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UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY

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U.S. DISARMAMENT MEASURES PAPER #4/Rev.2MEASURES TO CONTAIN AND REDUCE THE NUCLEAR THREAT

The attached paper has been revised in the light of discussion at the Western Five Experts Meeting, Washington, February 5-14, and the meeting of Heads of Delegation in Washington February 26-March 2.

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CONFIDENTIAL

CONFIDENTIAL

DMP #4/Rev.2

EIGHTEEN NATION DISARMAMENT COMMITTEE
U.S. DISARMAMENT MEASURES PAPER #4/Rev.2

MEASURES TO CONTAIN AND REDUCE THE NUCLEAR THREAT

I. The Problem

To set forth the U.S. position on: (1) the cessation of production of fissionable materials for use in weapons; (2) the transfer to non-weapons purposes of fissionable materials from past production; (3) the safeguarding of fissionable materials transferred between countries for peaceful uses of nuclear energy; and (4) the establishment within the International Disarmament Organization of a Nuclear Experts Commission to examine and report on the feasibility and means for accomplishing the verified reduction and eventual elimination of nuclear weapons stockpiles.

II. U.S. Position

All of these measures should be regarded as methods of accomplishing a single goal: the reduction of nuclear weapons stockpiles to the greatest possible extent consistent with the security of the United States.

A. The cut-off in the production of fissionable materials (U-235, U-233, Pu-239) for use in weapons is obviously a necessary step in preventing the further build-up of weapons stockpiles. (The relationship of this measure to other disarmament measures is discussed in a separate paper.)

B. Upon cessation of production of fissionable materials for use in weapons, agreed initial quantities of fissionable materials from past production should be transferred to non-weapons purposes. With respect to such transfers, which would be contingent on cessation of production of fissionable materials for weapons, the US should adopt the following approach:

CONFIDENTIAL

CONFIDENTIAL

-2-

DMP #4/Rev.2

1. The US would first offer to transfer from past production to non-weapons purposes 50,000 kilograms of weapons grade U-235, provided the Soviet Union also transferred the same amount.

2. The US would be prepared to explore, without commitment at this time, the possibility of a proportional rather than an equal transfer by the Soviet Union down to 40,000 kilograms.

C. As the cut-off goes into effect it will become increasingly important to prevent diversions from facilities using fissionable material for peaceful uses. One important element of this problem involves the control of all fissionable material transferred between countries for use in peaceful nuclear facilities. This is the intent of the U.S. proposal for establishing appropriate safeguards over such transfers. These safeguards would be developed in agreement with IAEA because of the experience and the role of that Agency in developing safeguards for the peaceful utilization of atomic energy.

D. It will be possible to reduce nuclear weapons stockpiles through an agreed schedule of transfers, but the ultimate stages of reduction and the final elimination of nuclear weapons involve many technical and political problems for which solutions do not presently exist. When the International Disarmament Organization (IDO) proposed in the U.S. September 25 Plan is established, the US believes the Organization should form a Nuclear Experts Commission for the purpose of examining and reporting on the feasibility and means for accomplishing the verified reduction and eventual elimination of nuclear weapons stockpiles. If necessary preparations could be completed, the US would be willing to participate in such an Experts Commission prior to the establishment of an IDO.

CONFIDENTIAL

CONFIDENTIAL

-3-

DMP #4/Rev.2

III. Discussion

A. The Cut-off

1. Under Item I.C.(b) of the U.S. Plan of September 25, 1961, there would be a cut-off in the production of fissionable materials (U-235, U-233, Pu-239) intended for use in weapons. Production of fissionable material for military propulsion and for civilian uses would be permitted. The cut-off would include either the shutdown and/or the monitored operation of all nuclear reactors which produce Pu-239 for use in weapons and of isotope separation plants which produce high-enrichment U-235 for use in weapons. The US should propose that the provisions respecting the inspection system (including in particular those relating to rights of access) come into force at the date on which the cut-off goes into effect. The US would also be willing to effect the cut-off on a reciprocal plant-by-plant basis under appropriate inspection and verification.

2. The cut-off to be proposed requires the shutdown of all facilities producing fissionable materials solely for use in weapons with remaining production being carefully monitored.

There are two other methods of effecting a cut-off:

a. To continue production at the current rate, while insuring through detailed inspection that all fissionable material is accounted for and not diverted to weapons use. This alternative is less desirable because of the larger diversions which would be possible and the high inspection costs which would result.

b. A complete shutdown of all facilities used specifically for production of fissionable material. The inspection of these facilities would

CONFIDENTIAL

CONFIDENTIAL

-4-

DMP #4/Rev.2

be very much simpler, although inspection for clandestine facilities would be required. This alternative has the disadvantage that it would result in cannibalizing the stockpile to obtain material for continuing civilian and non-weapons military purposes, including civilian and military space uses and propulsion, which would either hamper the development of atomic energy for civilian purposes or eventually drain the weapons stockpile.

