# F. A. S. NEWSLETTER

FEDERATION OF AMERICAN SCIENTISTS—Founded 1946—A national organization of natural and social scientists and engineers concerned with problems of science and society.

Vol. 24, No. 5 May, 1971 Herbert F. York, Chairman Marvin L. Goldberger, Vice Chairman Jeremy J. Stone, Director

SENATE ARMED SERVICES COMMITTEE:

### PANOFSKY AND YORK OPPOSE ABM

On April 20, the Senate Armed Services Committee held an open day of hearings on the ABM, as it had in 1969 with two witnesses for the ABM and two against. As in 1969, Wolfgang K. H. Panofsky, Director of the Stanford Linear Accelerator and Federation Chairman Herbert F. York, acting Chancellor of the University of California at San Diego were the two opponents of Safeguard. Speaking for Safeguard was Dr. Lawrence H. O'Neill, President of the Riverside Research Corporation who had also testified in 1969. Also in opposition was Dr. Harold M. Agnew, Director of the Los Alamos Scientific Laboratory.

Speaking with the authority of America's first Director of Defense Research and Engineering, York called Safeguard "notorious" and said that it had been "originally designed for a different purpose under a different name and converted by executive fiat" to a new purpose two years before. He noted that the dedicated "hard-site" ABM defense (HSD) of Minuteman would have a better chance to work because designed for the task at hand. But he said that "All ABMs will continue to be plagued by the general concerns that have been expressed about them in these hearings in recent years; only the details will change."

See Senate, Page 3

HOUSE ARMED SERVICES COMMITTEE:

## FAS GETS UNPRECEDENTED HEARING

On March 23, in what seems to have been the first time in the history of the Republic, the House Armed Services Committee heard outside organizations testify. Director Jeremy J. Stone was the first organizational witness. Explicitly testifying for FAS, Stone submitted a 50 page detailed statement opposing MIRV, ABM and B-1. The statement had the approval of the FAS Executive Committee and of its Strategic Weapons Committee. Only four business days were available to prepare the testimony, after notice was received; for this reason only three topics were treated in the \$27 billion procurement authorization bill.

The statement concluded:

"In all of the questions discussed here — ABM, MIRV and B-1 — we find, in particular, that large sums are being proposed to provide marginal improvements in strategic forces that are secondary to our primary deterrent force. Goldplating secondary strategic forces is not a sensible approach to national security. In procuring MIRV for our primary deterrent, Polaris, the Administration is acting prematurely. Since our answer (MIRV) to the threat of a

See House, Page 4

## SENATE INTEREST IN A SEPARATE ABM AGREEMENT IS RISING

On December 27, at its national Council meeting, FAS called for a separate SALT agreement on ABM; this proposal received wide publicity. On January 9, both the New York Times and the Washington Post revealed that the Soviet Union had earlier offered to discuss just such a separate agreement in the secret SALT talks. Although the Federation had not been aware of the Soviet proposal, the FAS press release seems to have either tempted a Soviet leak, or embarrassed the Administration into letting the information out.

In any case, leading Republicans and Democratic senators have since espoused the notion of a separate agreement on ABM. All significant Senate speeches on the arms race known to the national office, as of April 22, are summarized here. Except for the proposal of Senator Jackson all support some variant of this idea. All Democratic candidates for President have endorsed a separate agreement on ABM.

On February 12, Senator Adlai E. Stevenson III proposed a three step approach to end the arms race in a Chicago speech. He advocated

"A limited agreement negotiated at SALT prohibiting ABMs. Immediate de-emphasis of land based offensive missiles and their eventual replacement by mobile, undetectable submarine based missiles; and a critical re-examination of the Air Force's program to build a new manned bomber."

Senator Stevenson noted that a No-ABM agreement would "remove the only possible threat to submarine based deterrents . . . and greatly reduce the need for developing and deploying MIRVs." He said such an agreement would be the "most significant step toward nuclear arms control ever taken."

On March 15, as the SALT talks reopened, Senator Charles H. Percy, R. of Illinois, called for a new U.S.

Continued Page 2

proposal containing the following three elements which were to be "accepted or rejected as a package". The U. S. would accept the Soviet ABM proposal but requires zero-level ABM rather than limiting ABM to Capitols only. All offensive weapons would be frozen "where they are". (There would be a ban on MIRV testing also and the U. S. would dismantle already deployed MIRVs.) Finally, the U. S. would agree to negotiate reductions in forward-based systems which could strike the Soviet Union.

