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Working in the White House On Nuclear Nonproliferation and Arms Control:

A Personal Report

Frank von Hippel

Prior to 1993, I had spent 20 years as an activist policy-physicist—mostly on nuclear nonproliferation and arms control issues. All my work was done as an “outsider.” I never had a clearance and, with the exception of providing analytical ammunition to the Carter White House after it decided to cancel the Clinch River demonstration plutonium-breeder reactor, I had never worked with the Executive Branch. During the Reagan and Bush Administrations, I wrote articles, testified to Congressional committees about disarmament proposals, and made about thirty trips to Moscow to discuss these same proposals with independent Russian arms control activists and those interested in arms control in the Foreign Ministry.

Then, in August 1993, I was invited to try to affect policy as one of the 1700-odd people in the “White House,” the complex that includes, in addition to the White House itself, the Old and New Executive Office Buildings. I was offered the position of Assistant Director for National Security in the White House Office of Science and Technology (OSTP).

I have great respect for Jack Gibbons, the President’s Science Advisor and the Director of OSTP, and for Henry Kelly, who had taken the position of OSTP Assistant Director for Technology—and who was trying to do the national security job as well until the position could be filled. I told myself that, if I were ever going to work on the “inside,” OSTP would be as compatible a base as I would ever find.

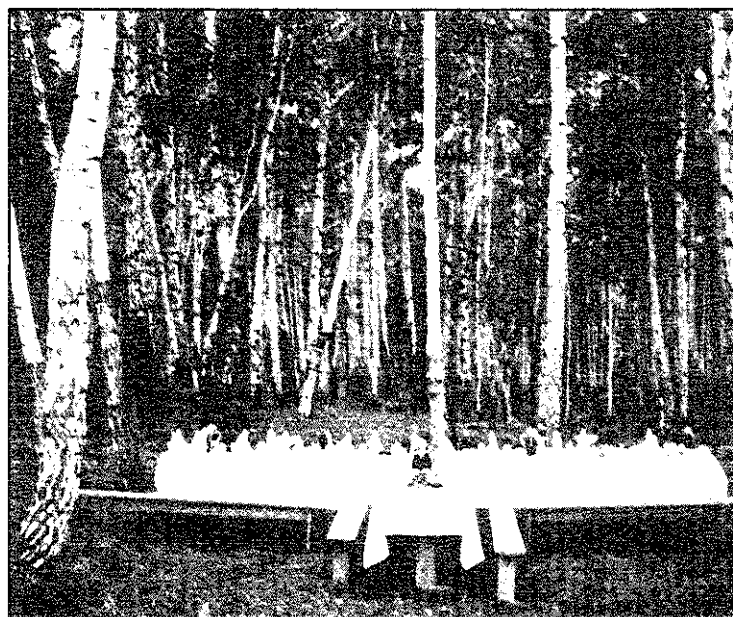
I therefore took a two-year leave from Princeton and, in September 1993, joined the Administration and started to fill out what Henry called “the form from Hell,” in which I had to provide the information about my relatives, past jobs, addresses, etc. that the FBI required for its background investigation.

Sixteen months later, in December 1994, I decided that I had done most of what I could on the inside. In any case, I was losing my bearings as a result of “thought deprivation” due to a continual barrage of urgent phone calls, FAXs and interagency meetings. I therefore decided to spend the remaining seven months of my two-year stint in Washington with the F.A.S., working again

as an outsider trying to advance the Comprehensive Test Ban, a ban on the production of fissile material for weapons, and other initiatives that I don’t think the government will be able to carry through successfully without some more help from the outside.

Many of my friends have been curious about what I learned as a result of my service on the inside. Immediately after leaving, my brain still felt too fragmented by the experience for me to say anything useful. Now, however, the pieces are beginning to fit back into place. And I hope what I have to say at this point will be of interest to my fellow activist analysts who have, like I did in the past, observed the Executive Branch as a black box whose inputs are mysterious and whose outputs are perplexing.

