

F. A. S. NEWSLETTER

Volume 14, No. 3
March 1961

- - - - - to provide information and to stimulate discussion. Not to be attributed as official FAS policy unless specifically so indicated.

U. S. TEST BAN POSITION PREPARED

Intensive planning is continuing for the nuclear test ban negotiations which resume in Geneva on March 21. It has been reported that President Kennedy and his chief disarmament advisor, John J. McCloy, have decided to actively seek a test-ban agreement with the Soviet Union. A test ban not supported by a serious inspection system will be rejected, and improvements in the inspection system already agreed upon will be sought in the light of continuing scientific developments. Within these limits, the Administration has concluded that the risks involved in a test ban are outweighed by the risks of continuing without one. Agreement with the British on a united approach seems very likely. (W. Post, 2/1)

The proposals to be advanced by the Kennedy Administration will not differ substantially from those of the Eisenhower Administration. These call for a ban with agreed inspection and detection facilities on all tests above the ground and on underground tests equal to or greater than 19 kilotons. There would be a voluntary moratorium on underground tests below this threshold while seismic research is conducted on the improvement of detection techniques. The previous Administration had proposed a quota of twenty annual on-site inspections within the Soviet Union, while the U.S.S.R. had agreed to an annual quota of three. The Kennedy Administration is preparing to reduce its demand to about seventeen inspections per year. The President has also decided against announcing any fixed time limit for the negotiations. (NYT, 3/3; W. Post, 3/4)

STRENGTHENING OF NON-NUCLEAR FORCES FAVORED

The Administration is planning to strengthen the conventional (non-nuclear) forces of the United States throughout the world. In his news conference of March 1, President Kennedy stated that he was "anxious" to see conventional forces strengthened. Secretary of State Rusk has stated that he favors building up the conventional forces of the non-Communist world while maintaining its nuclear power. This policy would have two objectives: to reduce the chances of a crisis in which nuclear weapons would be the only defense, and to deter aggression. Mr. Rusk has also suggested that a non-nuclear attack in Europe should not automatically be met by a nuclear response (See FAS Statement on page 3). The Administration has already ordered increased airlift and sealift preparations and training in guerrilla techniques as steps toward modernizing U.S. conventional forces.

The Army has long favored such a policy. An Army memorandum prepared last year pointed out that the increased capability of the U.S.S.R. in both strategic and tactical nuclear weapons requires the strengthening and diversification of U.S. forces. It observed that Soviet nuclear weapons power "is reducing the politico-military acceptability of certain free world security measures heretofore based primarily upon exclusive possession of nuclear weapons." On the other hand, West Germany has demanded that nuclear weapons remain a first-priority part of the European defense system. The West German Defense Ministry declared that NATO's front-line divisions should have nuclear missiles in their possession. These assertions were qualified with the statement that German views are basically in accord with those of President Kennedy and Secretary Rusk (NYT, 2/28-3/3; W. Post, 3/4).

INCREASED ROLE FOR NATO NATIONS

Recent events suggest that the U.S. will strongly encourage an expanding role for NATO in Western programs for defense and aid to under-developed nations. The President pledged the U.S. to expanding support of NATO, which he called "our central and most important defensive alliance." An advisory group headed by Dean Acheson is considering a variety of proposals which would transform NATO into much more than the military shield it now is. It has been suggested, for example, that aid to under-developed countries be directed by the alliance.

From the Pentagon it is reported that thought of NATO troop reductions has been put aside for the present. The President recently reaffirmed our reliance on smaller NATO nations during a state visit of the Danish Premier by praising Denmark for its contribution to NATO. Mr. Kennedy said that we are still considering a proposal to equip NATO with a nuclear striking force of its own, including Polaris-armed submarines, although it is understood that the Administration is reluctant to pursue this proposal. These developments are apparently our response to recent serious internal difficulties of the alliance, notably reluctance of members to meet their military obligations and President DeGaulle's wish to assert the independence of French military command. (NYT, 2/9, 2/15)

The U.S. will also ask NATO to share more equitably the economic burdens of defense and aid to under-developed nations. Broad outlines of this proposal were discussed in a diplomatic memorandum to West Germany on the international balance of payments. Our proposal is to use gold reserves on a communal basis by having "the richer among us bear a higher relative burden than the poorer." (NYT, 2/21)

SYSTEM OF SAFEGUARDS APPROVED BY IAEA

The Board of Governors of the International Atomic Energy Agency (IAEA) approved on January 31 procedures for carrying out the safeguards functions of Article XII of the Agency statute. The safeguards are designed to ensure that fissionable material, services, equipment, or information provided by the Agency for its member nations are not diverted to military use. The safeguards procedures apply to reactors with less than 100 MW thermal output, to nuclear material used and produced in these reactors, and to small research and development facilities. Procedures covering other types of nuclear facilities will be developed as the need arises and all procedures will be subject to review at the end of two years (IAEA Release, PR 61/6).

