hard-pressed to understand how one could limit, for example, the quality of guidance systems on strategic nuclear weapons and not at the same time put severe restrictions on future space activity. That is only one example of many that I would be worried about in attempting to define how one controls technology.

MS. FORSBERG: No doubt there are areas of civilian technology which have application to both nuclear weapons and delivery systems. However, it is not obvious that those areas will be applied, or can easily be applied, or can be applied without being caught, without a very large-scale dedicated and very expensive application and testing and production and deployment program.

And I believe that it should be possible to control, in the instance you gave, the introduction of new guidance systems on ICBMs, at least as far as hardware is concerned, through, for example, controls on inspection of ICBMs. What I meant by that is that maintenance of existing ICBMs might be conducted at pre-announced times, possibly with an observer or possibly at random in a manner similar to the way we have considered verifying nuclear weapons tests....On the other hand, the freeze is not intended to produce a regime that would last forever. It is in-

tended to produce a regime that would last for a period of five or ten years during which reductions would be negotiated. Thus some of those cases where you would be concerned about maintenance and replacement or large-scale replacement would certainly be taken care of through that process of reduction.

Other cases of clandestine upgrading or replacement are not sufficiently important to actually threaten the freeze regime; that is to say, I would argue that not to freeze the production of new nuclear weapons systems because the ones that you have might be upgraded slightly would be throwing out the baby with the bathwater. We sort of do the best we can on the first round in terms of constraints and then move on to more severe constraints at a later stage.

Is The Breakout Danger Real?

MR. DUCKETT: I certainly agree with you that the time constraint is a critical one here. I think one cannot sensibly discuss any kind of agreement on strategic arms with an indefinite time scale. But if one talks in terms of the five- to ten-year time period, I would just note the question posed by the overworked phrase "breakout." That is, testing done to a point just short of demonstrating the true use of that technology; let's say a new guidance system tested at length on the space program but not in fact tested on an ICBM. Then the ability to produce that as a new guidance system in a very short time, possibly in months, is a true existing problem. I don't at this point suggest that it should be a basis for not proceeding with thinking about a freeze. I just think that one has to worry not only about what weapons we see and test, but also about technologies that are being advanced which can be rapidly applied to the weapons programs. I don't know how to deal with that question, frankly, in terms of surefire verification.

MS. FORSBERG: First of all, I am not aware of any advances in weapons technology which I believe would significantly alter the military balance, the nuclear or overall military balance between the United States and the Soviet Union.

In air defense, in ICBM guidance and anti-submarine



Mr. Carl Duckett

warfare, I don't believe that there are any advances on the horizon of a dramatic altering nature. Now, secondly, by "breakout" I think what you mean—and I may be wrong, I don't know—is the development of a new technology which is tested in some indirect way, not in a full-blown weapons system, up to some point after which there is abrogation, either legal, public, or not, of the treaty regime, and we move into a full-scale production situation incorporating this new technology.

My response to that would be that it does take a number of years to produce a major weapons system. This is in addition to the point that no foreseeable weapons system can really influence the balance very substantially. But even for weapons that can't influence the balance very substantially, the history of these weapons programs is a three- to five- or six-year production period with another year's lag for deployment and training people how to use it, getting it into place, getting it up, getting it operational. And so even at the point where the technology is finished and you are beginning production and the evidence of what you are doing becomes pretty apparent to the other side, there is still a margin of several years for response.

MR. DUCKETT: I think that is the critical point at which many people have addressed this question, and some would disagree. One may simply note that in the strategic arms agreement environment one cannot necessarily depend upon all test procedures, et cetera, that have been followed in the past being followed in the future....The Soviets have demonstrated a capability to produce an ABM system which can be deployed rapidly....Some argue that it makes sense only if one had in mind producing in quantity and perhaps building a nationwide ABM defense in a period of a year or less. I don't support that theory, but I also have great difficulty arguing that it is an impossible thesis to put forward. I think, therefore, one cannot rule out a breakout scenario which indeed drastically changes the balance of power.

PROF. SIMES: An argument many people in the Administration make against the freeze movement is that there is no comparable movement in the Soviet Union;...a small, independent peace group in Moscow was recently arrested....I want to know whether you have done anything to indicate to the Soviet Union that you are opposed to the arrest of the peace movement group.

MS. FORSBERG: Well, to take the last point first, I did sign a joint statement with many leaders of the peace movement in the United States protesting the arrest of those people in the Soviet Union.

I have to say that I think to perpetuate the nuclear arms race...to allow the spread of nuclear weapons throughout the world, to see no change in our course over the next 20 or 30 years is, in my mind, more dangerous and more troublesome than any other single political issue facing the world today.

I don't believe that perpetuating a pointless competition in the development and production of weapons which cannot be used and whose use would obliterate everything is a trend which has shown any historical evidence of leading in the long run toward greater liberation or openness or democracy in the Soviet Union.

Collateral Constraints

MR. DUCKETT: In your freeze, as you have defined it in a very broad sense, do you anticipate or do you leave room for any corollary constraints of any sort imposed outside of the pure nuclear weapons arena that you describe?

MS. FORSBERG: Well, I think that it would be desirable to have constraints in those areas which have already been widely noted as possibly threatening, that is anti-submarine warfare and air defense. I think that is very difficult to do, because of the fact that they overlap with conventional warfare and because of the fact that they overlap with the forces of other countries. It is extremely difficult to know what they should be. I think it would be desirable for them to be looked into.

In addition, I suggested at the outset that I thought that we should put limits, sort of freeze at the current levels if possible, the numbers of nuclear-capable artillery, nuclear-capable tactical aircraft, and in principle nuclear-capable ships, although again that is somewhat difficult. So I believe that those corollary agreements would leave the two sides with quite adequate forces for deterrence and for defense, and would prevent a buildup of dual-capable systems which could be rapidly converted to nuclear capability to offset the nuclear freeze with medium-range systems....

AMBASSADOR FISHER: Ma'am, freeze is thought of as a new concept, but President Johnson authorized its presentation at the Geneva Conference in 1964. It was a freeze based primarily on production, and that proved to be non-negotiable with the Soviets, and if analyzed really, probably not acceptable to us. And I say that with fear and trembling, because I presented part of it at the time.

However, the proposal had one point in there, it provided for confidence firing of missiles with a replacement by similar types, and the purpose of that was, it wasn't necessarily stable to have the relative rates of rust determine whether the things were going to work or not. Now, I take it the notion of a confidence firing and replacement you would not accept, or you would accept?

MS. FORSBERG: No, I think that is subject to negotiation. In my mind, the idea of reducing nuclear weapons and making them less usable is something that should be done deliberately by choice and not involuntarily by rust. And thus I would say that a small number of confidence tests should be sufficiently large to see whether those systems are being degraded in some way, to confirm the suspicion, and sufficiently small to prevent the development, reliable development of major new weapons systems, given how far along we are today. Three or even one nuclear weapons test for a country that has never made one, to show them, to demonstrate that they have the capability, could be very significant. But I would say at this stage of the arms race where the United States and the Soviet Union are, a small number of confidence tests would not allow the development reliably of new weapons systems.