(continued on page 3)



An ambience conducive to conscience In 1989, tables were set in a birch grove for a dinner honoring the arms control delegation that was led by the Natural Resources Defense Council and included Frank von Hippel. This site is on an island in an uncontaminated lake upstream from the nuclear complex.

F.A.S. URGES CHANGE IN RISK ASSESSMENT BILL

In an effort to improve the risk assessment regulatory reform bill, the Federation of American Scientists released on March 2 a statement urging the Senate to make specific changes to the House version of the legislation. Supporting the statement was a five-page analysis signed by, among others, F.A.S. Chairman Robert M. Solow, Nobel Laureate in Economics; Paul Slovic, a past President of the Society of Risk Assessment; and Gordon J. MacDonald, an initial member of President Nixon's Council on Environmental Quality. The statement and analysis are available upon request to the F.A.S. office.

Among the changes advocated is a requirement that the risk assessment process be demonstrated on at least one major rule in each agency before full-scale implementation. According to the statement, "This will permit a fine-tuning of the procedures that no amount of Congressional debate and review can produce. Certainly this would be practicing the cost benefit approach which the bill is preaching."

The statement also urged that the Senate avoid the over-reaching judicial review language of the House bill. The House version permits the courts to review whether or not the cost and risk assessments were based on "objective and unbiased scientific and economic integration of all significant and relevant information." The statement warns that unless judicial review is kept to "an absolute minimum" the entire process "could easily become a fiasco littered with undesirable litigation."

In particular, the statement warned that the language in the House bill could make the public lose faith in the infant science of risk assessment and as a result might "come to demand still more stringent regulation of risks despite the conclusions of experts."

It appears that the Senate has incorporated some of these concerns into its version of the bill. The judicial review provision in S.291 does not allow for court challenges of risk assessments based on the scientific methods used to draw the report's conclusions.

In another departure from the House, the Senate has eliminated the requirement that regulators are bound by the conclusions of the risk assessment and cost benefit analysis. Under the Senate version, federal agencies must still conduct these examinsue regulations that do not make the grade. Congress then has a period of time to dismiss the regulation before it goes into effect. Although this would still give Congress the chance to second guess hundreds of regulatory decisions, it would, as Senator Don Nickels said, "At least . . . make Congress responsible" (*The Washington Post*, March 27, 1995).

The Senate bill was voted out of the Governmental Affairs Committee on March 23. No floor action was scheduled at press time for this newsletter.

—Michael Panetta

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Nuclear Policy Making in the Bureaucracy

In my 500 days in the Administration I learned a great deal about the difficulties and opportunities presented by the interagency process of nuclear policy making. What follows are observations, illustrated by some examples.

The Administration's Decision Not to Test

I had my first experience as an insider four months before I actually joined the Clinton Administration. This occurred in May 1993, and it was positive. The issue was whether or not the U.S. should resume nuclear testing.

The previous autumn, after a heated debate, the Democrat-led Congress had passed an amendment that declared it to be the policy of the U.S. government to achieve a Comprehensive Test Ban (CTB) by September 30, 1996. By attaching the amendment to a bill containing funding for the Superconducting Super-collider in Texas, a state critical to Bush's reelection hopes, Congress boxed the president into signing the legislation. Reflecting concerns raised during the debate, the amendment provided that the U.S. could conduct as many as five safety and reliability tests in each of the fiscal years 1994, 1995 and 1996. The new Administration had to decide whether or not it wanted to actually carry out these tests.

The decision that had been prepared for President Clinton by the National Security Council staff, working mostly with the weapons labs and the Department of Defense (DoD), was the maximum-permitted 15-test plan. But then, the new Secretary of Energy, Hazel O'Leary, in a surprising display of independence, put the decision on hold until she could better understand the issues involved.

