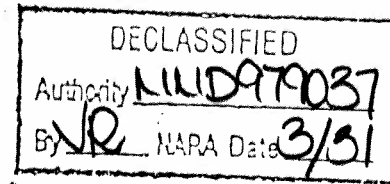




THE COUNSELOR
DEPARTMENT OF STATE
WASHINGTON

June 7, 1974



SECRET/SENSITIVE/EYES ONLY

MEMORANDUM FOR THE SECRETARY

FROM: Helmut Sonnenfeldt/William Hyland/Jan Lodall ^{WHT (1A)}

SUBJECT: Test Ban -- Your Meeting with Dobrynin

The status of the talks is:

-- The Soviets are offering a basic bargain: we accept in principle the yield threshold, and they, in turn will agree to (a) designated test sites, and (b) an exchange of geological data on those sites. They also propose a quota on the number of tests at those sites, peaceful or otherwise, and an upper and lower limit threshold, the latter intended to be helpful in verification.

-- The Soviets claim that, after a brief recess, they are authorized to complete an agreement.

-- The question of conducting PNEs at other than known test sites remains a major problem.

Bureaucratically, the AEC and DOD want a very high threshold (150-200 KT), plus a quota of permissible shots above the threshold. The latest VP Working Group study* concludes, surprisingly, that:

(a) A yield threshold is not worse than a seismic threshold. The Soviets could test about the same yields under either approach.

(b) A combined yield and seismic equation does not buy us any additional certainty and causes some problems.

*We will have a detailed memo for you at the White House.

SECRET/SENSITIVE/EYES ONLY

DECLASSIFIED
Authority 11ND979037
By NR NARA Date 3/31

SECRET/SENSITIVE/EYES ONLY

(c) Thus, we are in a position to accept, in principle the yield threshold if we want to.

-- The quota between the upper and lower threshold is inherently unverifiable because of the chance for multiple detonations; the lower threshold also risks our being driven to admit we can verify very low yields and therefore could accept a comprehensive ban.

At this point you must decide whether (a) to move toward the yield concept in the Moscow talks, in order to negotiate on the conditions of designating sites, exchanging data, etc., or (b) hold off on this decision and bring the delegation home shortly. (In this case, it seems likely that only a rather general reference to TTB can be worked out for the Summit.)

-- A major problem is what the Soviets have in mind for the upper limit; if they are thinking of about 100 KT we may have a potential bargain that could be acceptable in Washington; if they are pointing toward a significantly lower yield we will have massive bureaucratic problems.

-- Thus, you may want to ask Dobrynin what the Soviets have in mind as a yield threshold, or you may want to preempt, and suggest to Dobrynin that we could accept a yield threshold around 120 KT on the condition that we obtain a firm commitment on the exchange of technical data such as geological data on the test sites, agreement on what sites are involved, and agree how to handle the thorny problem of PNE.

-- In this context you probably want to discourage the quota, and the lower threshold.

In light of the bureaucratic problems, and the undertainty of what yield the Soviets will accept, we suggest that you tell Dobrynin that we might settle for explaining, however, that we do not yet have a Governmental decision on this. In the meantime, you should urge that the delegations continue working in Moscow for a few more days, at which point we should know

SECRET/SENSITIVE/EYES ONLY

DECLASSIFIED
Authority KLND979037
By VR NARA Date 3/31

SECRET/SENSITIVE/EYES ONLY

whether a set of principles can be wrapped up before the Summit. (This assumes you can hold a short VP Saturday or Sunday and get a Presidential decision in a few days.)

At Tab A are Talking Points for use with Dobrynin.

At Tab B is an assessment by our Moscow delegation.

SECRET/SENSITIVE/EYES ONLY

DECLASSIFIED
Authority 111D979037
By NR NARA Date 3/51

SECRET/SENSITIVE/EYES ONLY

Talking Points

-- We cannot make any commitments now, until we finish our work within our government. However, we do not reject the approach of the Soviets in setting the threshold by yield.

-- On the question of the threshold level, our preliminary thought is something about 120 KT.

-- We cannot move in the direction of the Soviet position without firmer commitments and knowledge of the conditions for verification:

(1) We need a commitment that we will be provided with adequate geological data about Soviet test sites,

(2) We need to discuss precisely which sites are involved.

-- On the quota we are opposed because it accomplishes very little and could be violated easily.

-- On peaceful nuclear explosions at sites other than those designated as weapons test sites, we have a major problem. Until we agree on new procedures governing these, we do not see how any such explosion can be permitted.