Garwin Testimony: Questions and Answers

AMBASSADOR FISHER: With respect to the freeze, one of the great concerns expressed is that all of our scien-

tists will go out and help make better television sets, while the Soviets will be sitting around in sort of a hot lab some place in Smolensk ready to resume at the drop of a hat. In your experience with Soviet scientists, do you think they can maintain a stable of nonproductive scientists sitting around waiting to do something that they cannot do?

DR. GARWIN: Well, I have worked for many years part-time at one of the nuclear weapons labs here. And I think that we could do just as well as they could. There are all kinds of interesting problems in nuclear weapons. And one can do astrophysics, one can do inertially confined fusion, which has much in common with nuclear weapons. I do not think the Soviet Union would have an advantage. What kind of advantage could they eventually have anyhow, so long as we had many nuclear weapons which would indeed be functional? They could come out and test something new. As soon as they tested it, we would get to work and do whatever it was we wanted to do. There is nothing really we want to do with nuclear weapons now. We have not made, in my opinion, major improvements in the last decade. The neutron bomb which caused all of the fuss in NATO about 5 years ago really was created 20 years ago, and people were just too smart to want it very much at that time.

AMBASSADOR FISHER: Now, do you make the same approach to testing with respect to delivery systems?

DR. GARWIN: No. For various reasons. Because one has to fly airplanes once in a while to make sure they work. Probably you have to fly a missile. They are very complicated. There are all kinds of little seals or things in the missiles. And although in principle you can check those things, if you design the missile so it is testable on the ground without being flown, the ultimate proof of shooting one and making sure it works I think is compelling with missiles, as it is not with the nuclear weapons. But you do not need very many, because one does a good job on these missiles to find out exactly what goes wrong when it does go wrong.

So I do not think one can rely upon the primary deterrent, the submarine-launched missile, without an occasional firing of it. Now, I do understand that one can have tie-down firings. So you light the engines and you make sure the missile strains against the block, and you separate it. And it would be a different program, the kind of program that we had in the civilian space effort rather than in



Dr. Richard Garwin

the military, than in the ballistic missile effort, because you just cannot afford to fire a large number of Apollo vehicles to make sure they work.

So one can do better than one imagines....One can even do with no firings, but I do not see that there is an advantage to doing that, since one launches missiles every day that are the equivalent of [military] missiles in order to put satellites into orbit.

And all that will happen, in my opinion, if you ban the firings of military rockets, is that there will become a great commonality with these peaceful rockets, and so you will get the testing in that way, just as we tested what could have been a MIRVed deployment bus, I guess, in the Titan, which put a number of communication satellites into orbit simultaneously.

DR. FRYE: Would you be comfortable with drawing a freeze proposal which focused primarily on limiting prompt attack capabilities as distinct from delayed attack capabilities so that one would, as an initial phase in a freeze proposal, leave out a lot of things like cruise missiles and bombers that take awhile to get to target, and include as the initial priority targets for delivery vehicle freeze missiles with ballistic characteristics capable of reaching their targets in very short times?

Is that a distinction that appeals to you?

DR. GARWIN: Once one has enough attack warheads, having two or three times as many does not seem to make any difference. So limiting to the current numbers really would not affect the situation, except it would affect people's perception that they would not have to build because the other side was getting ahead. Why people feel that I do not know. I suppose it is a matter of international "keeping up with the Joneses."

DR. FRYE: Do you feel that as a starting point for this analysis, there is not an imbalance of counterforce capability between the two sides today?

DR. GARWIN: I do not know why one would want to balance counterforce capability anyhow. If we launched our missiles against the Soviet missiles, they would launch theirs under attack. We would destroy empty silos. They would use their missiles against targets which do not require hard-target-killing capability. If they launched first and we really care, we will launch our missiles under attack.

...Nobody has ever officially addressed the suggestion that rather than building the Trident-II missile, we could convert the Trident-I missile in the Poseidon submarines into counterforce-capable weapons. And that, in my opinion, is proof that we really do not care except to argue that we are inferior and so we ought to go ahead and build vast programs, vast expenditures.

DR. FRYE: Do you believe that a selective or comprehensive freeze would have major impact on the tendency by Soviet or American decisionmakers to move into a launch under attack regime?

DR. GARWIN: Yes, I think so. And I certainly do not like the idea of pushing the Soviet Union to having to make up its mind in ten minutes to launch its missiles or not to launch its missiles. So I agree with you. Any reasonable freeze will reduce the pressures toward dependence upon launch under attack.

DR. VON HIPPEL: If we were not making any more warheads, would we need Rocky Flats anyway to restore the higher explosives or whatever it is that degrades periodically?

DR. GARWIN: Well, we certainly would not need so much production capability for nuclear weapons if we were not making new generations of nuclear weapons, not by a factor of ten or more. So one would expect to have such things phased down, fewer people showing up for work every day—very simple economics.

And whether we could close them entirely and depend upon multipurpose laboratories for that work is another question. We probably could and we would, I suppose, mothball the existing facilities unless facilities on both sides were declared and destroyed.

MR. DUCKETT: Since Dr. Garwin has spent many years dealing with many elements of the government bureaucracy on this and related topics, I think it would be helpful if he would give his very candid views on how well postured we are to deal with this type of subject within the government today.

DR. GARWIN: Not very well, in my opinion, and, as I say, my acquaintance with the arms control field goes back to 1958 and with the strategic delivery and defensive systems to '54 and with nuclear weapons to 1950, which is a long time, antedating the Arms Control Agency and all of its current concerns. I have been through or watched several changes in Administration. I have noticed that one thing that happened in the most recent changes is that almost all of the people who know anything get fired and as a result of repeated purges, nowhere more thorough than in the Arms Control Agency, there are not very many people around with expertise.

Even when we did have a more vigorous Arms Control and Disarmament Agency, it was very small. It was, I think, never bigger than about \$15 million a year, compared at that time with \$150 billion in the Defense Department. So one part in 10,000 of the Defense budget—for every \$100 we spent on defense, we spent a penny on the Arms Control Agency, and that does not even provide enough arms control analysis to suit defense needs. I think the Defense Department ought to have a much larger capability to understand what arms control agreements could do for them.

So I do not think we are in good shape. I think we are moving very slowly, decision by decision, with what is perfectly understandable in the bureaucracy, namely the tendency to squelch all options other than the preferred one, and the preferred one comes from the Air Force or the Navy or the White House or whatever, and that has to be demonstrated as totally infeasible before it is given up. That is not the way you or I think about anything, whether it is what to have for dinner or how to buy a new car. That is not the right way to run a government either.