Ellsberg Circulates Paper

I had just written a paper arguing that no more tests were necessary. The indefatigable Dan Ellsberg, now a Washington, D.C. based nuclear-disarmament activist, was aware of the internal Administration debate and distributed my paper to a number of high-level officials. As a result, my paper was the first argument against the tests that reached these levels in the Administration, and Secretary O'Leary's staff decided to invite me in for two sessions during which the Secretary would be presented the arguments for and against the 15 tests. I was issued an interim "Q" clearance so that I could participate in these classified discussions.

The arguments made for the tests turned out to be extremely weak. There were simply no "problems to be fixed." But the arguments were political as well as technical. Most ironic, perhaps, was the observation that, after all the claims that had been made by the weapons labs about the need for safety and reliability tests, the Senate might not ratify a CTB if no tests of this type were carried out.

Ultimately, Secretary O'Leary made a decision none of her predecessors had been willing to make: stop the testing despite the opposition of the weapons labs and their politi-

cally powerful supporters in Congress and the Pentagon. No decision comes without its price, however, and this same meeting produced the seeds of the very costly "Science-based Stockpile Stewardship Program" intended to maintain the competence—and the funding levels of the labs—without nuclear testing.

Hydronuclear Tests

One argument that I made in the O'Leary meetings has come back to haunt me. For some of the tests that appeared to have at least some marginal justification, I argued that the essential information could be obtained with "hydronuclear tests"—nuclear tests with yields less than four *pounds* TNT equivalent. I therefore share the blame for the U.S. negotiating position in Geneva that hydronuclear experiments must be permitted under a CTB. This "little bit pregnant" position has made it easy for other nations to come in with proposals for "permitted experiments" with much larger yields—up to a few hundred *tons*.

If tests were continued in this yield range, non-nuclear weapon states could conclude that the quest for more useful and "useable" nuclear weapons had not ended. This would greatly undermine the nonproliferation value of a CTB, which is supposed to symbolize an understanding that nuclear weapons are *not* useable. The "threshold states" (Israel, India and Pakistan), which have not signed the Nonproliferation Treaty, could also obtain valuable information from low-yield tests that they could use to design more compact fission warheads for use on ballistic missiles.

In retrospect, it was a mistake in the first place to include small fission explosions in the category of permitted experiments. All such experiments should be banned. This may appear implausible as a basis for an agreement with the other nuclear-weapon states, but officials in both the Chinese and Russian Foreign Ministries have suggested informally that their nuclear-weapons designers would find it easier to accept a zero-pound than a four-pound limit—perhaps because they believe (incorrectly) that the U.S. could achieve much more at four pounds than they could.

Turf and Arms-control Policy

Once I was inside the White House, I learned about "turf"—and also that I had very little. Arms control and nonproliferation policy-making is coordinated in the White House by the National Security Council. And the "Senior Directors" who control these areas were not about to turn over even the smallest portion of their authority to me. It also turned out that the NSC Defense Policy and Arms Control Directorate, headed by a former defense aide of Senator Nunn, until the last election Chairman of the Senate Armed Services Committee, tends to side with the Pentagon on arms control issues.

Room for debate within the Administration is limited still further by the fact that the State Department also

tends to follow the Pentagon's lead. Indeed, the Undersecretary of State for International Security Affairs, a former Deputy Assistant Secretary of Defense, has twice persuaded the Secretary of State to recommend to the President that the Arms Control and Disarmament Agency be abolished.

With this lineup, there has been very little effective resistance within the Administration to ideas that undercut arms control. One idea was to add an "easy-out" provision to the U.S. CTB negotiating position. Such a provision would allow any country to drop out of the CTB after 10 years without explanation. This proposal undercut the U.S. effort to persuade the non-nuclear weapon states to sign up for an indefinite extension of the Non-proliferation Treaty. After much outside criticism the idea was abandoned, but only on the eve of the NPT Extension Conference.