Debate on the safeguards plan was marked by a bitter clash between the United States and Soviet delegates but the plan was approved by a vote of 17 to 6 (NYT, 2/7). John S. Graham, Acting Chairman, USAEC, commenting on the safeguards approval, stated that this action "represents the first time that international agreement more extensive than regional conventions has been reached on procedures for international inspection in the field of atomic energy." The U.S. offered unilaterally to place four of its reactor facilities under the Agency safeguards system. The offer was made to demonstrate the workability of Agency safeguards and to provide a field laboratory in which safe-

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SUMMARY OF FAS POSITION ON NUCLEAR TEST BANS AND DISARMAMENT

In a series of seventeen communications including eleven press releases since September 1958, the policy of FAS on nuclear test bans and arms control has been clearly and consistently stated. The basic premises in support of this position can be briefly stated as follows: 1) The human race can be destroyed with weapons from existing stock piles; 2) The major impetus for a nuclear test ban lies in the increased danger of a nuclear war as more nations are able to develop their own weapons under the existing uncontrolled situation. This danger must be distinguished from the problem of fallout which, although objectionable, is not the primary purpose for the urgency of obtaining a test ban agreement. 3) The risk to our military security from small nuclear weapons development which may be possible below present detection levels is small compared to the dangers connected with a continued arms race. 4) Until now, the United States has not expended its maximum effort in trying to obtain an agreement on testing.

Specific proposals based on the above premises can be summarized as follows: 1) Agreement should be sought on the broad question of a nuclear test ban to set up a system which later can be improved. 2) More money and effort should be spent to improve detection techniques. 3) All tests which can be detected with existing techniques should be banned, and the limit should be lowered as techniques improve. 4) Nuclear capabilities should not be spread among the Allies. 5) A governmental organization should be established with the sole purpose of studying and evaluating far-reaching disarmament proposals. (The subsequent establishment of the United States Disarmament Administration under John J. McCloy in the State Department may be the fulfillment of this idea.) 6) We should build up our non-nuclear capabilities and give assurance of a non-first use of nuclear weapons (Dean Rusk's recent policy statement may constitute a shift of emphasis in this direction.)

A PLUG FOR CNI

The Greater St. Louis Citizen's Committee for Nuclear Information (CNI), the most active volunteer group in the United States devoted to informing the public about the problems posed by the use of atomic energy for war and peace, issued a report of progress in February. CNI will be three years old this April and its growth and achievement during that time have been impressive.

Baby Tooth Survey. Under the aegis of CNI, a milk tooth survey is now under way in St. Louis. Volunteers are at work cataloguing the 125 teeth received per day and 40,000 have been collected to date. Last Spring, the Washington University School of Dentistry received a grant of \$197,000 from the National Institute for Dental Research to analyze the teeth collected in the St. Louis area. Strontium is deposited in the teeth and bones of growing children and the determination of the Sr⁹⁰ in deciduous teeth will provide information as to whether the human population is being chronically exposed to a rising level of radioactivity due to fall-out from A- and H-bomb testing.

Nuclear Information. A unique contribution of the St. Louis group is its Bulletin entitled "Nuclear Information." The Bulletin first came into prominence with the publication of the now famous hypothetical account of an A-bomb attack entitled "Nuclear War in St. Louis." Approximately 25,000 copies of this story have been distributed on request all over the world. "Nuclear Information" maintains a high level of thoughtful and original articles (see review "Pigs, Cows and Fallout" in FAS Newsletter, XIII, No. 9). FAS Chapters would benefit by subscribing to the Bulletin because it provides an excellent source of new material for Chapter discussion or for the Speakers Bureau established by many Chapters. Individual members would also find "Nuclear Information" stimulating reading. Two dollars will buy a membership in CNI for one year. Write to CNI, 6504 Delmar Blvd., St. Louis 30, Missouri.