DR. FRYE: Suppose we had a variant of a freeze which said any change, any change involving the introduction of new delivery systems or new warheads, would have to be purchased by the elimination of two existing such systems, so a one-for-two trading rule—meaning that if a new system went in, two old ones would have to come out? It would permit the military establishment to make a judg-

ment in light of the available evidence at the time as to whether that tradeoff was advantageous, whether it was stabilizing or functional. But the basic principle is that of a guaranteed build-down in which stability would be promoted by permitting change, provided substantial reductions occurred. How does the idea strike you?

DR. GARWIN: The guaranteed build-down is good and that is what I intended to approach in the case of the MIRVed missiles by suggesting that you could turn in a MIRV for six little guys with reduced throwweights. How much do we have to modernize in order to achieve stability? Now let me be specific. I do not think we need the B-1 bomber. We should not build it. It is a waste of money. We do not need the STEALTH bomber. What we need eventually, after the B-52s wear out beyond the year 2000, maybe earlier, we could use another cruise missile carrier and that is a very specialized aircraft. It is a cargo aircraft which gets off the ground rapidly and flies out in the general direction of the Soviet Union or whoever our enemy is at that time. We do not need the Trident submarines. We would do very well simply putting the Trident-I missiles into the Poseidon submarines and we do not need the MX missile either.

The MX missile is desired by some who envy the Soviet Union having a land-based, more or less modern, ten-warheaded missile. But there is absolutely no strategic necessity for it. If you want silo-killing capability, you obtain that by improving the accuracy of Minuteman and the Trident-I. So this kind of modernization is not directed toward stability. It is directed toward instability, maybe toward equality, but instability.

PROF. SIMES: Try to put yourself in the unlikely shoes of a Soviet General, or a Pentagon General advising Secretary Weinberger about the freeze from the following point of view. Can we circumvent it, if it is accepted, by some non-nuclear measures, by developing some non-nuclear capabilities which, however, would affect nuclear strategic balance? Obviously on the Soviet side I am thinking primarily about anti-submarine warfare and air defense, and on this side developing all kinds of anti-satellite capabilities, some ABM capabilities which are not explicitly prohibited by the ABM Treaty.

DR. GARWIN: I think really the highest priority in arms control is to negotiate an anti-satellite treaty to commit not to damage or destroy satellites. So that is already high on my list.

On ASW, we have not even begun to fight. We have not begun to use in the submarine field those techniques which we have used for decades for aircraft—the jamming of sensors, the raising of the noise level, the provision of decoys, things that look like submarines but are not submarines—all of which we could do if an effective ASW system emerged on the Soviet side.

A non-nuclear ABM is a possibility, space defenses and so on. I would be glad to take my chances with that because we too would have all of the money that we would otherwise spend on nuclear strategic forces to spend in countering advances in air defense, ASW and ballistic missile defense. Now we have argued in the past that it is not fair to limit offensive forces and allow air defense to

grow without limitation so eventually, depending upon the effectiveness of air defense, we might have to consider limitations there.

No, I would not worry about it as an effect of a freeze for a modest time like five years or so. I do not think once you have a freeze for a fixed term it is an end. I think freezes for fixed terms mean that everybody is preparing in the meantime, if it is a deployment freeze, that they may manufacture a lot of stuff. If it is a deployment and manufacturing freeze, then they develop a lot of things and there is almost irresistible pressure to break out at the end of the term and not to sign a continuation and not to reduce the forces which are ready for deployment.

PROF. SIMES: In short, even if one would assume a sudden appearance of good will in both Washington and in Moscow, a comprehensive freeze still would be unfeasible. Is that correct?

DR. GARWIN: Unfeasible because we have not done the studies already.

So that could happen again, and I do not suggest that there is no political possibility. I do say technically we do not have the studies and it will take time to do them. We have the organization to do it now in the Arms Control Agency. It would be done by contract from the Defense Department and at an expanded Arms Control Agency as well.

PROF. SIMES: Well, what time span are we talking about, both taking into account the need for the studies and the extreme complexity of negotiations with the Russians, that they would have to conduct their own studies. Then we would have to discuss the finishing. What are we talking about timewise, assuming there is good will on both sides?

DR. GARWIN: Well, we could do our studies, I think, in two years and we should do them jointly. That is, there is no reason why independent organizations should not get together with their counterparts in the Soviet Union and judge these things, exchange methods of analysis and so on. That could be done only if there were the political will to do such things.

DR. VON HIPPEL: I just wanted to clarify this, what you said about the freeze, also—about the unfeasibility. I think, as Paul Warnke will say tomorrow, there are pieces lying around. There is SALT II. There is the Comprehensive Test Ban. There is, maybe not quite at the same stage, the fissionable material cutoff. And one could put all of these together in a package and think about what other things one could throw in which are fairly well defined, and call that an initial freeze and try to then have your two-year study on trying to expand that envelope. Would that be a feasible approach?

DR. GARWIN: That is technically feasible, yes. You could pick up those things which exist—the Comprehensive Test Ban, the cutoff and transfer, SALT II, a number of other things like that—and if wished, one could just bring those all in a period of a couple of months to fruition and sign them and ratify them, which is necessary, and go on from there.

But you would have to have political pressure in this country. You would really have to have the confidence that

such things were in the national interest. Several Presidents and Administrations did come to that conclusion that they were in the national interest and I do not see that there has been any change.

Testimony of Paul Warnke

AMBASSADOR WARNKE: Let me say at the outset that I completely support the idea of a freeze. It seems to me to be the logical goal of strategic arms limitation talks or strategic arms reduction talks—choose your own acronym. If we are serious about controlling nuclear arms then the objective has to be to control them and that, in my opinion, means that we put an end to the development of new types of nuclear weapons systems and to the addition of more existing types....I do not see a freeze as the radical departure that opponents try to characterize it as being, and I do not see it as being somehow the magical alternative to serious, tough, step-by-step negotiations....And when we talk about a freeze, that is certainly not incompatible with reductions. Nobody is saying that. I do not think even the most fervent proponents of a freeze would maintain that they are against reductions.

What they are saying—and it seems to me to be absolutely without exception—is that you cannot very well reduce when you are increasing, that you have to stop first before you can go into reverse. And certainly there is no way in which the announced objectives of the START talks can be achieved if we are going to continue to build up additional warheads, whether they are on cruise missiles or whether they are on ballistic missiles and regardless of whether they can reach Soviet targets from western Europe or from the Great Plains of the United States.