Reinterpreting the ABM Treaty

Another Administration proposal—to reinterpret the 1972 U.S.-Soviet ABM Treaty, which limits Anti-Ballistic Missile systems—may well undermine the potential for further strategic arms cuts. The purpose of this proposal is to allow the testing and deployment of the Army's new Theater High-Altitude Area Defense (THAAD) system, as well as proposed future Navy and Air Force theater-missile-defense systems.

In addition to proposing a reinterpretation that would largely remove the Treaty's restraints on technologies that can be used for *theater* defense, the Administration has shown astonishingly little interest in preserving the Treaty's constraints on *strategic* defenses. Making the world safe for THAAD is seen as an imperative; warnings that lowering the barriers to future strategic ballistic-missile defenses may make it more difficult to achieve further strategic arms reductions—indeed, may even result in the Russian Duma's failure to ratify the START II agreement—are given the short shrift. (Since the November election, of course, the Administration has been under attack from the Republican Congress for wanting to preserve the ABM Treaty at all.)

The Power of the "Leak"

Given the dominant arms-control-indifferent configuration in the Executive Branch national security bureaucracy, any avenue of appeal is critical. Unfortunately, in the area of arms control, there has been little recourse inside the Administration. The President, the National Security Advisor, and the Secretary of State all have had other pressing concerns.

Prior to November 1994, arms control advocates within the Administration had one recourse—appealing to the Democratic Congress. This was most easily done via a leak to a sympathetic journalist.

An example from the spring of 1993, before I joined the Administration, illustrates the importance of leaks. There was a proposal, agreed to by most of the national-security bureaucracy, that a Comprehensive Test Ban Treaty

should allow nuclear explosions with yields up to one kiloton. A leak to *The Washington Post* triggered a very stiff letter to the president from senators who had pushed the new pro-CTB policy through the Congress. And the one-kiloton CTB proposal that had been impossible to stop inside the Administration was dead—stopped by a single leak.

During my time in the White House, I often thought about the power of the leak but never employed it. The National Security Council (NSC) leaked to the press all the time. But it controlled the turf and I didn't. If my adversaries within the NSC could plausibly accuse me of leaking, they would have a reason for excluding OSTP from the national-security policy-making process altogether. After a series of embarrassing leaks, a high-level NSC official reportedly warned of potential further restrictions on those who would be allowed to participate in the Administration's policy debate on arms control. And then, he reportedly added "I would rather have the policy be wrong than to have a leak before the President makes his decision."

Summit Opportunities

The interagency process spends most of its time reducing good ideas to mush. But periodically a summit meeting comes into sight and suddenly the President's or Vice President's staff—concerned about a "ho-hum" verdict on the summit—is out searching for "bold new proposals."

My first experience with this phenomenon occurred early in December 1993, during the run-up to the second meeting of Vice President Gore with Russian Prime Minister Chernomyrdin.

Three of Russia's military plutonium-production reactors—two near Tomsk and one near Krasnoyarsk—are being kept in operation because they produce essential heat and electricity for the associated closed cities of Tomsk-7 and Krasnoyarsk-26 and for the city of Tomsk. Continued operation has resulted in continued separation of one to two tons of weapons-grade plutonium a year because their aluminum-clad uranium-metal fuel is not designed for prolonged storage. If these reactors are to be shut down, an alternative source of energy will have to be found.

During the early fall of 1993, Evgeny Velikhov, a collaborator of the F.A.S. in arms-control initiatives during the Gorbachev era, visited Washington and told me of a possible way of providing the alternative energy that he believed would cost only about \$25 million. He suggested that, for this amount, a Russian military jet-engine factory could be converted to the production of stationary gas turbines for generating electricity. GasProm, Russia's natural gas utility, would then be willing to buy these turbines and install them at strategic points around Tomsk where their exhausts would heat water for its district-heating system.

This was an irresistible proposal, combining in one package the conversion of part of the Russian military-industrial complex with the replacement of unsafe plutonium-production reactors by a clean source of energy. Accordingly,

in mid-December, in Moscow, the Vice President and the Prime Minister agreed that: (i) the plutonium-production reactors would be shut down by the year 2000, (ii) the U.S. would provide assistance to bring alternative energy sources on line by that date, and (iii) the storage and disposition of the plutonium separated from the reactors' fuel in the interim would be subject to joint monitoring.