AMERICAN COUNCIL ON EDUCATION PROPOSES FEDERAL AID TO HIGHER EDUCATION

The American Council on Education (ACE) has published a pamphlet entitled "A Proposed Program of Federal Action to Strengthen Higher Education." Recently there have been a number of studies made, both by private foundations and by government committees, on the relationship between higher education and the Federal government, and the need for aid to higher education. The program outlined in the pamphlet is that proposed by the colleges and universities themselves, through their representation in the ACE.

The needs of educational institutions are greater than in the past due to several facts: 1) enrollments are increasing and will continue to do so, necessitating an expansion in the number of qualified faculty members and in the physical plants of the institutions; and 2) the proportion of research to instruction is becoming greater, so that the cost of buildings, equipment, and operating expenses is increasing at a higher rate than the expansion of the student body. All the major studies show that the traditional sources of income cannot cover these mounting expenses.

The recommendations of the ACE do not cover direct assistance for paying faculty salaries or for meeting general operating expenses. They do deal with providing housing and academic facilities, augmenting the number and improving the quality of faculty members, and offering financial aid to students. Specifically: 1) "The Federal government can and should provide greater financial assistance . . . for expansion and improvement of facilities." The College Housing Loan Program should be continued and expanded; money for construction of academic facilities should be made available either in the form of a grant to cover up to 50% of the cost, or of a low-interest 40-year loan. 2) "The Federal government can and should provide greater assistance in increasing the supply and improving the quality of college teachers" by expanding the graduate and post-graduate fellowship programs of the NSF and the National Defense Education Act, and for study abroad and exchanges with foreign faculty members. 3) "The Federal government can and should provide greater assistance . . . for qualified students" by making funds for scholarships and loans available to the colleges (rather than to the individual students), and by increasing appropriations for undergraduates and graduate foreign exchange programs.

Copies of this pamphlet are available without charge from the Publications Division of the ACE, 1785 Massachusetts Ave. N.W., Washington 6, D. C.

IAEA SAFEGUARDS

(Continued from page 1)

guards inspection methods and techniques may be tested and improved. (USAEC Release 2/1)

Procedures for Application of Safeguards

Safeguards will be specified in agreements for Agency assistance entered into by the Agency with the State or States concerned. The main consideration in determining the relevance of particular safeguards to a project will be the form, scope and amount of Agency assistance, the specific character of each individual project and the degree to which the assistance could further a military purpose. The provisions to be specified may include, as appropriate, (a) examination and approval of designs by the Agency, (b) maintenance by the State concerned of an agreed system of records, (c) submission to the Agency of routine and special reports, and (d) inspections by the Agency. The frequency of routine inspections will be based on the usage or potential production by the reactor in question of plutonium, U-233, U-235 or their equivalents. Special inspections will be made if the need is indicated. When the safeguards are applied in a nominal manner, i. e., where there is small risk of diversion for military purposes, only one routine report will be required each year and no routine inspections will be carried out (IAEA Press Release PR 61/6; IAEA Safeguards Principles and Procedures GC (IV)/108).

NO FIRST USE OF NUCLEAR WEAPONS

Statement By Federation of American Scientists

The Council of the Federation of American Scientists unanimously adopted the following resolution:

Resolution

"We urge the government to decide and publicly declare as its permanent policy that the U.S. shall not use nuclear weapons of any kind under any circumstances except in response to the use of nuclear weapons by others. We urge that the strategic plans and the military deployments of the U.S. and its allies be brought as rapidly as possible into a condition consistent with the over-all policy of not using nuclear weapons first."

Explanatory Statement

In adopting this resolution, we are not under the illusion that we are expressing the unanimous opinion of scientists. Still less do we imagine that our government could implement the resolution without prolonged private study and intense public debate. We present the resolution now as the considered view of a group of people who have examined the problems of defense and disarmament and have come gradually to certain basic points of agreement. We differ sharply among ourselves concerning many questions. Some of us place primary emphasis on immediate steps toward disarmament, while others believe our best hope of peace lies in negotiating from "positions of strength." But we have all, from our several points of view, arrived at the conclusion that continued reliance on nuclear weapons for defense against non-nuclear attack is unwise and dangerous.

We are aware that weighty arguments can and will be brought against our position. Present United States policy is to deploy troops and ships armed with tactical nuclear weapons, without any publicly announced doctrine to govern the use of these weapons. The intent has been to deter military aggression, even of a non-nuclear type, by the implied threat of nuclear retaliation. Some will justify this policy by claiming that it has preserved the peace, and that FAS is advocating moving from a situation of proved short-term stability into a new region of precarious equilibrium and unknown risk. It may be that our present policy has been an important factor in maintaining a precarious status quo. However, we believe that our principal deterrent (in Europe and elsewhere) has been our willingness to intervene and take whatever action might be necessary. The United States surely has the basic capability to do so without resort to nuclear weapons.