On March 24, Senator Birch Bayh, D. of Indiana, introduced a resolution addressed specifically to the problem of a separate agreement on ABM. In S. Res. 86, he said:

"Resolved, That the Senate respectfully urges the President — (1) immediately to undertake negotiations with the Government of the Union of Soviet Socialist Republics for the purpose of entering into an agreement with that Government to ban or restrict to a small number and a limited geographic area the deployment of an anti-ballistic missile system, including related radar installations, as a part of our continuing effort to limit offensive and defensive strategic weapons."

In a well-reasoned speech, Senator Bayh made these points: an agreement to "ban or restrict" ABM would "by itself" do much to halt the arms race; would "eliminate the temptation" to build an ABM usable as part of a first-strike threat to neutralize surviving missiles of the other side; and would "relieve the fear" that the other side might succumb to that temptation. Further the agreement would remove "self-protection" as a reason for developing MIRV and ever-more sophisticated weapons to neutralize the ABM. Thus, while urging an immediate agreement on MIRV, Senator Bayh felt that an agreement on ABM was "far better than no agreement at all" and would make an agreement on MIRV "easier."

Noting that there were a "number of variations" possible of agreements on ABM, he said that the resolution "neither precludes nor prescribes any of them" and pointed out that the President had said in his foreign policy message "some limits on ABM systems are essential to any SALT agreement".

Senator Bayh did not link his resolution to limits on offensive weapons saying that an ABM agreement would have a withdrawal clause if danger threatened. He did not think Safeguard was necessary as an inducement to the Soviets to get agreement since that approach "has been tried and failed for the time being". The Bayh resolution has Senators Church, McGovern and Moss as co-sponsors.

#### **Humphrey Calls for "Mutual Moratorium"**

On February 1, Senator Hubert H. Humphrey had given a speech on the Senate floor saying that "we can now, with all safety and security, suspend work on [Safeguard] for at least as long as the Russians refrain from building more land-based missiles. . . . we can also suspend deployments of our Minuteman III and Poseidon missiles equipped with MIRV warheads. . . . as long as the Russians fail to build an effective ABM system of their own, and as long as they refrain from building offensive weapons which could threaten our deterrent capabilities." He urged a month-by-

month "mutual moratorium" with national inspection and noted that the President's reported insistence on on-site inspection precluded agreement and was opposed by the General Advisory Committee of the Arms Control and Disarmament Agency — a most prestigious and well-briefed group.

On March 25, Senator Humphrey introduced a resolution S. Res. 87 urging the President to negotiate an agreement as follows:

- Sec. 1: 1. to ban or limit to a very low level the deployment of anti-ballistic missile systems by the Government of the United States and the Government of the Union of Soviet Socialist Republics;
- 2. to bind those Governments to conduct further negotiations to achieve a limitation on offensive strategic weapons;

The Senate also calls upon the President

- Sec. 2: 1. to propose that the United States and the Union of Soviet Socialist Republics enter into a mutual freeze on the testing of multiple independently targeted re-entry vehicles and on the deployment of both offensive and defensive nuclear weapons, including antiballistic missiles and multiple independently targeted re-entry vehicles, for the duration of these negotiations with the understanding that the continued observance of the freeze requires comparable self-restraint by both parties.
- 2. to inform the Congress fully and promptly of all developments in the arms race which could affect the Strategic Arms Limitation Talks (SALT), and to consult regularly with the Senate on those developments.

In addition to the resolution, he proposed in this speech that "Congress should act to place in escrow all funds for MIRV deployment", contingent upon "similar restraint" from the Soviets. Whether this restraint refers to Soviet deployment of ABM, MIRVs on the SS-9, or numbers of SS-9 was unclear.

In further addition, Senator Humphrey said: "I propose that the Administration require the Soviet Union to match our restraint by suspending once again (sic), their land-based missile programs and MIRV testing. We should expect that our restraint in halting development and testing of MIRV's will evoke a comparable response from the Soviet Union." Thus while the resolution seemed to envisage a Presidential proposal to the Soviets, the speech text suggested, presumably in addition, that the President take the first step and initiate the moratorium. The Humphrey resolution now has seven co-sponsors: Senators Hughes, McGovern, Mondale, Pell, Percy, Stevenson and Williams.