Unfortunately, Velikhov's idea did not work out. Gas-Prom was not after all interested in financing the gas-turbine co-generation plants and their associated gas supply. And the city governments of both Tomsk and Krasnoyarsk-26 indicated that they would prefer to have Western funding for the completion of coal-fired co-generation plants that had been partially built outside each city.

The U.S. is financing feasibility studies to explore the possibility of international loans to finance these or other sources of alternative energy, but it is not clear at this time how such loans could be paid back. A compromise solution that is being considered would be to assist the Ministry of Atomic Energy in converting the production reactors to a fuel cycle with storable fuel so that the plutonium would not be separated from the highly radioactive fission products that protect it from theft. The main hesitation about this proposal has been that it could result in extending the operation of what may be the most unsafe reactors in Russia.

Warhead Arms Control

From 1987 to 1993, an F.A.S. working group examined the technical basis for an extension of nuclear arms control to cover nuclear warheads. The INF and START treaties deal with the elimination of ballistic missiles, their launchers and long-range bombers—but not with what happens to the tens of thousands of warheads that have been made excess by the dramatic post-Cold War cuts in both strategic and tactical nuclear-weapons systems.

Here, the January 1994 Clinton-Yeltsin summit provided an opportunity to insert in the summit statement a mandate to establish a Russian-U.S. joint working group to "consider . . . steps to ensure the transparency and irreversibility of the process of reduction of nuclear weapons, including the possibility of putting a portion of fissionable material under IAEA safeguards."

This presidential commitment launched an interagency process to produce a negotiating position, and a quite good U.S. proposal for first steps in these negotiations was submitted to the Russian government in December. The U.S. proposal envisions exchanges of declarations of total warhead and fissile-material inventories and verification of fissile-material inventories not in warheads or naval-reactor fuel.

Although the transparency and irreversibility negotiations have not yet begun, negotiations on one piece of the agenda were launched in March 1994. At that time, Secretary O'Leary and Russian Minister of Atomic Energy, Victor Mikhailov, signed an agreement to establish a joint group to work out procedures for reciprocal monitoring of the accumulation of plutonium "pits" from warhead dis-



Time, Temp and Threat The electronic sign over the entrance to the Chelyabinsk-65 hotel displays, in sequence, time of day, temperature and the radiation level. About a hundred million Curies of Cesium 137—more than 20 times the amount released by the 1986 Chernobyl accident—are in the infamous Lake Karachay nearby. A 1967 windstorm contaminated an area downwind with radioactive dust from the dry lake bed. The effort to fill the lake with concrete blocks continues.

mantlement. A technical approach based on measurements of the radiation emitted by the plutonium through the walls of the sealed canisters holding the pits has been worked out, but measurements on actual pits await completion of a formal Agreement of Cooperation to protect the not-very-sensitive classified information that will be revealed.

Russian Fissile-Material Security

Probably the greatest threat of nuclear proliferation today stems from the inadequate arrangements for protecting Russian fissile materials from theft in the new post-Soviet social and economic environment. There have been many alarms sounded about this problem since the Soviet Union began to disintegrate in the fall of 1991.

Congress thought, when it voted for the Nunn-Lugar program in 1991, that it had launched a major effort to help deal with what was then called the "loose nukes" problem. Starting in 1992, the program authorized \$400 million a year of DoD funds to be spent to assist Russia in "the transportation, storage, safeguarding, and destruction of nuclear and other weapons" of the former Soviet Union and "to assist in the prevention of weapons proliferation." However, I found, when I arrived in the White House in the fall of 1993, that very little had been accomplished with regard to strengthening nuclear materials security in Russia.

