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*File
Nuclear Test
Talks
#7*

CURRENT INTELLIGENCE WEEKLY SUMMARY

25 August 1960

PART III

PATTERNS AND PERSPECTIVES

THE NUCLEAR TEST BAN TALKS

The central issue of the nuclear test ban treaty negotiations, which recessed for five weeks on 22 August, has been the problem of agreeing on an effective control system, including international inspections. The West has insisted on detailed and specific measures to provide adequate assurance against a violation, and the USSR had demanded an immediate, permanent, and unconditional ban on testing, accompanied by a minimum of control features.

The major unresolved issues are the number of inspections of sites where suspected violations may have occurred, the nature and duration of a temporary moratorium on small underground tests, the details of a research program to improve methods of detecting these tests, and the composition of the control commission and the various components of the control system.

Inspections

A key problem throughout the negotiations has been the question of inspections. When the American, British, and Soviet experts agreed at the Geneva conference in mid-1958 on the technical feasibility of establishing a control system to detect violations of a test ban, they recommended "timely inspections of unidentified events which could be suspected of being a nuclear explosion." The experts concluded that when the control posts detected an occurrence which could not be identified as a natural disturbance, the international control organs should be empowered to send an inspection group to the site in order to determine whether or not a

nuclear explosion had taken place.

Since these conclusions committed the USSR to allow inspections inside its own territory, one of the Soviet delegation's overriding objectives has been to circumscribe Western freedom of action in carrying out inspections, which would constitute an unparalleled opening of the Soviet Union and would provide a strong precedent for inspections in any future disarmament negotiations. The Soviet delegation first met this problem on 9 December 1959 by resorting to a familiar move--a demand for a veto over any directive to dispatch an on-site inspection team. A way out of the resulting impasse grew out of Prime Minister Macmillan's suggestion to Khrushchev that the USSR could gain reassurance against arbitrary and unlimited inspections inside the Soviet Union by settling in advance on a specific number of inspections each year.

To avoid a US proposal to conclude a treaty by phases, beginning with tests in the atmosphere up to 50 kilometers, Khrushchev turned to Macmillan's suggestion. On 23 April 1959 the Soviet premier proposed that an agreement be reached to carry out annually a previously determined number of inspections on the territories of the three powers. These inspections would be made only if the reports of the control posts indicated the existence of phenomena believed associated with nuclear explosions. He made it clear, however, that the number of such inspections would be limited.

Subsequently Moscow added that determination of the number

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of inspections should be a political decision, made at a high level and unrelated to scientific data on the probable number of suspicious phenomena which might be detected but not reliably identified.

The USSR has held to this position, as outlined by Khrushchev, but has dropped its demand for a veto over inspections. Until recently, however, the Soviet delegation refused to specify the number of inspections or enter into negotiations until the Western powers accepted the quota concept "in principle." In anticipation of a heads-of-government meeting, the Soviet delegation flatly stated in early 1960 that the settlement of the quota issue was outside the competence of the conference.

The collapse of the summit meeting in Paris and the improbability of an early resumption of high-level talks upset the Soviet strategy of focusing on a settlement at the summit, where Khrushchev had apparently hoped to use Macmillan's association with the quota idea to gain US agreement to a small number of inspections. After private hints that the USSR would clarify its position on the number of annual inspections in return for US clarification of its position on other issues, the Soviet delegation offered on 26 July to allow three veto-free inspections each year inside the USSR, while the USSR