-- Finally, there is the question -- raised in Moscow by the Soviets -- of allowing for a few "mistakes" above the threshold. We think this is probably necessary, in light of uncertainties in predicting the exact yield of a test device, provided only a very small number (one or two) of mistakes is allowed.

* * * *

Procedure

-- The delegations in Moscow have done good work in refining issues;

-- Your delegation seems to want a recess;

SECRET/SENSITIVE/EYES ONLY

DECLASSIFIED
Authority MLID979037
By NR NARA Date 3/51

SECRET/SENSITIVE/EYES ONLY

-- If we have a recess now and interrupt the work, it is doubtful we can get a set of principles wrapped up by the time of the summit;

-- This would mean a fairly general statement at the summit committing our two sides to negotiate a threshold test ban (at yield X on the assumption that pertinent technical questions are settled) this year;

-- If we keep the delegations at work, we may have a chance to get some principles written down which might permit a somewhat more detailed statement at the summit, though still requiring detailed follow-on negotiations.

SECRET/SENSITIVE/EYES ONLY



DECLASSIFIED
Authority MLND979037
By NR NARA Date 3/31

C (13)

Department of State
SECRET

TELEGRAM

CONTROL: 2 0 4 6 Q
RECD: 7 JUN 74Z 12 37

O 071136Z JUN 74 ZFF-4
FM AMEMBASSY MOSCOW
TO SECSTATE WASHDC IMMEDIATE 9568
BT
SECRET SECTION 1 OF 2 MOSCOW 8657

NODIS

E.O. 11652 GDS
TAGS: PARM, UR, US
SUBJ: NUCLEAR TEST BAN TECHNICAL TALKS: ASSESSMENT
OF CURRENT STATUS

REF: STATE 118971

1. TO DATE, US DELEGATION HAS MET WITH SOVIET DELEGATION FOR SEVEN PLENARY SESSIONS IN EIGHT DAYS. FORMAL STATEMENTS BY CHAIRMAN AND TECHNICAL PRESENTATIONS BY EXPERTS TOOK PLACE DURING THESE MEETINGS. THERE HAVE ALSO BEEN A LARGE NUMBER OF INFORMAL CONTACTS FOLLOWING FORMAL MEETINGS AND DURING SOCIAL ENGAGEMENTS PLANNED BY SOVIETS. GENERAL TONE OF MEETINGS HAS BEEN FRIENDLY AND BUSINESS-LIKE.

2. US DELEGATION HAS DISCUSSED IN DETAIL IN PLENARY THE TECHNICAL PROBLEMS OF A THRESHOLD STATED IN TERMS OF SEISMIC MAGNITUDE AND HAS OUTLINED PHYSICAL CHARACTERISTICS OF SUITABLE SEISMIC NETWORKS. PARTICULAR ATTENTION HAS BEEN GIVEN TO PROBLEM OF POTENTIAL CONFLICTING DETERMINATIONS OF MAGNITUDE USING DIFFERENT NETWORKS, AND US DELEGATION HAS SOUGHT SOVIET VIEWS ON HOW TO AVOID SUCH DIFFERING ESTIMATES.

3. SOVIET EXPERTS HAVE DEMONSTRATED THEIR UNDERSTANDING OF PROBLEM OF MEASURING SEISMIC MAGNITUDES AND HAVE PROVIDED THEIR DATA ON THEIR METHOD OF MEASUREMENT. THEIR ASSESSMENTS OF THE PROBLEMS APPEAR TO BE SIMILAR TO THOSE OF THE US DELEGATION. IN PARTICULAR THEY HAVE REVEALED LIMITED INFORMATION ON THEIR CLASSIFIED SEISMIC SYSTEM AND PERMITTED SEISMOLOGISTS FROM THIS SYSTEM

