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The Future  
of the Land—  
Based Deterrent

*Edited by James T. Hackett*



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# **The Future of the Land-Based Deterrent**

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1985-1986

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1981-1988

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# The Future of the Land-Based Deterrent

James T. Hackett

Ladies and gentlemen, I want to thank you all for coming. Any discussion of the future of the U.S. strategic deterrent must begin with a little background. U.S. strategic policy is based on the concept of deterrence, but in order to deter effectively, the U.S. must have a survivable and credible second-strike force. This has been a national goal for 20 years, but achieving a survivable land-based deterrent has proved to be a very difficult problem, politically if not technically.

The U.S. nuclear deterrent is based on a Triad of strategic weapons on land, at sea, and in the air. The sea leg of the Triad is being modernized with Trident submarines and the new D-5 submarine missile. The airborne leg is being modernized with the B-1 and Stealth bombers, air-launched cruise missiles, and in a few years, advanced cruise missiles. We are not here to discuss the sea and airborne legs of the Triad; they are in pretty good shape. The problem, which we have faced for a number of years, is how to make the land-based leg of the Triad more survivable.

We all know the history of the MX. Feuding over how to base it kept that weapon out of the arsenal for years. Only 50 have been deployed, and they are in vulnerable fixed silos. The Administration now wants to deploy another 50 on rail cars. In 1983, President Reagan directed the development of a road-mobile, land-based ICBM known as Midgetman. And one of our guests, James Woolsey, was a member of the Scowcroft Commission, which made that recommendation.

It was at least in part an answer to what the Soviets were doing — making their land-based missile forces more survivable by developing and testing a road-mobile missile, the SS-25, in violation of SALT II. The Soviets began deploying the SS-25 in 1985, and they now are deploying their rail-mobile SS-24 as well. Meanwhile, we are still debating which kind of mobile missile we should build.

The Administration has steadfastly supported the MX. With ten warheads and great accuracy, it is an effective counter to the Soviet first-strike force. However, with the ten-warhead MX in the U.S. force, under the proposed START agreement the older single-warhead *Minuteman* missiles would be cut, leaving fewer targets for the Soviets to attack. The ten-warhead MX is more powerful, but the single-warhead *Midgetman* is more survivable.

Supporting the MX as its top strategic priority, the Administration has kept Midgetman on the back burner, fearing that it would draw funds away from the MX. The Air Force added size, weight, and the MX guidance system, making Midgetman too expensive. The small ICBM can be saved by holding down its size and cost. A two-warhead Midgetman is one possibility, without designing a whole new missile, that would be more cost effective.



The Strategic Defense Initiative is a related issue. Survivability of the U.S. ICBM force can be improved by defenses as well as by mobility. Combining the two, strategic defenses and mobile missiles, seems to be a sensible approach. It makes sense to try to protect the deterrent forces with defenses, assuming they are feasible and cost-effective. And advances in technology are rapidly making ballistic missile defenses both feasible and cost-effective.

The issue immediately facing the next Administration is what to do about the 1989 defense budget. Congress, divided over whether to fund Midgetman or the rail-mobile MX, allocated money to both in the 1989 budget, but fenced part of the funds for the MX rail-mobile program until next February to give the next President a chance to decide whether or not to proceed with it.

The next President must decide, even before he takes office, whether to develop and deploy a rail-mobile MX force, continue the Midgetman program in its present form, change the direction of that program, or go to a different concept such as a carry-hard ICBM.

To discuss these issues we have invited three distinguished former senior government officials. Dr. Donald Hicks and Dr. Fred Iklé were both Under Secretaries of Defense in the Reagan Administration. Mr. James Woolsey was Under Secretary of the Navy in the Carter Administration.

Dr. Hicks will speak first. A physicist by profession, Dr. Hicks was with the Lawrence Radiation Laboratory for some years and later became a senior executive of the Northrop Corporation. He was with Northrop for 24 years, leaving as a senior vice president of that company to become Under Secretary of Defense for Research and Engineering in 1985. Dr. Hicks is now president of Hicks and Associates.