If an agreement appears possible on the basis of either of these methods of accomplishing a cut-off, these alternatives should be carefully reviewed as to their acceptability to the US.

3. On August 16, 1960, Ambassador Lodge said: "The United States is ready to join the Soviet Union in halting by successive steps the production of fissionable materials for weapons use. We are prepared to shut down, one by one, under international inspection, our major plants producing enriched uranium and plutonium, if the Soviet Union will shut down equivalent facilities. We are prepared to do this now -- with no delay at all." President Eisenhower amplified this proposal in his speech to the U.N. General Assembly on September 22, 1960, by stating: "If the USSR will agree to a cessation of production of fissionable materials for weapons purposes, some production facilities could be closed without delay." He then went on to repeat the substance of what Ambassador Lodge had said earlier. The plant-by-plant approach thus was explained as a method of bringing about a total cut-off. If the Soviet Union shows any interest in this proposal - and it has not done so in the past - we should be willing to explore this approach. Before going into this in any detail with the Soviet Union, we should have a specific proposal, identifying U.S. plants to be closed down according to a definite schedule.

CONFIDENTIAL

CONFIDENTIAL

-5-

DMP #4/Rev.2

B. Transfer to Peaceful Uses

1. Items I.C.(c) and II.C. of the U.S. September 25 Plan envisage a step-by-step reduction in nuclear weapons stockpiles by the transfer of fissionable materials from weapons to peaceful purposes. Material so transferred will be maintained under international supervision either in stockpiles or at facilities for its peaceful utilization. The U.S. proposal for an initial transfer of 30,000 kilograms of U-235 was made by Ambassador Lodge before the U.N. General Assembly on August 16, 1960. The relevant passages of his statement are as follows: "In the past the United States has proposed that when this production was cut off, agreed quantities of fissionable materials be transferred, under international supervision, from existing accumulated weapons stocks to peaceful uses - thereby reducing directly the number of nuclear weapons now in national arsenals. The United States is ready to carry out this proposal on a reciprocal basis with the Soviet Union. In doing so, the United States is ready, also on a reciprocal basis, to set aside 30,000 kilograms of weapons grade U-235, as the amount which the United States and the Soviet Union would each initially transfer."

2. Contingent upon agreement to cessation of the production of fissionable materials for use in weapons, the US is now prepared to propose substantially larger transfers than heretofore proposed. Initial U.S. proposals should be on the basis of equal transfers by the US and the USSR. However, according to U.S. estimates, if the principle of equal transfers were observed throughout the transfer process, the Soviet stockpile would be depleted before the U.S. stockpile. Accordingly, in any serious negotiation the idea of proportional transfers would have to be discussed. U.S. willingness to propose and accept a larger transfer than that of the Soviet Union would serve both to demonstrate earnestness of the U.S. desire to reach agreement and to convey to others an impression of

CONFIDENTIAL

CONFIDENTIAL

-6-

DMP #4/Rev.2

the superiority of the US in this field. In view of the foregoing, the US is prepared to adopt the following approach:

a. The US would first offer to transfer from past production to non-weapons purposes 50,000 kilograms of weapons grade U-235, provided the Soviet Union also transferred the same amount. The US should suggest that such a transfer would represent a significant and tangible reduction of weapons capabilities and that it would be reasonable to expect both the Soviet Union and the US to contribute equally to such a reduction.

b. The US would, however, be prepared to explore, without commitment, the possibility of a proportional rather than an equal reduction by the Soviet Union down to 40,000 kilograms.

3. No schedule for subsequent transfers has been devised and until some indication of Soviet interest in the transfer proposal has been received, we should not put forward any concrete suggestions. This applies also to plutonium, which would be one of the fissionable materials to be transferred. In any event, the rate of transfer would presumably be determined in part by (1) progress in other measures of disarmament, (2) quantities which the Soviet Union would agree to transfer.

C. Safeguards for Transfers Between Countries

1. If the nuclear production cut-off becomes the subject of serious negotiation, the US should propose that the disarmament conference, in consultation with the International Atomic Energy Agency (IAEA), establish a separate forum to develop additional safeguards to be applied to fissionable materials transferred between countries for peaceful purposes.

CONFIDENTIAL

CONFIDENTIAL

-7-

DMP #4/Rev.2

2. The IAEA functions as one source of fissionable materials for peaceful uses. These materials, which are bought from or contributed by the nuclear powers, or transferred between members as part of an IAEA project, are to be distributed to non-nuclear powers under safeguard procedures established by the IAEA.

3. Safeguards procedures have been developed applying to small research and test reactors, research and development facilities and the associated nuclear materials. Procedures for inspecting larger facilities (100 MWT and above), fuel fabrication and reprocessing plants, and large quantities of materials have not yet been developed. The present proposal envisions the establishment of safeguards to cover all fissionable materials transferred between countries for peaceful purposes and all facilities using these materials. These safeguards procedures would be developed in consultation with the IAEA. In establishing this system adequate U.S. participation in its functioning must be assured, and no veto of its operation must be permitted.