SECRET

NOT TO BE REPRODUCED WITHOUT THE AUTHORIZATION OF THE EXECUTIVE SECRETARY

NODIS
S
N
O
D
I
S

DECLASSIFIED
Authority NUD979037
By NR NARA Date 3/31



Department of State
SECRET

TELEGRAM

-2-SECTION 1 OF 2 MOSCOW 8657, June 7

TO PARTICIPATE IN THE CONFERENCE. THEY HAVE DEMONSTRATED FAMILIARITY WITH TEST SITE CALIBRATION METHODS AND TELESEISMIC PATH PROPAGATION EFFECTS. THIS CLASSIFIED NETWORK APPEARS TO CONSIST OF AT LEAST 17 STATIONS, PRESUMABLY IN THE SOVIET UNION. PATH AND SITE EFFECTS HAVE BEEN CALIBRATED FOR NTS USING PUBLISHED US YIELDS AND GEOLOGICAL INFORMATION. SOVIETS SEEM PERFECTLY SATISFIED WITH THEIR ABILITY TO MONITOR US TESTING ACTIVITY WITH THIS NETWORK. THE ONLY APPARENT SHORTCOMING OF THE NETWORK IS ITS RATHER NARROW AZIMUTHAL DISTRIBUTION OF ABOUT 45 DEGREES WITH RESPECT TO NTS. THEY HAVE INDICATED THAT THE SEISMIC INSTRUMENTS THEY USE TO MONITOR NUCLEAR EXPLOSION ARE MORE SENSITIVE THAN THOSE ACKNOWLEDGED PUBLICLY AND ARE SIMILAR IN SENSITIVITY AND RESPONSE TO US INSTRUMENTS FOR TELESEISMIC MONITORING.

- 4. SOVIETS DEVOTED THEIR FIRST FOUR FORMAL STATEMENTS TO GENERAL PRESENTATION AND JUSTIFICATION OF GENERAL PROPOSALS FOR THRESHOLD LIMITATION ON NUCLEAR WEAPONS TESTS. THESE PROPOSALS HAVE FOUR PRINCIPAL ELEMENTS:
 - THERE SHOULD BE AN UPPER AND A LOWER THRESHOLD.
 - THESE THRESHOLDS SHOULD BE FORMULATED IN TERMS OF GENERALLY ACCEPTED UNITS OF YIELD (E.G., KILOTONS), RATHER THAN IN TERMS OF SEISMIC MAGNITUDE.
 - THERE SHOULD BE AN ANNUAL NUMERICAL QUOTA (EQUAL FOR BOTH SIDES) OF TESTS ALLOWED BETWEEN THE TWO THRESHOLDS. THIS QUOTA WOULD BE SET LOWER THAN THE AVERAGE NUMBER OF TESTS CONDUCTED BY THE SIDES IN RECENT YEARS.
 - TESTS WOULD BE CONDUCTED ONLY AT TEST RANGES WHOSE LOCATIONS HAVE BEEN MADE PUBLIC.

5. SOVIET DELEGATION MEMBERS HAVE BEEN PREPARED TO DISCUSS SEISMIC MEASUREMENT PROBLEMS BUT ONLY SECONDARILY TO ELABORATING THEIR OWN POSITION. THEY ARE PROCEEDING FROM A POSITION DESIGNED TO MINIMIZE THE IMPORTANCE OF DIFFERING MAGNITUDE READINGS TO A POSSIBLE THRESHOLD BAN. THEY PROPOSE TO ACCOMPLISH THIS BY STATING THE THRESHOLD IN TERMS OF YIELD AND TO MINIMIZE UNCERTAINTIES DUE TO VELOCITY BY SPECIFYING THAT EACH SIDE WILL ANNOUNCE THE LOCATION OF ITS WEAPONS TEST SITE OR SITES. THEY

SECRET

NOT TO BE REPRODUCED WITHOUT THE AUTHORIZATION OF THE EXECUTIVE SECRETARY

ODIS-NDIS-NDIS

DECLASSIFIED
Authority NUD979037
By NR NARA Date 3/31



Department of State
SECRET

TELEGRAM

-3-SECTION 1 OF 2 MOSCOW 8657, June 7

CONTEND THAT SMALL ERRORS IN SEISMIC MAGNITUDES FOR EXPLOSIONS AT KNOWN TEST SITES ARE RELATIVELY UNIMPORTANT IN ESTIMATING YIELD IF THE GENERAL GEOLOGICAL CHARACTERISTICS AND SEISMIC PATH CHARACTERISTICS ARE KNOWN. WHILE DELEGATION BELIEVES THE US DOES NOT HAVE THE NECESSARY YIELD AND GEOLOGICAL DATA, MOROKHOV HAS INDICATED PRIVATELY THAT CERTAIN GEOLOGICAL INFORMATION MIGHT BE FORTHCOMING FOLLOWING AGREEMENT IN PRINCIPLE CONDITIONED ON RECEIPT OF SUCH INFORMATION.