It has been reported, though I think not in official statements, that part of this START proposal is no more than 110 SS-18s and no more than 210 SS-19s. Now that is pretty drastic medicine as far as the Soviet Union is concerned....Obviously we cannot put on the table just those systems that we are interested in controlling. We have to put the other ones on as well. In order to put the other ones on as well, you are really looking toward a freeze....Now one of the arguments against the freeze is that we cannot expect the Soviets to bargain in good faith unless we are building up our own nuclear weapons. That has not been my experience. I do not think it has been the experience of other SALT negotiators. I think Gerard Smith during the SALT I talks made what I regarded as being a very persuasive argument against the so-called bargaining chip theory, saying that it really is the potential that we have, rather than the actualization of that potential, that gives you the major bargaining position. His experience indicates that once you have gone ahead and done that which we are threatening to do, the threat is no longer of any particular use to a negotiator, and I think that would be particularly true when it comes to things like ground-launched cruise missiles and sea-launched cruise missiles.

Now the argument, of course, is that because of their inferior technology and because of the fact that they do not have the economic resources that we do, that if we challenge them to an arms race they will not be able to keep up, not be able to compete. I do not know of anybody who has dealt with the Soviet leadership over the past decades

who believes that to be the case.

...So that it does seem to me that looking at this from the standpoint of our objective, which is to bring the nuclear stalemate down to a lower level of risk, that a freeze is certainly essential in order to get there. But a freeze does not mean no reductions. It is the prelude to reductions and the only way in which reductions can be achieved.

Freeze Not "Magic Alternative"

As I say, there are those on the proponent side of the freeze who, in my opinion, regard this as being a magic alternative to discussions about controls on a step-by-step basis. I do not see it as being that way. I am persuaded that the only way you can achieve a freeze is the same way we have been proceeding—on a step-by-step basis—that the next agreement you get is not going to be the ultimate one, that in this instance, the best is the enemy of the good.

Now what we are looking for in a freeze is a freeze on testing, deployment, production of nuclear weapons and nuclear weapons delivery vehicles. If we try and do that all at once, we are never going to get there, but we can get there if we approach it, it seems to me, in a systematic fashion, take advantage of those elements of a freeze that have already been agreed upon, and move on a step-by-step basis towards those other elements of a freeze that are within reach.

Take, for example, the question of fractionation of warheads on existing ICBMs. In SALT there is a provision that says that there cannot be any more warheads, any more MIRVs per missile, than the maximum that has now been tested...an immense number, but nonetheless, that particular freeze element is a very valuable step toward a genuine curb on the nuclear arms race and an eventual total freeze.

There is also a freeze on new ICBMs, with one exception, that one exception being designed to permit us to go ahead with the production and deployment of the MX ICBM. Well, given the difficulties that have been encountered with the MX, given the very serious questions as to whether it does anything to solve the theoretical vulnerability of the land-based ICBM force, then perhaps the best use we could make of the MX is to trade it off and



Ambassador Paul Warnke

get something for it.

...So I would say that another freeze element we could pick up in a hurry is a freeze on any new ICBM. As a matter of fact, both sides proposed a ban on any new ICBM during the course of the SALT II talks....So this is another element, it seems to me, in the progress toward a freeze. But if we do not freeze anything until we can freeze everything, then I think the chances are we will never freeze anything because certainly, the verification problems on some elements of a freeze are much more severe than the verification problems on others.

We now have proceeded on the basis that we can monitor such things as missile flight tests, that we can determine whether or not they are testing 11, 12, 20 or 40 warheads on an SS-18. We also, of course, in the SALT II treaty have provisions that define what a new type of ICBM is and what sort of modifications can be made in existing ICBMs without them becoming considered a new type of ICBM. That again is something that ought to be preserved as part of an overall freeze objective....We have also well within reach a very major freeze element, which is a ban on any further testing of nuclear explosive devices....Now these are some of the things that in my opinion could be achieved. It does require, of course, a serious approach to the entire question of nuclear arms control. It is important, in my opinion, to recognize that at this stage our best course is to build on what has already been agreed.

In my view the blame for lack of progress lies not with the process and not with the intransigency of the Soviet Union. The blame lies really on the fact that we have not had the political will to push ahead to the extent that we could have pushed ahead. If you look back at the history of nuclear arms control, the major achievements go back to 1972 at a time at which President Nixon was at the peak of his political power.

Regrettably, no President has been in that position since—not President Ford in 1975 after the great triumphs of Vladivostok and certainly not President Carter by 1979—but what that reflects is an absence of the necessary constituent support for nuclear arms control. I think we have seen only within the past year the development of the kind of grass roots support that would enable a President to push through an arms control treaty.

I think that we have to recognize that unless our political leaders feel that the American public wants strategic nuclear arms control, it is much easier to demagogue the other side of the issue and it has been done very effectively over quite a period of years.

Warnke Testimony: Questions and Answers

DR. FRYE: Simply stated, is in fact a comprehensive scheme somewhat better in terms of facilitating verification?

MR. DUCKETT: ...I would simply note that the larger the forces on the two sides, the more one can tolerate some degree of uncertainty as to change in that size force.

...Indeed, in terms of the balance between the two sides...the more comprehensive the agreement, the less concern there would be about uncertainty on any one given point.

I think one has to presuppose, however, that the U.S. would react if reasonable evidence of minor cheating occurred. Would we indeed abrogate the treaty and say no deal as a result of that? I think that the more comprehensive, the more problems we have in deciding when we call foul.

...The key is the fact that the more that is controlled under a treaty arrangement, the more items, the more comprehensive that arrangement, the higher the likelihood that we would detect an indication of cheating on some small increment. I am not sure that we know what we would do in that case.

AMB. WARNKE: ...Certainly to some extent the more comprehensive the ban the easier the verification. I think, for example, that many more questions can be raised about a threshold test ban limit of 150 kilotons than could be raised about a zero ban. I think also that a complete ban on flight-testing would be easier to verify than a ban that had some sort of constraint. For example, could you flight test submarine-launched ballistic missiles from land sites? That is the usual way in which you first test an SLBM, so that if you had a ban that just applied to ICBMs, you could not be sure that somebody was not developing an SLBM-L as well.

Now the production ban, it seems to me, requires different kinds of verification provisions than have presently been worked out. We would have to find some type, I believe, of on-site inspection that would permit you to look at existing production facilities, determine at least on a one-time basis that those production facilities had been dismantled, and then perhaps you could rely on your national technical means of verification to see that those production facilities have not been reactivated. I think it is the production ban, and the lack of established verification procedures to handle that, which leads me to feel that you cannot say without reservation, "the more comprehensive the treaty is, the easier verification becomes."

DR. FRYE: In regard to production ban possibilities...I have in mind the protracted discussions on the data base of the SALT II context, where it took some time to get them to provide confirming evidence for American intelligence concerning certain important systems. Do you think that having crossed that threshold...there is any prospect they would take the next step in anticipation of possible limitations on production capabilities, specify the location and capabilities broadly of their major production facilities?

AMB. WARNKE: Yes, I do. I would be quite hopeful about achieving that result. I think that certainly my negotiating experience was that once the Soviets had crossed a particular river, that as far as they were concerned a decision that had been reached, and that they were prepared to continue with the logical implementation of that decision.