U.S. negotiators for the Nunn-Lugar assistance effort had been fended off from the installations that were of

most concern: facilities where Russian warheads were being dismantled and weapons-useable fissile materials were being processed. Hard-liners in the Parliament were convinced that the U.S.'s real interest was in obtaining access to Russia's secret facilities, and they denounced the leadership of the Ministry of Atomic Energy (MinAtom) for any move to accept U.S. assistance at such "sensitive" facilities.

Some of us on the outside had anticipated this paranoia and had proposed that the U.S. offer the Russians reciprocal access to the counterpart U.S. facilities in exchange for any access that we required to verify that our assistance was being used in the manner intended. But both the Bush Administration and Senator Nunn's staff were hostile to the concept of reciprocity.

In the spring of 1994, when I raised the idea again, there was little opposition within the Clinton Administration to trying it. We quickly found that it worked. In July the Administration hosted a Russian delegation to examine the physical security arrangements at a U.S. facility at the DoE's Hanford, Washington site, where the U.S. had begun plutonium production during World War II. In return, we were invited in October to visit the plutonium storage facility at Russia's first plutonium-production site in the closed Urals city of Chelyabinsk-65.

With the establishment of the principle of reciprocity, MinAtom has agreed to open the door to cooperation on fissile-material security to include other facilities containing weapons-useable fissile material. The Administration has responded by budgeting \$30 million per year for 1995 and 1996 for this program focused initially on Chelyabinsk-65, two major reactor and fuel-development institutes that have ton quantities of unirradiated plutonium and highly-enriched uranium, and two fuel-fabrication facilities that also handle large quantities of weapons-useable materials.

Bypassing the Bureaucracies: Lab-to-Lab

Another problem with the Nunn-Lugar effort regarding fissile material security is that it was very cumbersome. It required the cooperation of three bureaucracies: the DoD, whose accountants set almost impossible requirements for a release of the funds; the DoE, whose bureaucracy had the responsibility for carrying out the program; and MinAtom, a Soviet-era ministry trying to survive in the post-Soviet market-driven world. The combination of these three bureaucracies made it demoralizingly difficult to get anything done.

To get around the roadblock, a proposal was made by a number of individuals: Tom Cochran, a nuclear physicist at the Natural Resources Defense Council; a group of materials-security experts at Los Alamos; and by me in the White House. We proposed a new program in which U.S. and Russian materials-security experts would be able to deal with each other directly. Undersecretary of Energy Charles Curtis picked up this idea and decided to launch what is now known as the "lab-to-lab" program. Not only is this program free of most of Nunn-Lugar bureaucratic overhead; it also can use its funds to put Russians as well as

Americans to work. The rule of thumb is that one third of the funds goes to U.S. lab personnel, one third to Russian personnel and the final third to the purchase of equipment.

The lab-to-lab program was greeted with enthusiasm by the Russian labs and is already well ahead of the government-to-government program in terms of accomplishments. So far, Velikhov's Kurchatov Institute of Atomic Energy in Moscow is in the lead with a state-of-the-art security system installed in a building that contains 70 kilograms of weapon-grade uranium. During the next year, the program is expected to begin upgrading materials security in Russia's two weapons labs, Arzamas-16 and Chelyabinsk-70, and the major plutonium and highly-enriched handling complex of Tomsk-7. Fifteen million dollars are budgeted for 1995 and forty million for 1996.

Talking Points

As an outside activist, I had been able to present ideas for new arms-control initiatives personally to high-level Russian government officials. Now, as a working-level government official, I found that to be no longer possible. Any new idea must first be vetted by an interagency group. Then it is presented to the targeted government via agreed "talking points" by an authorized official, usually from the State Department. Sometimes the State Department was busy and delivered the message so cursorily, or at such a low level, that there was no response. Sometimes the response was "no", but we didn't understand why so we would reiterate the proposal, hoping for a different response, just to be rebuffed again.