CONFIDENTIAL

CONFIDENTIAL

8

4. The United States does not at the present time have specific proposals to make regarding the changes and extensions of existing safeguards procedures which would be required to implement this measure.

5. The U.S. should propose this measure only if it appears that agreement on the nuclear production cut-off may be possible. The reasons for this are the following:

a. The existing safeguard system was passed in the General Conference of the IAEA by a vote of 43 to 19 with 2 abstentions. The Soviet bloc, India, Burma, and the UAR opposed the measure, and Ethiopia abstained. These countries may be expected to object again if the measure is proposed apart from other disarmament measures.

b. The measure would institute inspection of non-nuclear countries, and only limited inspection of the nuclear powers. Thus it would be likely to lead to accusations of discrimination.

c. Existing IAEA safeguards procedures are just going into operation. Time should be allowed for their testing and evaluation before instituting more far reaching controls.

6. While the U.S. should propose this measure only if agreement seems possible on a production cut-off, it should nevertheless be emphasized that the safeguards system envisioned here in no way replaces the inspection system that would be established under the IDO to monitor a production cut-off. The IAEA will not operate the inspection system which would monitor the cut-off, although it might work closely with the IDO in the overall control of nuclear materials.

D. Nuclear Experts Commission

The U.S. attitude on this proposal is the same as its attitude on the CBR Experts Commission:

1. The United States has suggested that such a Commission be established within the International Disarmament Organization (IDO) during Stage I of

CONFIDENTIAL

CONFIDENTIAL

9

disarmament so that the Commission's findings could be reviewed and appropriate measures carried out beginning in Stage II. The United States believes that the work of such a Commission might be conducted more freely and productively under the conditions of improved confidence and trust which should exist following agreement on a disarmament program and establishment of the IDO. However, for its own part, the United States would be prepared to participate in expert examination of the questions involved at as early a date as might be agreed and the necessary preparations for expert study completed.

2. Whenever expert examination of the questions involved is initiated, the United States believes that it would be desirable to provide for as thorough an examination as possible. Accordingly, should the Commission's work indicate severe limitations in achieving effective verification of the complete elimination of stockpiles and cessation of production, a joint effort might then be made to assess the full significance of such limitations and to investigate possibilities for minimizing their adverse effects through other means. The objective in this regard might be to find means of preventing effective use of undisclosed or clandestinely produced weapons to supplement verification of the elimination of stockpiles and cessation of production. The United States puts this suggestion forward not to turn attention from the central problem (the complete elimination of stockpiles and production), not to make an already difficult problem more complex, but rather to indicate its willingness to explore all avenues of approach.

3. The U.S. is reluctant, however, to convene the Commission prematurely for two reasons:

a. At the present time it has no specific proposals to make on methods to detect clandestine stockpiles. In the absence of such proposals, the work of the Commission could prove detrimental to the U.S. position that retained stocks must be verified.

b. The work of the Commission will require the release of detailed information on the production

CONFIDENTIAL

CONFIDENTIAL

10

and storage of nuclear weapons. This material should not be released until serious negotiation seems possible.

4. When established, the Commission will examine all possible techniques for detecting clandestine stockpiles and for determining past production of fissionable materials. Such techniques as radioactivity measurements, detection of maintenance and security procedures, and examination of past production records would be considered. It is clear that inspection and verification of nuclear weapons stockpiles will require considerable access to the territories of the nuclear states; this must be recognized in any preliminary discussion of stockpile reduction.

E. Soviet Position

The Soviet Union has proposed a cut-off of production of nuclear weapons and an elimination of stockpiles as part of a general prohibition of nuclear weapons.

The Soviet disarmament proposal of September 23, 1960, includes in its first stage the elimination of all means of delivering nuclear weapons, but reserves for its second stage any reduction in the number of such weapons. The first stage contains a provision for studying their elimination: "In the first stage joint studies will be undertaken of the measures to be implemented in the second stage relating to the discontinuance of the manufacture of nuclear, chemical, and biological weapons and to the destruction of stockpiles of such weapons." In the second stage the plan proposes "There will be a complete prohibition of nuclear, chemical, biological, and other weapons of mass destruction, with the cessation of manufacture and the destructions of all stockpiles of such weapons." Control will be carried out by the following means: "Representatives of the control organization will conduct the on-site inspection of the destruction of all existing stockpiles of nuclear, chemical, and biological weapons. The control organization will have the right to inspect all enterprises which extract raw materials for atomic production or which produce or use fissionable materials or atomic energy. By agreement, permanent control teams may be established at some plants and installations." The Soviet plan has no specific provision for transfers to peaceful uses of fissionable material from past production nor is there any proposal in the Soviet plan for safeguards over transfers of fissionable material between countries for peaceful uses.

CONFIDENTIAL