Our arguments against the present policy cannot be brief or simple. Basically, we believe that our nuclear shield, in Europe, Formosa, and elsewhere, is or will shortly become ineffective, and that our nuclear deterrence of non-nuclear war will become illusory. The threats most likely to occur in the years ahead are the kind for which nuclear counter-measures would be disastrously inappropriate and could not

be used without serious risk of involvement in nuclear war; few military planners still believe it possible to keep a limited nuclear war from escalating into a general conflict. This realization, coupled with serious doubts of the military advantages to the United States of attempting to conduct such a war, has led to a growing belief that the United States would not, in fact, use nuclear weapons to defend Europe against a non-nuclear attack, and that the United States would discourage its allies from using such weapons.

On the other hand, a strongly-stated policy of determination to resist small-scale aggression against neutral and allied countries by appropriate non-nuclear forces would be a far stronger shield. We shall be better off, purely from a military point of view, if we officially abandon the crumbling shield of nuclear deterrence and reestablish our non-nuclear forces as our first line of defense. To continue to behave as if a nuclear shield and deterrent were adequate is dangerous. Only if we have the courage to abandon such a policy are we likely to have the will to substitute an effective non-nuclear shield in its place. This is the meaning of the second sentence in the FAS resolution.

In the minds of most of us, the military arguments in favor of our resolution are already strong. But the political arguments are equally compelling. There are three quite distinct, but mutually reinforcing, political arguments.

First, a declared "no first use" policy by the United States would ease considerably the pressures within non-nuclear nations to attain an independent nuclear capacity. At the same time, the present nuclear powers would feel less need to equip their allies either with nuclear weapons or with the know-how and materiel to produce them. We recognize that such a declaration would not have equal impact on all non-nuclear countries and, in particular, that such a declaration would not be expected to prevent China's emergence as a nuclear nation. Nevertheless, to the extent that the dispersion of nuclear weapons is retarded, so too are the dangers of accidental and catalytic nuclear wars reduced.

Second, a declared "no first use" policy by the United States, coupled with unequivocal evidence of United States determination to formulate realistic disarmament proposals, will enhance the possibility of achieving agreements on disarmament. The reorientation of our forces and the de-emphasis of nuclear weapons envisioned by this statement will ease the tensions which surround the world's trouble spots. In such an improved international atmosphere it should be possible to negotiate the disarmament agreements which alone are capable of providing long-term security.

Lastly, although most people feel some assurance that the United States would not initiate an all-out nuclear war, there is no similar assurance with respect to United States use of "small" nuclear weapons in response to aggressions which may occur in, e.g., Berlin, Laos, or Formosa. The acknowledged willingness of the United States to initiate the use of nuclear weapons in certain circumstances creates much of the distrust and resentment felt by others toward us. Rejection by the United States of any first use of nuclear weapons would increase the respect, and decrease the suspicion, which a large part of the world, including many of our allies, feels toward us.

FAS believes that renunciation of first use of nuclear weapons by the West, coupled with appropriate adjustments in military policy and seriously conceived disarmament proposals, would enhance the effectiveness of our deterrent and increase the likelihood of some major disarmament agreement. At least, this is an urgent and unequivocal first step along the road to "general, complete and controlled disarmament." Pending an international convention providing for the controlled reduction of nuclear arms, unilateral declarations by the major nuclear powers will be a useful stop-gap. We emphasize that the unprecedented situation of an expanding nuclear arms race calls for new thinking and careful consideration of unprecedented policy decisions.

* * *

The Council of the Federation of American Scientists adopted the foregoing resolution at its annual New York meeting earlier in February. The resolution had been proposed by Dr. Freeman J. Dyson, a member of the Council and a mathematician at the Institute for Advanced Study at Princeton, New Jersey. After lengthy discussion, the resolution was passed unanimously.

FAS NEWSLETTER

Published monthly except during July and August by the Federation of American Scientists, 1700 K Street, Northwest, Washington 6, D. C. Subscription price: \$2.00 per year.

Chairman M. Stanley Livingston

The FAS Newsletter is prepared in Washington by FAS members. The staff for this issue were: Editors—L. Rodberg and E. Leonard. Writers—T. Fulton, R. Glasser, R. Hendler, I. Manning, F. K. Millar, E. Shelton, and G. Snow.