### **Dr. Donald A. Hicks**

Conventional wisdom tells us that we have to prepare for a bolt out of the blue. This concept holds that the Soviet planner will feel so comfortable with his ability to totally knock out the U.S. retaliatory force that he can go ahead with such a totally unexpected first strike. I do not want to oppose that conventional wisdom, because a lot of people much smarter than I adhere to it. All I can say is that I do not believe it.

I think that our entire problem of not doing what we should have been doing for the last ten years to modernize the ICBM force properly has been the issue of basing, which has stopped a great many good things from happening. I believe that we have to modernize our ICBM offensive force in the most economical way possible, so I would be quite comfortable with MXs in silos.

The assumption today is that we must have a survivable land-based force, so we have to take on the expensive additional problem of basing that force. One of the huge problems in Defense Department acquisition is the way we start programs. We do not start programs properly because of the incredible environment of distrust that has built up in this country between Congress, the Administration, and industry. This distrust does not permit the kind

of dialogue that is needed to generate the proper systems specifications from the military requirements.

We have people who are very bright about strategic nuclear concepts, but know very little about the engineering details of weapons systems, deciding what system we need and what we are to produce. It seems to me we should make sure that we have done a thorough engineering evaluation of the most cost-effective way of building a new weapon. We do not do that now.

I created a great deal of unhappiness when I was in the Department of Defense by requiring an additional look at the small ICBM and its hardened mobile launcher, primarily because it was an incredibly expensive system. Now, as time goes on and the pressures against the system build, the numbers are magically falling, and they are much lower than three years ago. The fact is, though, that it is a very expensive system. Now, I was not protesting the fact that decisions have been made to build that expensive system. What I did protest was the lack of a thorough engineering evaluation of how best to achieve the same kind of survivability for less cost.

As it turned out, Dr. Iklé and I felt very much the same way. We fought very hard for such an evaluation, and a lot of good studies came out of it. Now the Air Force is talking about basing the small ICBM with its hardened mobile launcher at Minuteman sites. This gives you something that is not much more survivable, in the event of a bolt out of the blue, than the rail-mobile MX.

I could support a rail-mobile MX because I think it provides as much deterrent at less cost than the small ICBM with the hardened mobile launcher. And since MX gives nearly as much protection in terms of a bolt out of the blue, and since we can do it for a lot less money, I am very much in favor of it. I also support multiple warheads, not because of anything but cost, because when you look at the efficiency of ICBMs with more than one warhead, the costs drop a great deal.

At any rate, I am going to talk primarily about the system I like best, if we must consider a bolt out of the blue, and that is the system called "carry-hard." Carry-hard has a lot of hardening and command and control with the small ICBM capsules, and is moved among a number of silos in a "pea-under-the-walnut-shell concept." These silos have some hardening, but they are not as expensive as an ordinary hardened shelter. This concept is much like an earlier solution of the late 1970s, which met the survivability requirement but was terribly expensive. I am sure you all recall the concept of Multiple Protective Shelters (MPS). In addition to having a great deal of political opposition, it would have required around \$80 billion to complete. By contrast, we are talking about carry-hard costs in the region of \$25 billion.

There are a lot of advantages to carry-hard. One is that it does not use up the real estate that you need for either MPS or a mobile system. So you do not have to worry so much about the objections of mayors, governors, and environmental groups. You can put it on an existing government facility, you can have ten or more times the number of silos as the number of actual ICBMs, you can do it in a way that the Soviets never know which hole the true ICBM is in, so that they have to hit all the holes.

From the standpoint of arms control and verifiability, carry-hard is very good. I would think the arms controllers would like carry-hard, because the verification can be done very readily. But once the verification is completed, moving these things around and putting them in places that the Soviets cannot see can be done very rapidly. We could talk about very sensitive ways of finding out which hole has the ICBM, but the carry-hard system has fewer problems in that regard than any other system we are talking about, including the rail-mobile MX and the hardened mobile carrier of the small ICBM.