We went through such an exercise in frustration in connection with the Nunn-Lugar Agreement for Cooperation on fissile-material security. At one point we became convinced that Russia considered virtually all facilities containing weapons-useable fissile materials "military" facilities. Vice President Gore therefore proposed and Prime Minister Chernomyrdin agreed, in their September 1993 meeting, that U.S.-Russian cooperation on fissile-material security would extend to "military" as well as civilian fissile material. This agreement was reiterated—in a somewhat watered-down form—in the January 1994 Clinton-Yeltsin summit statement.

Yeltsin's and Chernomyrdin's agreement, however, had no effect on MinAtom, which absolutely refused, in meeting after meeting, to expand the Nunn-Lugar agreement of cooperation on fissile-material security to cover military materials.

After a year of this fruitless dialogue, we learned by accident that we had been talking past each other. A negotiator from MinAtom came to Washington to discuss this issue among others. Since the State Department's negotiator was out of town, I volunteered to fill the gap. We exchanged the Russian and U.S. proposed language for the amendment and found that we were as far apart as ever. I then invited the Russian official to lunch and tried to explore what was behind the Russian version.

Much to my surprise, I learned that MinAtom was willing to expand the cooperative effort to cover a broad range



The public interest groups were there first! In July 1989, Frank von Hippel was a member of a Natural Resources Defense Council group invited by Evgeny Velikhov to visit Russia's first military plutonium-producing site at Chelyabinsk-65. In October 1994, accompanied by U.S. fissile-material security experts, he revisited the closed city. Here, in 1989, citizens gawk at Rep. Jim Olin (D-VA), standing (center right) beside Velikhov.

of weapons-useable fissile materials. Its objection was to extending this cooperation to materials in classified forms such as weapons components and naval-reactor fuel. I reported this back to the interagency group and it was decided that MinAtom's offer, while not everything we had wanted, provided us plenty of important opportunities to use the resources that we had available for the cooperative program. We therefore signed an agreement that spelled out our new understanding of the Russian position, and the program went forward.

"Gnats"

For the most part, however, I did not enjoy my time inside the Government and, at least weekly, I would ask myself whether I was really more useful on the inside than on the outside. One day, I mentioned this to a colleague in the State Department, who had worked on the inside for 25 years. His response was incredulous: "Oh you are having much more impact inside! Those people on the outside are gnats!"

What he said was true in a sense. Outside public-interest and academic experts have little impact on day-to-day arms control and nonproliferation policy-making in the government. However, they largely set the long-term agenda.

There is little opportunity inside the government to achieve fundamental changes in policy. This is especially true in the areas of arms control and nonproliferation policy, where many agencies have to sign off and officials therefore only have the freedom to innovate at the margins of the current policy consensus. Any new ideas face a brutal obstacle course.

Testimony and speeches have to be "cleared" with other agencies; proposed new initiatives must be agreed to at interagency meetings; cables communicating proposals to foreign governments must be circulated for interagency clearance; and frequent turf battles, reorganizations, and transfers of personnel militate against the development of

effective interagency collaborations on policy development.

The President can in theory redirect policy. But his time is a precious commodity and, unless he comes into office with a clear idea of changes that he wants to make and the determination to overcome the resistance of the agencies, he will very soon be forced to accept—and become the spokesperson for—the lowest-common-denominator consensus that the interagency process produces.

This consensus, however, is influenced by effective public criticism and by outside proposals for new policy initiatives that gain significant political support in Congress. Many of the new initiatives that my friends in the State Department were negotiating had first been proposed and popularized by analysts in public interest groups. For example, it was a very small group of public-interest-analyst-activists, under the intellectual leadership of Christopher Paine of the Natural Resources Defense Council (NRDC), that worked over the years to convince Congress that the weapons-labs' arguments against a Comprehensive Test Ban could be rebutted.

Another small and overlapping group of public interest activists and academics worked in both Washington and Moscow to give credibility to the idea of a world-wide ban on the production of fissile materials for weapons which was adopted by the Clinton Administration in September 1993. And the F.A.S. nuclear disarmament project developed many of the ideas that are to be explored in the proposed U.S.-Russian "transparency and irreversibility" talks on nuclear-warhead elimination.