DR. VON HIPPEL: So I think it is important to try to see how great a coverage one could have in amplifying SALT II and the other treaties that you mentioned. I would just like to briefly run through the list.

I gather from your opening statement that you think that there really are no remaining hurdles in a comprehensive test ban treaty as far as negotiability, verification?



Dr. Frank von Hippel

AMB. WARNKE: I would say that there were three major problems at the beginning of the negotiations. By the end of 1977, they had given in on all three of those problems. Now as I pointed out, there were negotiating obstacles that remained, but I think that they were not obstacles that could not have been surmounted if we had really wanted to proceed at that kind of a pace. The difficulty was that there was not sufficient enthusiasm for arms control....

DR. VON HIPPEL: As far as the fissionable material cutoff is concerned, what is the most recent time that we have really raised that as a proposal on our side?

AMB. WARNKE: I think Ambassador Fisher could probably give us a date on it. I think it was probably sometime during the Johnson Administration*.

DR. VON HIPPEL: Why wasn't it raised during the Carter Administration—the fissionable material cutoff?

AMB. WARNKE: There was just really no consensus within the Administration for supporting it and although it was not officially withdrawn, nonetheless the proposal advanced by some within the Carter Administration, that this be raised at the first U.N. special session on disarmament, was not approved.

DR. VON HIPPEL: Was there any issue of verification problems there?

AMB. WARNKE: It never reached that stage. I think it is part of the problem today. There is considerable sentiment for going ahead with the cruise missile program and if you are going to have thousands of cruise missile warheads, then you cannot have a cutoff. I think that was one of the objections also to the Comprehensive Test Ban. If you are going ahead developing these new types of nuclear weapons systems, then any cutoff of fissionable materials becomes something which is inimical to the progress of that new weapon system. That is one of the reasons why the idea of a freeze as a comprehensive kind

*Ambassador Fisher noted that Johnson had proposed a fissionable materials cutoff as part of a strategic weapons production freeze. It was proposed again "in the first three months" of the Nixon Administration.

of an approach, in my opinion, has a great deal of appeal.

DR. VON HIPPEL: That brings me to the question of the negotiability of a cruise missile ban if we wanted one—a nuclear cruise missile ban.

AMB. WARNKE: ...Our feeling was that you could verify a limit on air-launched cruise missiles because you had an identifiable launcher and you could limit the launchers. You could limit the number of strategic bombers. You could limit the maximum number of cruise missiles that the strategic bombers could carry.

When it comes to ground-launched cruise missiles and sea-launched cruise missiles, I think we are going to have a far more formidable problem.

DR. VON HIPPEL: ...But the implication is that we can in fact verify more than holes in the ground?

AMB. WARNKE: I think our experience with the SS-20 leads us to believe that mobile launchers are perhaps more verifiable than we thought they were going to be. They are quite large. They are quite distinctive and I think we have got a pretty good fix on how many SS-20 launchers have in fact been deployed. As a matter of fact, I think that the current number that the Administration refers to is 303, which betokens a degree of precision which I think is perhaps heartening in verification terms.

MR. DUCKETT: I think that is a good example of where indeed the numbers become very important....In discussing particularly the mobile missile question, the intelligence community has responded to queries on this subject in terms of up to some number, if deployed, we will detect the fact that deployment is occurring, and above some other number, we will be able to verify within some bounds.

If the number is greater than a few hundred, then we will be able to verify within a figure of plus or minus 50—that kind of input. I think, therefore, that no one has ever given up on the idea of the ability to detect a significant number of mobile launchers. Here again I come back to the point that if the number is significant, verification, I think, is solid.

If we get reductions to the point where we are talking about a few hundred total weapons, as some people would today say we should do, then that becomes a very different argument in terms of verification ability.

DR. VON HIPPEL: You always see these pictures of missiles riding through Red Square on trucks, and the question is how distinguishable is a truck carrying a missile through Red Square from a mobile launcher? Apparently it is.

MR. DUCKETT: ...As of the moment I believe it is true on both sides that to have an effective missile launch capability from a mobile platform, particularly one that could be fairly quick in reaction time, does require a very substantial amount of additional equipment...it is a very different beast than the thing that rumbles through Red Square.

If one were to work at this problem, and it became a high priority to try to devise a system which was more difficult to differentiate from a simple transporter, it is possible this assessment would have to be changed. Today I

think it is very clear that neither country could deploy an effective mobile system and not have it be quite distinguishable.

DR. VON HIPPEL: One last question. What role do you think a moratorium could play in negotiating a more comprehensive package of agreements? Do you think it would be constructive or destructive?

AMB. WARNKE: Well, I favor the principle of a moratorium while constructive talks continue. It seems to me that what is sometimes described as a negotiator's pause is a good move, that it does encourage greater rather than less progress.

PROF. SIMES: ...Maybe the Administration is right in complaining about undue pressure on the White House by the nuclear freeze movement. Is the freeze movement putting the United States at a disadvantage at the bargaining table at too early a date, before we have any reason to believe that President Reagan is not serious about arms control?

AMB. WARNKE: What I could say in that regard, Professor Simes, is that I would have welcomed that sort of a pressure from an informed American electorate during the period of time that I was negotiating. I would have regarded that as being something that strengthened my hand. I mean, look at what the freeze proposal is, and then how can you say that it puts undue pressure.

What it says is that the United States and the Soviet Union ought promptly to discuss when and how to freeze the production, testing and deployment of nuclear weapons. Now that in no sense interferes with the Administration's options.

What it states is, get serious about strategic nuclear arms control, and I think that this is a message that ought to be gotten across.

PROF. SIMES: What about the Soviet attitude to the freeze? Is it your impression that the Soviets are willing to negotiate a comprehensive freeze, or do you believe that your proposal on building on other existing agreements is the only position which the Soviets can realistically accept and be prepared to negotiate?

AMB. WARNKE: I would not say that building on existing agreements is the only way in which you can get the Soviets to agree on elements of a freeze. I would say it is the easiest and, to me, the most logical way of achieving it.

I think if you start with an entirely new approach that there is bound to be a lot of "to-ing and fro-ing," in addition to which, isn't it rather silly to scrap everything that's gone on before, and therefore have to renegotiate such basics as definitions and verification provisions....

DR. FRYE: One question that has occurred is whether the so-called "new types" provision dealing with ICBMs might, in fact, be extended to cover future submarine-launched ballistic missiles.

What I have in mind is the fact that the Trident-II submarine missile, a much bigger and more capable weapon, was in fact a candidate to be the common missile for the MX and the submarine....

AMB. WARNKE: ...I hope I did not give the impression that I would leave submarine-launched ballistic missiles

subject to no controls whatsoever.

What I was saying is that the Trident-I missile is already in the deployment stage. It is really a question of numbers at this stage, rather than whether or not there is going to be a Trident-I missile.