**Mr. Hackett:** Thank you, Dr. Hicks. Mr. Woolsey will speak next. He was a Rhodes Scholar at Stanford and is a graduate of Yale Law School. He was general counsel to the Senate Armed Services Committee in the early 1970s, served as an adviser to the SALT I talks, was Under Secretary of the Navy from 1977 to 1979, and since 1979, has been a partner in the Washington law firm of Shea and Gardner. He served on the Scowcroft Commission in 1983 and the Packard Commission in 1985-1986.

#### **Mr. R. James Woolsey**

First of all, we should take half a step back and decide what it is we are trying to do with an ICBM force. The mission of that force may be involved in some changes over time as two things happen. First, the Soviets are moving to more and more mobile targets, rather than hardened silos, as the basis of their strategic forces. Maybe they will have an even higher proportion of mobiles under START as some of their silo-based ICBMs are drawn down. Second, the existence of the U.S. D-5 at sea, with some 2,500 or so hard-target-capable reentry vehicles, will be able to put at risk a substantial share of the Soviet hardened targets.

ICBMs always have had, and for the foreseeable future will have, some advantages: two-way communications and also the promptness of their use. But the existence of a substantial number of hard-target-capable, submarine-launched ballistic missile warheads, survivable at sea, is also a factor that must be considered in deciding what it is we are trying to do with the ICBM force.

Another thing to be assessed is what the risks are going to be with respect to the various parts of the Triad in the 1990s and the 21st century. My own judgment is that the submarine force is going to be highly survivable against anything I know about or could reasonably contemplate. The Soviet difficulty in trying to put at risk not only U.S. ballistic missile submarines, but all of them simultaneously, is, to put it mildly, an extraordinary scientific challenge. Consequently, I think it is fair to assume that the ballistic missile submarine force will be highly survivable for a long period of time.

The problem is that, partly as a result of decisions made years ago and partly as a result of some of the constraints we may face under a START agreement, we may end up with a ballistic missile submarine force of only 18 to 20 boats with perhaps only a dozen or so at sea at any one time. However survivable you think anything is, a dozen or so submarines, each the size of a World War II cruiser, is a very few baskets in which to put the country's strategic eggs.



Under such circumstances, it behooves us to ask whether or not there is something else we could have in the 1990s and the 21st century that also would be highly survivable. The bomber force is certainly a candidate, and alert bombers would be highly survivable against any but very extreme types of submarine threats, such as the very fast time of flight submarine-launched ballistic missiles.

We said in the Scowcroft Commission Report five years ago that ICBMs in silos also would be highly survivable for some substantial period of time because of the difficulty the Soviets would have in planning simultaneous attacks on the U.S. bomber force and the U.S. silo-based ICBM force. This argument has to do with the different times of flight of the submarine-launched ballistic missiles attacking bomber bases and the much longer time of flight of ICBMs attacking our ICBM silos.

But in that report five years ago, we also said something else. We said that, once the Soviets develop accurate submarine-launched ballistic missiles and come to be able, say in 12 minutes or so, to launch attacks on U.S. bombers, command and control centers, and ICBMs, the only thing that would be really survivable is the submarine force at sea. Once that day comes, we said five years ago, the country will need some other force that is highly survivable.

That is the reason we unanimously recommended moving toward a small mobile ICBM as the best response. That recommendation was reiterated by a group called the Deutch Committee, under the chairmanship of Provost John Deutch of MIT, which reported on this issue to Don Hicks three years ago, when he was at the Department of Defense. The group did include one Washington lawyer, but all the others were retired Air Force generals and distinguished scientists with strong backgrounds in the technology of strategic programs. The Deutch Committee also recommended the small mobile ICBM.

Now, why might we need such a hedge? My own judgment is that the day is coming relatively soon when the Soviets will have adequate numbers of MIRVed, accurate, submarine-launched ballistic missile warheads to put at risk both our bombers and our silo-based ICBMs. This is one reason it is not acceptable for us to stay in silos over the long run or even over the mid run, whether that means MXs in 50 or 100 silos, or Minuteman IIIs in several hundred silos.