The FAS is a national organization of scientists and engineers concerned with the impact of science on national and world affairs.

DISARMAMENT BY REGIONS

An important new idea for "regional disarmament" has been suggested by Louis B. Sohn, Professor of Law at Harvard University and a participant in the Summer Study Group on Arms Control. The following is taken from an article by Prof. Sohn in *The Nation*, Feb. 25, 1961.

It would seem desirable to combine the good features of the [U.S. and Soviet disarmament] proposals and to eliminate their deficiencies. There are three basic difficulties. In the first place, it is not likely that the inspection system in the first stage will be so efficient as to guarantee complete compliance with the provisions of the agreement. A margin of safety would be necessary, therefore, and each of the two sides might wish to keep a number of means of delivery roughly equal to the hypothetical number of means of delivery which might have been hidden by the other side and which are not likely to be discovered immediately by the international inspection teams. (Since an aggressor needs more than a 200 per cent superiority in weapons to destroy the ability of the other side to retaliate, a number of weapons equal to the size of the possible error in inspection checkup should constitute sufficient insurance against a premeditated attack.)

In the second place, it is not practicable to declare that on a certain day all means of delivery will be suddenly abolished. Even the first stage will have to be subdivided into several phases, during each of which certain measures will be taken. But if this proposition is accepted, then a third difficulty will arise, due to Soviet insistence that controls be proportioned to disarmament. The Russians might be willing to allow inspection of *all* their territory only *after* all means of delivery have been abolished. Otherwise, the Soviet air and missile bases which are now protected by their efficient secrecy will become vulnerable to a sudden attack by the other side. During the various phases of abolishing the means of delivery, only partial inspection would be permitted, preserving the rest of the territory from foreign spying.

To get around this difficulty, it has been suggested (e.g., see American Academy of Arts and Sciences, *Summer Study of Arms Control 1960, Collected Papers*, pp. 265-69), that disarmament and control measures should be phased on a territorial basis. For instance, each side might divide its territory into six areas, in each of which there would be an about equal number of its means of delivery. One of these areas would then be chosen either by the other side or by the international control organization, the selection to be based either on a random choice by lot, or on a suspicion

of the likelihood of evasion in a particular area. If both sides should try to apply the game theory, the first method of selection might be safer, as otherwise one side would try to outguess the other. (If B thinks that A is likely to choose area "a," B would transfer all extra weapons to area "b"; if A thinks that B might think so, it would choose area "b" instead of "a"; if B thinks that A might think that B might transfer the weapons to "b" because it thinks that A might choose "a," B might put them in "a"; etc.) In addition, military intelligence experts might prefer not to have the task of deciding which area should be chosen, as too many variables and inadequate data would make a decision extremely difficult. Thus choosing by lot might be better in the long run, and with each subsequent selection the odds against a successful evasion increase considerably. On the other hand, in the early phases, a certain amount of possible evasion is not too dangerous, as the other side would still retain most of its retaliatory force.

To prevent sudden shifts of armaments after an area has been selected, inspection teams could be stationed temporarily on the borders between all the areas prior to actual selection, as well as at rail and road centers and at airfields. After an area has been selected, the inspection teams on the boundaries of the selected area would remain there, but all the other teams would be withdrawn from the boundaries of other areas and would be brought to the selected area to aid in inspection.

Prior to the selection of an area, each side would be required to submit a general list of all its armaments and other objects of inspection, subdivided by areas; and after the selection of the area, it would be obligated to submit a more detailed list of armaments and other objects of inspection located in the selected area, the totals of which should not differ from those contained in the general list submitted in advance. Meanwhile inspection teams would be entitled to check the accuracy of the list and to check whether any non-listed control objects are located in the selected area. They would also supervise the actual process of disarmament within that area, and would see to it that all the armed forces, armaments, military installations and production facilities in the area would be reduced by the end of that particular phase to the numbers agreed on in the disarmament agreement.

This process would be repeated in the second phase with respect to the second area, and go on until by the end of all the phases of the first stage all the territories of both sides would become permanently subject to inspection and all the components of military strength would be reduced to the minimum specified in the disarmament agreement.

FAS NEWSLETTER

Federation of American Scientists
1700 K Street, N.W.
Washington 6, D. C.

Vol. 14, No. 3

March 1961

Second Class Postage
Paid at
Washington, D. C.