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CHRONOLOGY OF NUCLEAR TEST BAN NEGOTIATIONS

- July - August 1958: Geneva experts' conference on control and inspection system to enforce a possible test ban treaty.
- October: Opening of political conference in Geneva.
- December: Soviet proposal for veto over control organizations' activities.
- January 1959: Western powers drop insistence on linking test ban to satisfactory progress on disarmament.
- February - March: Macmillan, during visit to Moscow, suggests annual quota of inspections of sites of suspected nuclear tests.
- 13 April: US proposes phased treaty, beginning with a ban on tests in the atmosphere up to 50 kilometers.
- 23 April: Khrushchev rejects US proposal for phased treaty and proposes predetermined annual quota of on-site inspections.
- 15 May: Khrushchev states if annual quota accepted by West, the USSR will drop demand for veto.
- June: US publishes data on difficulties in detecting underground nuclear tests.
- June: Technical discussions on improving methods of detecting high-altitude tests.
- November: USSR agrees to technical talks on methods of improving detection and identification of underground tests. Technical group fails to reach agreement on capabilities of control system for detecting and on criteria for identifying underground tests.
- 29 December: President Eisenhower issues statement that US free to resume weapons testing after 31 December, but will not do so without advance announcement.
- 11 February 1960: US proposes treaty banning tests in atmosphere, under water, at high altitudes as far as effective controls are agreed, and underground tests above a 4.75 seismic magnitude reading ("threshold"), and for establishing joint research and experimentation to improve detection of underground tests below threshold.
- 16 February: Soviet position on criteria for identification of underground events shifts almost to the Western position.
- 19 March: Soviet Union accepts threshold treaty but with temporary moratorium on small underground tests.
- 29 March: Eisenhower-Macmillan communique declares if a threshold treaty is signed and arrangements made for joint research, a voluntary, unilaterally declared moratorium could be instituted.
- 3 May: Soviet Union agrees to proceed with working out of a joint research program which would include a "strictly limited" number of nuclear explosions; proposes a moratorium of four to five years.
- 7 May: US announces expansion of Project VELA calling for increased basic research in seismology, including such nuclear explosions as are necessary.
- 11 May: Experts meet to discuss research program. Soviet delegates describe extensive national program including number of chemical explosions.
- 30 May: Experts adjourn; Soviet Union opposes US plans for studies of artificial muffling of underground tests and for a number of nuclear explosions.
- 2-3 June: Soviet political delegation repudiates Soviet experts' program, rejects US proposal for safeguards against misuse of research tests for weapons developments, advances Soviet demands for safeguards.
- 26 July: Soviet delegation proposes three on-site inspections each year in the USSR; Soviet Union would have right of three inspections each year in UK and three in US.
- 2 August: Soviet delegation formally rejects US proposal for common pool of nuclear devices to be supplied by three powers and used in research program. Now Soviet warnings that if US unilaterally conducts research tests employing nuclear devices, the USSR will consider itself free to resume weapons testing.
- 22 August: Recessed until 27 September.

would be allowed three inspections inside the US and three inside the UK. The quota would be subject to revision and review at the end of two years.

At the same time, the Soviet delegation rejected a US proposal in which the number of inspections would be based on a percentage of the likely number of unidentified phenomena above a level of about a 20-kiloton explosion--in effect amounting to a proposal for

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some 20 inspections a year. The Soviet delegation made it clear that the USSR's quota of three inspections applied to all unidentified phenomena, and not, as the US proposed, only to the larger ones.

Moratorium on Underground Tests

The differences over the application of inspections to all suspected tests, as proposed by the USSR, or only to the tests larger than 20 kilotons, are a facet of the larger issue of a comprehensive treaty permanently banning all tests, as urged by the USSR, versus a limited treaty, favored by the US and Britain, in which some tests would be temporarily excluded from a permanent ban. Since the negotiations opened in October 1958, the USSR has insisted that a test ban be not only permanent but unconditional, and has cited the Geneva experts' conference as confirming the technical feasibility of controlling all types of testing.

On the basis of new technical information derived from nuclear tests in Nevada in the fall of 1958, the US raised a serious challenge to the Soviet demand for an unconditional ban. The President's Scientific Advisory Committee announced on 5 January 1959 that the new data showed that the Geneva experts had underestimated the difficulty in identifying and detecting small underground nuclear explosions. US scientists also conclude that an underground test could probably be concealed by muffling the blast in certain types of caverns such as salt domes. From that point forward the US delegation pressed to reopen technical talks on the problem of small underground tests, but until November 1959 Moscow vigorously defended the validity of the 1958 findings of the Geneva experts.

When the conference resumed in October 1959, after a two-month recess, the US made it clear that it would introduce the new data into the record even in the absence of Soviet agreement. This factor and the new atmosphere following the Camp David talks were probably the major considerations which led the USSR to revise its position and agree on 3 November to convene a new technical group to consider the problem of underground-test detection.