It was revealed recently by Admiral Sergei Gorshkov, in the 1988 book he edited on Soviet seapower and the mission of the Soviet Navy, that the Soviets are considering covert launches from short range against U.S. strategic forces. In commenting on this publicly within the last three weeks, in articles that have been carried in the press, U.S. Naval Intelligence has said that this Soviet doctrine is presumably more understandable in light of recent Soviet tests of short-range, short-time-of-flight, submarine launched weapons.

So I do not think it is prudent for the United States to rely over the long run on any kind of system that requires strategic warning in order to survive — that is, warning that would take many hours in advance of any planned attack. This is the problem with the rail garrison MX system. It is better, I think, than staying in silos, but it is still a system that would not be survivable until many hours had elapsed after some sort of warning had taken place.

Basing small mobile ICBMs in the Southwest, on existing military facilities, is admittedly somewhat more expensive than the way the Air Force was thinking of operating them a couple of years ago, which was to base them at the Minuteman sites in the north, perhaps carrying two warheads. But both those types of deployments are survivable, either without any warning at all or with only the brief tactical warning that would be obtained from the actual launch of Soviet systems.

I agree with Don Hicks that carry-hard, essentially a shell game, perhaps for Minuteman, perhaps for a two-warhead small missile, perhaps for MX, is a reasonable alternative. And as a lawyer, if I were litigating this, I would say that it survives a motion to dismiss. One should hear the evidence on it. It is worth investigating. It is about third on my personal list of priorities for the ICBM force. I think a small mobile is far superior, but carry-hard is potentially an acceptable solution, and it is one that the country should investigate.

The most important thing, however, is that we approach this problem seriously and deal with it. Our approach toward ballistic missile defense and our approach toward arms control should be consistent with a systematic approach toward preserving the survivability of the ICBM force. There were problems with the multiple protective shelter system for MX back in the late 1970s, but in spite of its complications, and how much land use was involved, and whatever political problems there were in Nevada and Utah, it was at least a coherent system. It would have done what it was supposed to do: by multiplying shelters and targets, preserve the survivability of the ICBM force.

Look at the cacophony today, of proposed bans on mobile missiles in arms control talks, of various approaches to SDI, of proposed bans on ballistic missiles, of emphasis first on two ICBM programs and then on rail garrison MX, which is not survivable without strategic warning. Look at what can be described only as total confusion concerning a coherent approach to preserving the survivability of the U.S. ICBM force and to making defensive and offensive programs, and our arms control proposals, fit together.

I am reminded of calling a home trying to reach an adult and having various children answer the phone. When I say, "Could I talk to the grown-up who is at home, please," what I get is one child on the phone saying, "SDI, SDI." Another will pick up the phone and say, "Deep reductions, deep reductions." Another will say, "Mobile ban, mobile ban." Yet another will say, "Rail-garrison, rail-garrison." I keep saying, "Could I please talk to the grown-up." The problem is that there does not seem to be a grown-up at home.

**Mr. Hackett:** Our next speaker is Dr. Fred Iklé. Dr. Iklé took his Ph.D. at the University of Chicago, taught at MIT, was head of the social science department at the Rand Corporation, and was appointed by President Nixon to the U.S. Arms Control and Disarmament Agency, where he served as director from 1973 to 1977. He was named Under Secretary of Defense for Policy by President Reagan in 1981 and served in that position for seven years. He is now associated with the Center for Strategic and International Studies.

**Dr. Fred C. Iklé**

I also called that home with the children on the phone, and another child answered, "Mobile ICBM, mobile ICBM." Let me start by quoting a philosopher, George Santayana, who wrote, "Fanaticism consists in redoubling your effort when you have forgotten your aim."

What is the aim of the land-based ICBM, given that it confronts tremendous difficulties, both technical and budgetary, that have been mentioned by Don Hicks and Jim Woolsey? Why on earth, heaven, and hell do we still want the land-based ICBM? Or to put it differently: If we had not had an ICBM force until now, would we start one to get increased survivability of our strategic force in the next century?