Now, if you have overall ceilings which are gradually being reduced or drastically being cut so that you have to make substitutions, then it doesn't seem to me that substituting a Trident-I missile launcher for an ICBM launcher is a disservice either to strategic stability or to the idea of a freeze.

Now certainly, I do think that the ban on new types ought to be extended to new types of submarine-launched ballistic missiles as well....Now, as far as the Trident-II is concerned...I guess where I would come out is that I would prefer to see that and the comparable Soviet submarine-launched ballistic missile system banned as part of the overall effort to achieve a freeze. But these are the kind of decisions that you have to make as the negotiations continue. And the guiding principle ought to be a presumption against the testing, production and deployment of any new missiles.

DR. FRYE: Can we take that presumption and engage Mr. Duckett for a moment on an aspect of this question?...I wonder if the two of you would be able and willing to clarify our capacity to distinguish between the confidence tests of missiles fired to prove that they could operate from within the inventory, and development tests of significant new components. Is our capacity to monitor flight tests sufficient to give us high confidence that no new re-entry vehicles would be tested, no new buses would be tested for MIRV exercises off an existing missile?

MR. DUCKETT: ...I think the past experience is the Soviets' tendency to do full, all-out testing of weapon systems before they're deployed. I think technically we have to agree it is a very wise thing to do to make sure the thing works as advertised by the scientists and so forth. And I think that our verification capability as it exists today would, indeed, tell us of any significant change in the overall capability of a weapon system being tested.

However, I have to add a couple of caveats. The first is the fact that in a prolonged freeze or any kind of an agreement which limits this type of weapon, we have not experienced that yet, and therefore, it is very difficult to argue that some people may not start trying to find innovative ways to get around provisions of an agreement.... Secondly, the fact is that the space programs of the two countries tend to complicate this whole issue. I have certainly myself argued against any number of schemes that have evolved in this country as to how one might do testing in space which would be adequate and would not require an all-out test in the true atmospheric environment.

I still feel strongly that that is a difficult task, but if it is over a period of many, many years, I feel we cannot rule it out. In other words, I don't think we can feel comfortable about verification over a prolonged period. For a period of five years, I would say I am very confident that significant changes in weapons systems, particularly ICBMs, we would detect fairly early in a program.

DR. FRYE: Do you want to add anything to that, Mr. Warnke?

AMB. WARNKE: ...I think that in order to have a lasting freeze, certainly, it would be desirable to have some principle of challenge inspections that I think you would be entitled to call for comfort if you had occasion for discomfort. That was basically our idea in the comprehensive test ban negotiations.

Now, I think similarly, if we saw testing facilities and the conduct of tests that gave us grounds for suspicion, we ought to be entitled to demand comfort in the form of an opportunity to see exactly what was going on.

MR. DUCKETT: May I underline that point? We have not, in fact, touched heavily on the Special Consultative Commission....I think it has been a tremendous change in the ability to resolve what otherwise could be an extremely difficult situation.....The SCC proved to be a forum in which these matters could be raised very bluntly, very frankly, and indeed, I think to almost everyone's satisfaction were resolved rather quickly. And I think that that type of mechanism, possibly even bolstered somewhat in the future, is a way to avoid what otherwise may become kind of impossible verification issues.

DR. FRYE: ...Do you see from the record which you have helped build so much, do you see evidence that the Soviets would be willing to open discussions at the time of a freeze arrangement contemplating limits on ASW and air defense as well?

AMB. WARNKE: Let me say first that for the foreseeable future I see no challenge to the deterrent efficacy both of our ballistic missile submarine force and our strategic bomber force equipped with air-launched cruise missiles.

It seems to me that the Trident-I missile, with its 4,000 nautical mile range, means that there is really nothing outside of science fiction that would give us any legitimate concern about the survivability of our ballistic missile submarine force.

Similarly, I think that air defense has not progressed to the point at which you could intercept significantly the numbers of cruise missiles that could be launched by our strategic bomber force. So that we do not have an immediate problem. It is not a reason for forgoing the idea of achieving some sort of a freeze.

Long range, I would have no doubt that we could introduce the subject of strategic defenses as part of the ongoing Strategic Arms Limitation Talks.

Testimony of Robert W. Dean

DEPUTY DIRECTOR DEAN: ...Modernization of nuclear forces is only one of the two essential elements of our program to restore the balance and to secure the nuclear deterrent. The search for sound arms control agreements is the other key feature of our program.

...Now, another arms control proposal which seems to be on the tip of everyone's tongue these days is that of adopting a mutual freeze on the testing, production and deployment of nuclear weapons and their delivery systems. The drawbacks of this proposal in our view are also profound. A freeze at existing levels would codify the military

disadvantage, especially in the strategic area, in which the United States finds itself, and it would lock us into a situation of dangerous instability....The nuclear freeze proposal in our view ignores the fact that some modernization will be required along with arms controls to ensure lasting stability and enhanced deterrence. A freeze, moreover, is simply not good enough. We believe that arms control, properly pursued, can and should result in lower numbers of nuclear weapons on both sides. Our START proposal and our proposal for the reduction of intermediate range nuclear forces in Europe are based on this premise....A freeze on all testing, production and deployment of nuclear weapons would include important elements that cannot be verified. The practical result would be that we would live up to a freeze and all its aspects, while there would be considerable doubt that the Soviets would be equally faithful to it. I would add here that this would be a highly unstable political situation in this country.

Finally, negotiating a freeze would itself be a complex and time-consuming matter. It would put us on a side road. It would remove us from the serious negotiations on reductions in Geneva, and we believe deflect us from the main task at hand, which is reductions....Other approaches, well intentioned though they may be, can only make the task of achieving reductions more difficult and lengthy. We must not allow ourselves to be distracted from the path of reductions.

PROF. SIMES: What is wrong with freezing now and reducing later?

MR. DEAN: Well, as I said, Dimitri, freezing now would, for one thing, deprive the Soviets in our view of any incentive to come to terms with us in the START negotiations for reductions. The fact of the matter is that our leverage in those negotiations and their incentive to reach an equitable agreement derives from our modernization programs, which we simply have to keep on track. The one is really the other side of the other, and that is the first reason I would offer.

Secondly, as I think I pointed out, we cannot correct the existing imbalances, and restore the stability which we consider essential, without adequate force modernization, and so we simply cannot buy into a freeze which would preclude that strategic modernization. Now, as you know, the President has endorsed the Broomfield resolution, that is to say the concept of a freeze following reductions of nuclear, strategic nuclear weapons, and a restoration of a stable strategic nuclear balance. Those are the two basic reasons.

PROF. SIMES: What concerns me here is that there is an underlying assumption behind the Administration's position that the United States would be able to proceed with modernization and the Soviet Union would not try to respond. If the United States were building, don't you think there are reasons to believe that the Soviet Union would proceed with some new programs, which also would require an additional American response?