The refusal of the Soviet scientists to accept the conclusions drawn by the US from its new data created a new impasse which led the US to propose formally a limited treaty calling for a permanent ban on all tests except at very high altitudes and for small underground tests below a "threshold" of approximately 20 kilotons. The "threshold" concept grew out of the conclusion of US experts that tests of 20 kilotons or greater could probably be detected and identified, but that below this level great difficulties would arise.

The US proposal therefore also included a provision for a program of joint research and experimentation by the three powers to improve methods of detecting underground tests below the 20-kiloton level so that this "threshold" could be lowered and eventually eliminated.

In the pre-summit atmosphere, the Soviet leaders apparently believed that an outright rejection of the limited treaty idea and insistence on a scientifically vulnerable position was no longer feasible. They accepted the US proposal but countered by including outer space tests in the permanent ban and temporarily banning the small underground tests below the

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"threshold" with a voluntary moratorium. The moratorium approach, which had originally been suggested privately by the British, was accepted by the US and UK in the Eisenhower-Macmillan communiqué of 29 March 1959, with the condition that agreement be reached for a coordinated research program.

Shortly before the summit, the USSR formally accepted a joint, rather than coordinated, research program which would include a "strictly limited number" of nuclear tests. Moscow also agreed that the moratorium should be unilaterally declared by the three powers, proposed a duration of from four to five years, but, in any case, insisted that the moratorium be conterminous with the research program.

The main issues in this area now are the duration of the moratorium and whether the three powers would be committed to extend it automatically on expiration if the research program does not yield the desired results.

Tests for Detection Research

Since the agreement on placing small underground tests under a unilaterally declared moratorium, a new issue has arisen in connection with the agreement to institute the research program to improve detection techniques. The US position on research calls for coordination of national programs and includes the detonation of nuclear devices. Prior to the Paris summit meeting, on 3 May, the USSR accepted the inclusion of nuclear explosions and agreed to convene a technical working group to discuss the program.

The Soviet experts in the group outlined a program of several chemical explosions in the USSR, declared their intention not to hold nuclear tests,

but insisted on a joint rather than a coordinated program. After the summit failure, the Soviet political delegation repudiated the USSR's scientific experts' program of conventional explosions and demanded that the US provide "adequate safeguards" against misusing research tests for weapons development.

The Soviet delegation rejected a US proposal for depositing unopened nuclear devices in a restricted area under the control of an international group. The US then proposed that the devices be opened on the basis of reciprocity, provided that all three powers contribute a device to a common "pool" and that each power could withdraw a device of its choosing for conducting a research test.

The Soviet delegation again turned down the US proposal, while noting that the offer to open nuclear devices represented a step forward. Moscow, however, continues to insist on a four-point proposal before agreeing to the use of nuclear tests. According to the Soviet delegation, adequate safeguards would include: (1) access to technical descriptions and blueprints of nuclear devices, plus superficial and internal inspection of the devices; (2) presence of all participants at the place of assembly and explosion; (3) installation by all participants of instruments for measuring effects; and (4) access to all data obtained in the program.

Both the Soviet delegate and Khrushchev have stressed that Moscow would interpret a unilateral research test by the US as a resumption of weapons development which would free the USSR from its commitment not to be the first to resume and which would compel the USSR to resume weapons tests.

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Other Issues

An important organ in the day-to-day working of the control system is the control commission, which would dispatch inspection teams and determine the budget and other fiscal, economic, and administrative matters. The composition of the commission and voting procedures, therefore, have become significant issues. Early in the negotiations it was agreed that the control commission should include several members. The USSR has proposed that the commission be divided on a 3-3-1 formula--three representatives from the US and its allies, three from the Soviet Union and its allies, and one representative from a neutral country. This proposal also called for decisions by a simple majority, except for a two-thirds vote on the budget--in effect giving the USSR a budgetary veto.

The US and UK have argued that this arrangement would place a great burden on the one neutral member, who would often be placed in the position of having to break a deadlock between the US and UK on the one hand and the USSR on the other. The Western powers have proposed a formula of 3-2-2--one member each from the US, UK and another Western state, one member each from the USSR and a Soviet ally, and two members from neutral countries.

There are also important differences over the make-up of the international staff at the control posts and the composition of on-site inspection teams and other staffs. Underlying all Soviet proposals has been the demand for strict parity between the USSR on the one hand and the US and UK on the other.