Our whole SALT I and SALT II policy and much of the recent criticism of START have been driven by what I think is a fixation on the overly abstract calculations of the "duel" between U.S. and Soviet missile forces. People are fascinated with this missile duel because the calculations are so simple that anybody writing an Op Ed piece can redo them. And the calculations are simple because they leave out almost all the important facts.

All our anxiety about the SS-18 derives from this missile duel fixation. Without our ICBMs, the Soviet SS-18 force would be not much more threatening than a Soviet bomber force being able to deliver the same megatonnage on U.S. military and civilian targets. Yet we beg and cajole the Soviets to reduce their ICBM counterforce, particularly SS-18s, while at the same time we strain to provide new targets for this force by pouring more money into our land-based ICBMs.

Well yes, George Santayana, we once did have an aim for our ICBM. But this aim was different from the valid points that Jim Woolsey mentioned. We had two aims in fact. One was to overcome the Soviet air defenses. Now, this has a very different look today than it had in the mid and late 1960s, given the advent of Stealth, and I think we can do a lot more in that direction, and we already have a good penetration capability.

The second and far more important purpose of our ICBMs, initially, was to give credibility to the flexible response strategy. Back in the early 1960s we were ahead in tactical and theater nuclear weapons. To deter or to blunt Soviet strategic escalation, as a Soviet reaction to our flexible response strategy, we could have used tactical weapons, or we could have preempted the Soviet strategic missile force by destroying their liquid-fueled ICBMs before they were ready. This was a strategically sound purpose for our ICBM force.

Now, today, some residual purposes are mentioned. Some have been touched on by Don Hicks and Jim Woolsey. One is the so-called prompt target capability, and as Jim Woolsey already said, the need to destroy Soviet silos rapidly in the second strike is becoming less important, given the growing Soviet mobile force. And, second, we have the D-5 that could be used against residual hard targets that are time urgent.



In public literature, it has been argued that we could not communicate as promptly or as effectively with SLBMs as with ICBMs, and on the surface that seems plausible. On the other hand, it also seems plausible that a fraction of the money we might need for a new ICBM system would go a long way to fix that SLBM communication shortcoming.

The other reason for putting more money into the ICBM force, as mentioned in the Woolsey-Scowcroft Commission report, is to improve the overall survival of our strategic forces. Now, I think what needs to be looked at here is the trade-off in achieving long-term survival with active defenses. We might use money to further reduce the vulnerability of our bomber force by providing additional inland basing and improved capability and readiness to respond to tactical (not strategic) warning. The issue is whether these in combination with the ongoing anti-submarine warfare efforts, could not take us further in trying to get some insurance for the next century than would overcoming the technical and fiscal obstacles to ICBM basing.

Now, lest I sound like an agent from the Dukakis campaign, let me mention that there is a last purpose for continuing our program for a new ICBM, or two new ICBMs, and that is arms control leverage. This was mentioned, for example, by George Bush in the Los Angeles debate where he argued — in his words, "I just think it would be dumb negotiating policy with the Soviets to cut out one or the other of the two options right now."

A few years ago, I might have differed with this point on arms control leverage. With the INF experience behind us, I think one must agree. We have spent some \$7 billion or \$8 billion on the INF system. It was effective, but rather expensive bargaining leverage. Thus, spending a few hundred million this year, next year, and maybe a year beyond on keeping MX, or perhaps MX and Midgetman, alive as systems is a prudent policy to see what we can achieve in negotiations and what we learn about new Soviet systems.

So, stripped of all the philosophy, my bottom line is: continue with SDI to get a capability in the next decade; defend command-and-control, the most vulnerable part of our strategic force; and defend some bomber forces and/or Minuteman fields. Then use some of the dollars left over to improve bomber survival and keep production lines open for the MX, both to back up our negotiating strategy, as George Bush explained, and also as insurance over the next two years, until we see what the Soviets are doing with their defense budget, and whether there are some dangers around the corner that we have not yet fully recognized.

**Mr. Hackett:** These proceedings have been recorded for television. If either the Bush or Dukakis camps see the tape of these proceedings, I hope they will take note of the suggestion that they do something about this problem. Our thanks to our speakers for clarifying it so well.