MR. DEAN: Well, in our view if we rectify the vulnerability problems we have gone a great way in stabilizing the balance in a more permanent fashion. I



Deputy Director Robert Dean

don't think there is any question that the Soviets will modernize their forces in the future regardless of what happens at the negotiations.*

...But the notion that I think is implicit in your question, of a continuing arms race, I really don't accept, because I think once the vulnerability problem is solved to the satisfaction of both sides and in the interest of both sides, the pace of modernization ought to be slowed†....The destabilizing factor is the accurate, rapid, time-urgent ICBM system, that could leave us in a situation in which, as Secretary of Defense Schlesinger testified in 1974, already in a preemptive strike the Soviets could eliminate something like 90 percent of our land-based forces and kill only 800,000 to 2½ million Americans.

This is not a position that an American President can permit himself to be put in, and it is not a position which any President, I don't believe, Republican or Democratic, would allow himself to be put in. It is really a recipe for catastrophe.

...Finally—and this is a personal view—regardless of whether the momentum of deployment slows or not, the vulnerability problem will be there for the Soviets. When I said they have an emerging vulnerability problem, I was thinking precisely of the D-5 (Trident-II) and the MX. And they will act. They cannot solve their vulnerability problem, I doubt, through arms control either, so they will act, in my expectation, to solve that some other way. One would expect them to go mobile, one would expect them to adopt a variant of an MX Defense Pack basing system, perhaps. Mind you, I'm speaking just personally and I'm speculating, but they will have to act to modernize their forces in a way, I would think, that mitigates their own vulnerability problem.

DR. FRYE: ...With existing forces, and taking the same kind of an analysis which has gone into the conclusion that the American ICBM's are vulnerable, it is fair to say that the Soviets hold hostage virtually the entire U.S. ICBM force, but only about a quarter of the American warheads,

*A comprehensive freeze would prevent this Soviet modernization.

†A solution to the vulnerability problem is quite far off, apparently. Current Administration modernization plans extend well into the 1990's.

whereas the United States today holds hostage less than half of the Soviet ICBM force, but because of the concentration of warheads in the Soviet missiles, it is fair to say that the United States nevertheless holds hostage more than half of the Soviet warheads now deployed. Do you disagree with that?

MR. DEAN: Well I really can't comment on the numbers, because, as you yourself know, it depends upon what kind of assumptions about targeting and attacks one makes, whether you're putting two warheads on one target and so on. The basic thrust of your point, about the disproportion in the vulnerability of land-based warheads, is true, but again only to a point, because this assumes that we would use...the Minuteman III system to target those Soviet systems....What makes this a credible scenario from our point of view for the Soviet Union is that they could undertake a strike which would eliminate somewhere between 90 and 98 percent of these (ICBM) forces....

DR. VON HIPPEL: First, I would just like to go back to a statement that you made earlier when you were quoting Secretary Schlesinger, who was saying that such a strike was credible because, I forget the exact number of—

MR. DEAN: I don't recollect it exactly. I think as I recall—and I haven't looked at it since then—but 800,000 to 2½ million I think was the figure.

DR. VON HIPPEL: I guess you didn't, or did you, follow the debate which resulted from his making that statement before the Senate Foreign Relations Committee, where there was a panel which reviewed those calculations and questioned some of the assumptions that were made?

MR. DEAN: Not in detail, no.

DR. VON HIPPEL: Well, the result was that the numbers were revised up to 2 to 20 million. And since that time they have been revised even higher. So that it is not exactly a sanitary, surgical strike that would inspire us to withhold all of our Poseidon warheads from any targets whatsoever on the Soviet Union just because we couldn't strike back at silos.

Also, there is a real question in my mind whether in fact it makes sense to strike back at silos after such a strike, because if there is at any time going to be a launch on warning situation I think the side which has struck first with its missiles will certainly put its missiles on a launch-on-warning status in preparation for any kind of retaliation. This is a logic that I have never been able to understand in the scenarios, that we would then strike back at their silos. Did you understand my question?

MR. DEAN: I'm not quite sure. I would say, by the way, that the 20 million, that really doesn't—it begs the question of what we have to do to preclude the option to them.

DR. VON HIPPEL: Well, as I understand it, the logic of the MX or the Trident-II is to preclude that option to them by threatening to destroy their remaining silos; isn't that correct?

MR. DEAN: The logic of the MX and the Trident-II is to make them more survivable systems than those presently deployed. That is the fundamental reason.

DR. VON HIPPEL: No, I mean the reason for having

them be silo-killing missiles, their having accurate silo-killing warheads on our MX and our Trident-II.

MR. DEAN: Well, it is true that high accuracies will be built into both systems, but I don't think it is fair to call them silo-killing systems as such. They will exact, in the logic of this dynamic, they will exact a price on the Soviet Union with respect to raising the level of their vulnerability, and probably forcing them to do something about it. But they are designed, I think, far more with a view to enhancing survivability than to killing silos.

DR. VON HIPPEL: Well, it is hard to understand that, in view of the fact that the main difference between the Trident-I and the Trident-II is in fact its capability to destroy silos.

MR. DEAN: Well, it is also distance.

DR. VON HIPPEL: But as I understand it, the Navy doesn't want to take advantage of the extra distance that is made possible by the Trident-II, that it really just wants to put more and larger warheads on it.

MR. DEAN: I haven't talked to the Navy recently about that.

DR. VON HIPPEL: Well, this discussion is in the context of the larger question of, is this a good time for a freeze. And one of the arguments against it has been that this is a bad time, this would freeze in our inferiority. And I just wanted to briefly go through each component of the triad and see whether in fact the inequalities are such that it is a bad time. And I just was arguing that in fact, as far as the land-based ICBM's are concerned, it is not obvious to me at least that the asymmetry is such that this is a bad time to stop. And I would like to ask, in connection with the submarines, what your view is as to which side's submarines are more vulnerable to anti-submarine warfare at this time.

MR. DEAN: Well, I really can't go beyond the truism that I am sure you are familiar with, namely that we are probably technologically further ahead than the Soviets in ASW, but the practical effect of that is one that is open to wide interpretation and discussion.

DR. VON HIPPEL: And then the question of whose bombers represent a greater threat at this time to the other side.

MR. DEAN: Well, here again I think one has to look at the Soviet—one can't just look at the bombers themselves; one has to look at the Soviet air defense net.

DR. VON HIPPEL: Including that. I'm taking that into account.

MR. DEAN: And here again, if you put up a B-52, a 30-year-old B-52, against the Soviet air defense net, it is problematic, I mean, which side would come out ahead. So I think that in any case, whereas there are—whatever advantage we may have in the aging bomber force is probably more than offset at the present time by the Soviet air defense system.

DR. VON HIPPEL: But our air defense system would not be frozen, would it?

MR. DEAN: We don't have an air defense system.

DR. VON HIPPEL: But we could if we wanted one.

