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Congress of the United States

House of Representatives

Washington, DC 20515

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Dear Colleague:

Tomorrow we will vote on the Aspin-Gephardt-Schroeder nuclear testing moratorium amendment. Today's Philadelphia Inquirer features an op-ed by physicist Frank von Hippel which makes a compelling case for this amendment. I urge you to read this fine piece today and vote for a nuclear testing moratorium tomorrow.

Sincerely,


Edward J. Markey
Member of Congress

The test ban is up to the U.S.

By Frank von Hippel

As of today, the Soviet Union will unilaterally have refrained from testing nuclear weapons for an entire year. During the same year, the United States has gone ahead with a vigorous program of testing that has as its highest priority the development of "third-generation" nuclear weapons such as a nuclear-explosion-powered X-ray laser.

On July 14, I was with a group of scientists from seven nations who met with Soviet leader Mikhail Gorbachev. We assured him that the Soviet Union is no less secure as a result of the unilateral moratorium. In the current situation, where the two nations are each capable of launching more than 10,000 nuclear weapons at the other, neither country can escape from its nuclear hostage situation without the acquiescence of the other.

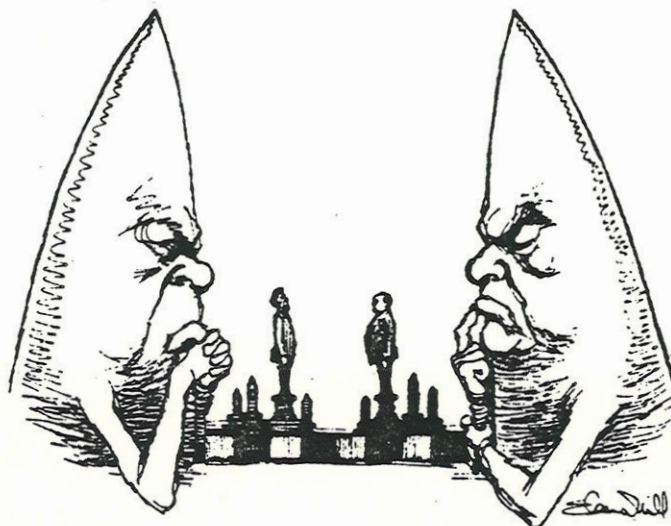
The scientists added that, if the Soviet moratorium helps to bring about a nuclear weapons test ban, it will have increased the security of both countries and the rest of the world. We therefore urged Gorbachev to extend the Soviet commitment beyond today.

He responded that, while he shared the "new way of thinking" that holds that the development of new weapons no longer increases national security in the nuclear era, his ability to extend the moratorium "significantly depends on whether or not the United States intends to engage in disarmament."

There is no doubt that Gorbachev is under pressure to renew testing. In April, a member of the Soviet General Staff told a delegation of Western parliamentarians that the Soviet Union could not let the United States get too far ahead in the development of third-generation nuclear weapons.

Soviet doves might describe such an argument as a manifestation of "old-thinking," not reflective of the new realities of the nuclear age but the thinking has deep roots in both countries. Unfortunately, the most pro-arms control Soviet leadership in the post-war period is matched with the most anti-arms control U.S. administration — an administration that has committed the United States to the development of a whole new generation of nuclear weapons.

This administration has shown no interest in the possibility of an agreement that would end the waste of billions of dollars and the precious talents of tens of thousands of scien-



Continued nuclear weapons development is more than a waste, however, because in their efforts to obtain funding for new programs, the weapons labs in both the United States and the Soviet Union argue that the new nuclear weapons may make nuclear threats more credible. Such arguments are inconsistent with the repeated assertions by the leaders of both countries that nuclear war must not be fought and cannot be won. Claims for the potential military usefulness of nuclear weapons also help stimulate desires for them in other countries.

Administration spokesmen have tried to deflect the pressure for a test ban by arguing that continued testing is required to maintain the safety and reliability of U.S. nuclear weapons. According to former U.S. weapons designers, such tests can be replaced by nonnuclear testing and, in any case, nuclear tests for this purpose are already very infrequent. Even if the United States insisted on the need for one or two tests a year, that would still be a landmark reduction relative to the current rate of about 20 a year.

The administration also states that it is not interested in pursuing further treaty limits on nuclear testing until the Soviet Union has dealt with charges that it has been violating the 1974 Threshold Test Ban Treaty that sets a limit on the power of underground nuclear explosions. The al-

ment of Defense's seismological consultants have learned how to correct the records of Soviet tests for the differences between the characteristics of the rock under Soviet and U.S. test sites.

During the past year, a consensus has developed among these experts that there have been, in fact, no significant Soviet violations of the Threshold Test Ban Treaty.

Twenty-five years ago, the ability of seismologists to distinguish between small underground nuclear tests and earthquakes was relatively undeveloped and, to complicate things further, Edward Teller and two of his proteges developed a theory that the Soviet Union might be able to conceal explosions by muffling them in huge and deep artificial underground caverns.

During the last two decades, U.S. seismologists have become highly skilled in identifying even small underground explosions, and they have recently shown that they can identify the distinctive high-frequency vibrations of small underground explosions thousands of miles away in the middle of the Soviet Union.

According to a detailed analysis that has just been published in *Reviews of Geophysics*, a system with 25 U.S. seismic stations in the Soviet Union could detect an explosion with a power of less than 1 percent of the power of a typical Soviet strategic warhead anywhere under the Soviet Union.

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11-A

The Soviet Union has now agreed to accept U.S. seismic monitoring stations in its territory as part of a test ban agreement and, even in the absence of a treaty, has recently allowed the U.S. Natural Resources Defense Council to set up three seismic monitoring stations around the main Soviet nuclear weapons testing site in eastern Kazakhstan.

Both houses of Congress have passed resolutions urging the President to reopen negotiations on a test ban treaty. The administration has responded to the growing pressure by agreeing to talks but says that the primary U.S. focus will be on the questions of Soviet violations of the Threshold Test Ban Treaty.

In the U.S. House of Representatives, 150 members have cosponsored an amendment to cut off funding for U.S. nuclear weapons testing, conditional on corresponding restraint by the Soviet Union. A vote on this amendment is scheduled for tomorrow. Its passage could stave off a U.S.-Soviet race to develop third-generation nuclear weapons and preserve for the next administration an opportunity to consummate the long-sought comprehensive test ban treaty.

(Frank von Hippel, a physicist, is a professor of public and international affairs at Princeton University and is past chairman of the Federation of American Scientists.)