Prospects

The current recess probably marks an important turning point in the negotiations, in view of the fact that the three powers have narrowed the unresolved problems to the crucial elements which determine the effectiveness of the control system. During the recess Moscow will probably be forced to reach some decision on its future course, since its overall maneuverability has been reduced to areas of vital interest to the Soviet position on controls. Whereas over the past two years of negotiations the USSR temporarily side-stepped an impasse by moving on to other issues, such freedom of action has diminished, and the general deterioration of East-West relations will be a strong factor against any major Soviet concession to break the stalemate.

Moscow's general objective when the talks resume probably will be to maintain--without having to make any substantial concessions--sufficient flexibility to ensure that the talks continue. The Soviet delegation's tactics will probably be aimed at securing a full discussion of the quota and moratorium issues before accepting a debate on the research program. In such a discussion Moscow may adjust and amend its current stand, in line with private hints that the quota of three-, as well as the proposed four- to five-year limit on the moratorium, are negotiable.

Moscow's strategy will be influenced by the Soviet delegation's judgment of the chances of obtaining Western concessions on these issues. As an additional inducement to keep the talks going, the USSR may offer a new formula on the composition

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of the control commission, possibly as part of a new package arrangement on composition, voting procedures, and staffing of control posts and inspection teams. Any arrangement, however, would probably be closely tied to the acceptance of a quota.

Soviet strategy since the summit breakdown suggests that Moscow is mainly interested in prolonging the talks, on the assumption that the US may decide to proceed unilaterally with research tests employing nuclear devices. The Kremlin probably would view unilateral action by the US as a strong pretext to break off the talks on an issue which Moscow could

exploit as part of its efforts to indict US policy as provocative. Khrushchev would presumably follow such a move with a reaffirmation of Moscow's pledge not to test if the US ceased its program, and then submit the issue to the UN.

Moscow may also feel that US failure to proceed unilaterally would be an indication that the USSR could extend the negotiations, and thereby the current de facto ban, without any major concessions until a new US administration takes office--at which time the issue could again be employed as part of Soviet strategy to bring about a new summit conference. (SECRET) (Concurred in by OSI)

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STATUS OF SOVIET DOMESTIC TRANSPORT

Soviet domestic transportation has undergone steady expansion and modernization in recent years. Since 1950 the total annual ton-miles of freight handled by all modes of transport has more than doubled. Serious shortcomings exist, however, in the present Soviet transport system--shortcomings underscored last month in the resolution of the plenum of the Soviet Communist party central committee.

While the required tonnage is being handled with only minor localized difficulties, inefficient use of capital and labor results in unwarranted transport costs, thereby hampering prospects for future growth. Provisions for new railroad construction--especially in the developing areas of Siberia--have not been adequate. Despite the USSR's greater size and population, a third less freight was hauled

STATISTICAL VIEW OF THE
SOVIET TRANSPORTATION SYSTEM

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| DOMESTIC TRAFFIC (billion ton - miles) | 1950 | 1959 | 1965 (PLAN) | INCREMENT IN 1959 OVER 1958 | AVERAGE ANNUAL INCREMENT (SEVEN-YEAR PLAN) 1959 - 65 |
|--|-------|--------|-------------|-----------------------------------|---|
| RAILROAD | 412.6 | 979.2 | 1267.2 | 37.3 | 53.6 |
| HIGHWAY | 13.8 | 60.0 | 100.0 | 7.4 | 6.8 |
| RIVER | 31.6 | 64.1 | 95.9 | 5.5 | 4.5 |
| COASTAL AND INTERCOASTAL | 12.9 | 26.0 | 34.2 | 2.0 | 1.4 |
| PETROLEUM PIPELINE | 3.4 | 28.6 | 126.7 | 5.4 | 14.8 |
| TOTAL | 474.2 | 1157.9 | 1624.1 | 107.7 | 82.0 |
| NETWORKS | | | | | |
| RAILROAD (thous. route miles) | 73.1 | 77.8 | 82.4 | 1.0 | .8 |
| ROADS (surfaced, thous. route miles) | 110.8 | 156.7 | N.A. | 9.3 | N.A. |
| RIVERS (thous. miles operated) | 81.3 | 84.4 | 88.8 | N.A. | .6 |
| PIPELINES (thous. miles) | 3.4 | 10.1 | 26.7 | 1.2 | 2.5 |

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