As far as the European situation is concerned, what con-

fuses me is we of course had intermediate-range ballistic missiles there early on in Turkey and Greece and I don't know where else, and we withdrew them because we were concerned about their vulnerability to preemptive strikes. And as I understand it now, we have committed to NATO, I have often heard the number, 400 Poseidon warheads to be used as an intermediate-range counterpart to what the SS-4's, -5's, and now the SS-20's represented on the Soviet side.

We are reversing history, or those old arguments, which led us to phase-out our intermediate-range land-based systems in Europe, no longer seem applicable. Is that for political reasons or is it for technical reasons?

MR. DEAN: The rationale for the decision to deploy the 572 systems is to ensure that the Soviet Union cannot contemplate firing nuclear weapons against Western Europe without being certain that such an act would engage the American central forces, the so-called sanctuary problem. And the argument was that there could be some incentive to use nuclear weapons against Europe and to preserve both homelands, that is to say the United States and the Soviet Union, as sanctuaries. Our policy of committing ourselves the way we have with those systems there really identifies the two land areas with respect to the Soviet perceptions about the use of our central forces....

DR. VON HIPPEL: But a Poseidon submarine off of Norway doesn't have the same kind of credibility as a ground-launched—a set of ground-launched cruise missiles in the Netherlands, that is what you're saying?

MR. DEAN: It doesn't in our view because it is not land-based. It is important to show and to signify the American commitment with land-based systems. Could I make a point with respect to the modernization of our forces? I have some figures that I think might be useful for you with respect to the aging of our own forces and in contrast to the Soviets. The fact is that most American SSBN's face obsolescence in the 1990's and that the average age of the U.S. launchers, of our launchers, is much higher than the Soviet launchers....

DR. VON HIPPEL: ...I don't think that the authors of the freeze have been arguing that the Trident submarine be frozen. I mean, they propose that the freeze apply to the missiles and not to the submarines in that case. I don't know what you were referring to as a launcher, but that included submarines, I take it?

MR. DEAN: That's right.

DR. VON HIPPEL: Because of course the Trident-I missile carries a larger percentage of our warheads than four percent, and there are quite a few.

MR. DEAN: I'm talking about the existing force.

DR. VON HIPPEL: Well, I was talking about the Trident-I missile, which is in our existing force. (*Ed. Note. Trident-I missiles account for about 20% of U.S. missile warheads, and about 16% of U.S. total strategic warheads.*)

But pursuing all of these accurate, what I characterize as silo-killers, does not seem to be in the interest of crisis stability, and I don't understand how really you can reconcile that with your concern about crisis stability.



Prof. Dimitri Simes

MR. DEAN: Well, we find ourselves in the situation where one side is vulnerable and the other is not, in our view.

DR. VON HIPPEL: On the ICBM level, where we have already discussed whether in fact there aren't comparable numbers of warheads vulnerable on the two sides—I mean, if you would just address the ICBM's, the U.S. ICBM's percentage-wise as a percentage of the ICBM force.

MR. DEAN: That doesn't really tell me anything about vulnerability. I mean, that doesn't really order the problem in my mind with respect to how the Soviets might deploy their force or how we might employ our force. The issue is not simply one of numbers here; it is one of capabilities, and it is one of imposing a logic on a very bizarre situation. And here again, the aggregate numbers of warheads really don't, to my mind anyway, really don't give me much help in understanding the problem.*

DR. VON HIPPEL: Well, I must say I find it bizarre to talk about a scenario in which the Soviet Union would be motivated to kill, to do something which resulted in the death of tens of millions of people in the U.S., while we were left with, among other things, 2500 nuclear warheads at sea which could be targeted on military targets as well as on cities. The only thing that they couldn't be targeted on would be silos, but there are lots of other military targets.

MR. DEAN: Well, we are dealing here with an extreme situation on the end of the probability curve, there is no question about that. But that does not absolve us, it seems to me, of the need to, given the consequences, the possible consequences, it does not absolve us of the responsibility to deal with it.

I am far more interested in how we prevent the Soviet Union from even contemplating such an option than I am with designing a comparable force designed to kill Soviet silos. I mean, that is the first question.

DR. VON HIPPEL: There is no program to cure the vulnerability of the Minuteman silos, is there, in the Reagan Administration, a modernization plan?

*The Reagan Administration's START proposal is based on reducing the "aggregate numbers of warheads" on ballistic missiles, particularly land-based ballistic missiles.

MR. DEAN: That's right.

DR. VON HIPPEL: Which is the original concern which is being used to justify the whole program.

MR. DEAN: Well, the Minuteman force needs to be modernized for a variety of reasons, among those reasons the simple age of the physical systems. At some point they would have to be replaced. The replacement is the MX, and as I say the premium there is on rendering that as invulnerable as it is physically possible....

DR. VON HIPPEL: It has been stated that the MX and the Pershing II and the ground-launched cruise missiles represent the pressure that we put on the Soviet Union to negotiate on the START agreements.

Does that mean that these are negotiable, that our next generation of missiles, if in fact the Soviet Union were to be cooperative and agree to our proposals in the START agreement, that in fact we would not go ahead and deploy those missiles?

MR. DEAN: The President has said that everything is negotiable. At the same time, as I have tried to indicate today, there is an objective need to undertake the force modernization. If the national consensus prevails, as I have no doubt it will, that we must maintain the land-based leg of the triad, this points to the need to deploy the MX system, and I could make the same point with respect to the strategic reserve to which the cruise missiles, the ALCMs and the SLCMs particularly, are dedicated.

DR. VON HIPPEL: To what extent is there really a linkage between the nuclear situation and challenges that our conventional forces may face in different areas?

MR. DEAN: Well, the Soviet Union...cannot consider any conventional military action without taking into account the possibility of the escalation to and use of nuclear weapons. That is clear. And we feel that this ambiguity—and this is not new in this Administration, of course, but this ambiguity, this linkage between the two forces, nuclear and conventional, serves to enhance the overall deterrent effect of our nuclear posture.

DR. VON HIPPEL: Well, the question really was to what extent do the details of our posture, that is, the sur-

vivability of silos in particular, really make a difference in that extended deterrence?

MR. DEAN: ...If we protest our willingness to use nuclear on behalf of our European allies in the event of a conflict and the Soviet Union looks at our arsenal and doubts the capability to implement that kind of a promise, all of our protestations really don't mean a great deal. So I think there is a reality out there with respect to the capabilities of the forces, what you called the details.

MR. DUCKETT: I came into these two days rather biased on the question of freeze in a negative sense. The little I have read and heard about this has been incomplete, and therefore it is based on very little knowledge. I tended to have a negative feeling that it was too simplistic an idea and sounded too easy and all of those good things.

I have now gained a quite different impression as a result of these two days, which is that, as I think has already been well stated, there are responsible people who tend to support some variant on what has been termed a freeze, and I guess that there should not be a total polarization, where that word itself becomes a bad word, because I think under that umbrella are a number of ideas which really have great merit and are worthy of further consideration.

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