#### **Jackson Supports Prohibition on Population Defense**

On March 29, Senator Henry Jackson D. of Washington gave a Senate speech with the following proposal:

First. The United States would immediately halt the deployment of Minuteman III missiles with their MIRV warheads.

Second. The Soviet Union would immediately halt the deployment of new ICBM launchers and missiles including those now under construction.

Third. Both countries would retain the freedom to assure the survivability of their strategic land-based forces so long as they did not add to their offensive potential.

Fourth. Neither side would deploy a population defending ABM.

This proposal would permit U. S. MIRV on its Polaris submarine forces, and would permit Safeguard to be built to defend Minuteman. The phrase "not add to their offensive potential" in point three would presumably preclude improvements in accuracy, numbers or yield of warheads on each missile.

The agreement was proposed on an "interim" basis for an initial period of one year, to "buy time" to address the "many complex issues" involved in a "comprehensive" arms control agreement.

Senator Jackson does not accept the symmetric frame of reference so common to arms controllers — one in which the Soviets respond to fear of our attack and our weapons buildups just as we respond to theirs. He notes: "It is the capacity of our strategic force to survive in sufficient numbers that makes the strategic balance a stable one" and refers to our deterrent as "the principal source of strategic stability". The speech nowhere mentions U. S. MIRV on our Polaris forces but says "the current United States-Soviet strategic balance is threatened — not by efforts to protect our respective deterrent forces — but by the developing Soviet capability to attack and destroy our deterrent. It is this development, therefore, that ought to be the subject of an immediate freeze of sufficient duration to facilitate the conclusion of a more comprehensive agreement."

Senator Jackson called the Soviet proposal for an ABM limitation "dangerous and unwise" and said that it would "actually provide an incentive" for the Soviets to increase their offensive forces.

#### Muskie Supports No-ABM Agreement

On April 7, in a speech in Philadelphia, Senator Edmund S. Muskie (D. of Maine) urged the President to "try to negotiate an agreement limiting or banning anti-ballistic missiles . . . with the clear understanding that it is the first step toward broader controls of offensive weapons as well."

Both sides would have the right to reconsider "after a specified time" if they had not reached further progress toward arms limitations. He said the Administration seemed to be "operating on a double standard" in calling for Soviet restraint in deploying weapons but being unwilling to exercise any restraint itself especially with regard to MIRV. He noted that the Soviets were "understandably" trying to "match" U. S. MIRV.

Conceding that the U. S. ABM did not threaten the Soviet ability to retaliate, he noted that it "does permit military leaders in the Kremlin to argue that our ABM system can be expanded" and made them "uncertain about our intentions". (Italics in original)

#### Senate, from Page 1

Concluding that Safeguard must be justified "solely on the basis of its role of defending Minuteman," Panofsky observed that the Secretary of Defense's Ad Hoc Group for Safeguard had concluded on January 27, 1970:

"If the only purpose of Safeguard is defined to be to protect Minuteman, Phase IIA ad defined in March 1969 should not proceed. Instead, a *dedicated system* for active defense of Minuteman should replace or, if the need for the MSR is proved, augment Phase IIA"

He contended that the argument that the new system should "supplement" rather than replace Safeguard was "clearly spurious" since the supplemental protection offered by Safeguard was "minimal and enormously expensive."

#### Triad Discussed

As did York, Panofsky discussed the "Triad" system of three strategic deterrent forces. He quoted the President approvingly as having asked that our strategic forces "taken together" should be capable of inflicting unacceptable damage; this contrasted with a statement of Dr. John S. Foster, Director of Defense Research and Engineering, that we had a policy of maintaining three independent strategic forces "any one of which" should be sufficient to deter attack. Using the President's criterion, Panofsky concluded in detailed and persuasive analysis that a Soviet first-strike was "technologically infeasible for the foreseeable future." To remind the Committee of the enormity of forces at our disposal, he showed a large photograph of what one 20 kiloton bomb had done to Nagasaki.