The public interest sector is characterized by a higher ratio of commitment to policy objectives than to loyalty to the President. This may account for why so few public interest types receive appointments in the Executive Branch. In my own case, a high-level White House official reacted to my proposed appointment by objecting "But he has an agenda!"

Intelligence in the Post-Cold War World

The contribution of the public interest community also extends increasingly into the area of information that used to be available to policy makers only from the intelligence agencies.

The U.S. spends tens of billions each year to collect and analyze information about potential threats to our national security. During the Cold War, the results were often stunning—as displayed, for example, in the glossy *Soviet Military Power*, which was put out annually by the Defense Intelligence Agency during the Reagan and Bush Administrations.

Some of my friends therefore expected that, when I went into the government, I would find that this public manifestation of what the U.S. knows but the tip of a vast iceberg of intelligence. I found, however that, in terms of what it is important for policy-makers to know, pretty much every thing has leaked out. I also found that, in the new, post-Cold War era, the intelligence community often has more to learn from the public interest community and journalists than vice versa.

Photographs from space may have been helpful in answering key questions of the Cold War—"Where are their missiles? Is their Army massing?"—they are not so useful in answering the questions that concern us now—"Is their nuclear-weapons material secure? Are their nuclear-weapons designers being paid?"

To answer these questions, it is necessary to visit the places that are of concern and talk to the people there. And the intelligence community is typically the last to be able visit such places and to have open discussions with the people who live and work there. Some of the best information today therefore tends to come from the open reports of public interest groups and journalists.

Indeed, even when I was inside the White House with the full resources of the intelligence agencies at my disposal, I usually found it far more efficient to turn to my public interest and journalist friends for information. The information was also valuable for another reason: I could reference it in unclassified documents.

The Outlook after the Congressional Elections

With the election of a Republican-led Congress, arms control has entered a new era. In the past, a moderately liberal Congressional leadership tried to cajole a conservative national security establishment (including the armed services committees of Congress) into trying to deal with the East-West nuclear confrontation and the North-South proliferation problem in part by mutual restraint rather than relying exclusively on U.S. technological superiority.

Now we have a Congressional leadership that has already shown itself to be impatient with restraints on ballistic-missile defenses and considers the Arms Control and Disarmament Agency a "relic of the Cold War." And the Secretary of Defense is on the defensive about Nunn-Lugar's very modest program to help Russia convert its excess military production capacity.

At the same time, the challenges of the new era are different and need not be as polarized ideologically between the advocates of "peace through strength" and the arms controllers as they were during the Cold War. In particular, it should be possible to obtain bipartisan support for effective programs to deal with the central nonproliferation challenges of the next few years, specifically to:

- Help the former Soviet republics secure their nuclear weapons materials in the new circumstances of freedom of movement and economic distress that have it so easy for black marketeers to flourish;
- Eliminate the surplus nuclear weapons materials freed by the downsizing of the Cold War nuclear arsenals; and
- Minimize the commercial separation of weapons-usable plutonium from spent reactor fuel.

The instinct of conservatives is both to assume that these efforts will fail and to support investments in efforts to develop capabilities for detecting activities associated with the production of weapons of mass destruction, new anti-missile systems, weapons to destroy underground bunkers, etc. such as those being pursued by the DoD's "Counterproliferation Program." However, the same variety of possibilities exists for delivering a nuclear weapon as bulk drugs—and one can expect the same limited effectiveness for preemption and interception efforts. There should still be enough people in Congress who will recognize this reality to secure the support needed for pursuing relatively low-cost preventive programs such as those "bulleted" above.

Encouraging these people and increasing their numbers will require public and Congressional education. Non-governmental international brain-storming will be necessary to provide insight to supplement the clumsy processes by which governments try to negotiate. The efforts of the F.A.S. and other concerned public interest groups are therefore needed as much as ever.

—FvH

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