Panofsky argued that there was "no reliable way to project when and if Minuteman will be endangered," and plotted the possibilities on an updated chart. The chart showed in particular, that the new silos discussed by Senator Jackson would delay the Soviet capability to destroy Minuteman if new weapons systems were to be deployed in the holes. Against the "wide band" of possible threats described in the graph, Safeguard "fails totally even if it worked perfectly as designed and even if none of its feared weaknesses materialize." He argued as he had in the previous year:

"The protection offered by Safeguard for the Minuteman force is negligible. Even if Safeguard functions perfectly it offers significant protection to Minuteman only over a very narrow band of threats; if the threat continues to grow as rapidly as it can technically, Safeguard is obsolete before deployed; if the threat levels off, Safeguard is not needed. For Safeguard to have any significant effectiveness at all in protecting Minuteman the Soviets would have to 'tailor' their threat to correspond to it."

#### Survivable Deterrent: ABM or No-ABM?

Both York and Panofsky noted that a No-ABM agreement would add more to ensuring the survival of our entire deterrent force — by precluding its destruction in flight by a Soviet ABM — than would a Safeguard ABM add to our deterrent by protecting a few Minuteman silos. York said: "A no-ABM agreement is the surest and best way to continue indefinitely anything like the present level of confidence in the deterrent value of our missile forces." He noted that a No-ABM agreement would leave MIRV un-

Continued Page 4

necessary, something which Dr. John S. Foster had admitted in testimony the day before. Panofsky said that our deterrent would be "preserved much more effectively by agreement at SALT to the elimination (or limitation to a minimal value) of ABM than it would be to buy an ABM defense of any kind of the Minuteman force." For this reason, and because the threat to Minuteman was "sufficiently remote" Panofsky would not now support a deployment decision for the hard-site defense whose development he urged and continues to support.

#### **Pro-ABM Views**

Dr. O'Neill argued that "in a few years we must either have provided for the defense of Minuteman or write off Minuteman in the event of a first strike." Safeguard had "dramatically demonstrated" its capability to perform "critical aspects" of its assigned mission. Hardsite defense would be "very effective" but would not be available "until later 1977 or early 1978," some "three to four years" after Safeguard which was the only "reasonable approach" now. He felt that "no new arguments or technical issues" had arisen to "cast doubt on the efficiary of or need for Safeguard."

Dr. Agnew noted that he was "in complete accord" with Senator Jackson's philosophy. He felt that an active defense system for defense of Safeguard would "interject a major uncertainty" in an attacker's plan which would be "extremely important." Noting that the original requirements for Sentinel go back to 1968 and led undesirably to a "very few numbers of radars," he urged support of complementing Hardsite with, and integrating it with, Safeguard. This would, he felt, produce a "much better system" than either by itself or the two added together.

#### House, from Page 1

Soviet ABM is now ready for deployment, the necessity for its immediate deployment has disappeared. Compulsive over-reaction can be just as dangerous as compulsive under-reaction. Bolting into a response

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urged to renew promptly.)

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to yesterday's fear, we are, at the same time, setting in motion a new and dangerous round of the arms race that will cost billions. Containing limiting, managing, and ending the arms race will require a more restrained hand on the throttle."

The Federation did not attempt to discuss whether or not the United States required a strategic bomber. It argued that "In the perspective of our entire strategic policy, the advantage of buying a B-1 bomber, rather than maintaining B-52's for as long as possible, are not great". Evidence was provided to show that the B-52 was not, even by official statements, about to wear out. Instead, the Defense Department was arguing that it was "cheaper than modifying and maintaining our B-52s for the same period of time". Elsewhere, and consistently, the Air Force had argued that the economies would not be realized for "17" years! FAS emphasized "Bombers face too uncertain a strategic future to justify long-term investments."

In fact, there is reason to believe that the B-52s are better bombers than the B-1 in virtually every way, and for almost all missions. Among other things, the greater range of the B-52 simplifies re-fueling problems, increases loiter time, and makes tankers unnecessary if a surprise attack destroys them on the ground. Both bombers depend upon missiles for penetration.

#### Harrington on Armed Services Committee Action

Congressman Michael J. Harrington of Mass. placed the Federation statement in the Congressional record on March 29 (E2430-E2437) in its entirety as a "contribution to the strategic debate and to make it evident to my colleagues what outside witnesses can do." Noting that the occassion may have been the first in American history, he complimented the Chairman of the Committee Mr. Hebert on his "sense of fair play" and said the "potential value of this tradition was made evident immediately" from the quality of FAS testimony. "In an hour and one half of question and answers, Dr. Stone made it clear that the Federation knew its facts as well".

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