6 FOR THIS REASON, SOVIETS HAVE SHOWN LITTLE MORE THAN POLITE INTEREST IN THE PRACTICAL PROBLEMS OF SEISMIC NETWORKS AT THE PLENARY SESSIONS, BUT PROFESSIONAL INTEREST HAS BEEN SHOWN AT INFORMAL MEETINGS CONCERNING THE DETECTION THRESHOLD OF OUR MOST SENSITIVE STATIONS, IN PARTICULAR LASA. THEY SEEM TO BE SEARCHING FOR WHAT THE US COULD TECHNICALLY (AS DISTINCT FROM WOULD) ACCEPT FOR A LOWER THRESHOLD. PRIVATELY, MOROKHOV HAS HINTED AT A LEVEL OF APPROXIMATELY 5 KILOTONS, THEY CONTINUE TO ADVOCATE VERIFICATION BY NATIONAL TECHNICAL MEANS, AND IT SEEMS CLEAR THAT THEY WOULD RELY ON THEIR OWN INSTRUMENTS IN THEIR OWN STATIONS--PRIMARILY BUT NOT NECESSARILY ON SOVIET TERRITORY. THE US WOULD BE EXPECTED TO RELY ON MEANS AT ITS DISPOSAL, AND THE SOVIETS HAVE INDICATED THEY WOULD HAVE NO OBJECTION TO OUR USE OF SEISMIC STATIONS UNDER OUR CONTROL OUTSIDE THE USSR. THEY APPEAR TO HAVE EXCLUDED THE CONCEPT OF A COMBINED OR AGREED NETWORK.

BT
#8657

SECRET

ODIS
ODIS
ODIS
ODIS

DECLASSIFIED
Authority NND979037
By NR NARA Date 3/31



Department of State
SECRET

TELEGRAM

CONTROL: 2 0 4 8 Q
RECD: 7 JUN 74Z 12 44

O 071136Z JUN 74 ZFF-4
FM AMEMBASSY MOSCOW
TO SECSTATE WASHDC IMMEDIATE 9569
BT
SECRET SECTION 2 OF 2 MOSCOW 8657
NODIS

7. TO SIMPLIFY VERIFICATION OF THE ANNUAL QUOTA SOVIETS HAVE PROPOSED A LOWER THRESHOLD IN ADDITION TO AN UPPER ONE IN ORDER TO DEAL WITH THE PROBLEM OF DISTINGUISHING NUCLEAR EXPLOSIONS FOR EARTHQUAKES OR SEISMIC NOISE. THE SOVIETS HAVE INDICATED PRIVATELY THAT THE WIDTH BETWEEN THE UPPER AND LOWER THRESHOLD WOULD BE SUBSTANTIALLY WIDER THAN THE ERROR INVOLVED IN ESTIMATING YIELD BY SEISMIC MEANS. INFORMAL DISCUSSIONS REVEAL THAT ERRORS OF A FACTOR OF TWO MIGHT BE POLITICALLY ACCEPTABLE TO THE SOVIET SIDE. MOROKHOV SUGGESTED INFORMALLY THAT BECAUSE OF THE ACKNOWLEDGED LACK OF PRECISION, A FEW "MISTAKES" WHICH EXCEEDED THE UPPER THRESHOLD MIGHT BE ACCOMMODATED.

8. THE SOVIET PROPOSAL FOR A YIELD THRESHOLD REPRESENTS AN INTERESTING SOLUTION TO THE PROBLEM OF DIFFERING MAGNITUDE ESTIMATES, WHICH WOULD CONTINUE TO EXIST BUT WOULD NOT BE CRITICAL TO VERIFICATION SINCE EACH SIDE WOULD ESTIMATE THE OTHER'S YIELDS AGAINST HIS OWN SCALE. THE WEAKNESSES OF THIS ARGUMENT ARE THAT A) THE PRECISION OF YIELD FOR VERIFICATION PURPOSES IS ABOUT A FACTOR OF TWO AND ?) TH ACHIEVE THIS PRECISION EACH MONITORING NETWORK HAS TO BE CALIBRATED BY YIELD/MAGNITUDE CURVES DERIVED FROM SEISMIC SIGNALS FOR EXPLOSIONS OF KNOWN YIELD AT SITES OF PRECISELY KNOWN LOCAL GEOLOGY. ALTHOUGH THE SOVIETS HAVE AVAILABLE TO THEM PUBLISHED US YIELDS, THE U.S. DELEGATION CAN MAKE NO RECIPROCAL ASSESSMENT SINCE THE SOVIETS HAVE DECLINED TO PROVIDE THESE DATA PRIOR TO AN AGREEMENT BEING REACHED. THE SOVIET VIEW IS SIMPLY THAT YIELD APPLIES EQUALLY TO

SECRET

NODIS

DECLASSIFIED
Authority NUD979037
By NR NARA Date 3/31



Department of State

TELEGRAM

SECRET

-2-SECTION 2 OF 2 MOSCOW 8657, June 7

BOTH SIDES AND THAT IN THIS WAY GEOLOGICAL ASYMMETRIES ARE ELIMINATED. THEY ARE PREPARED TO LIVE WITH THE ATTENDANT UNCERTAINTIES IN THRESHOLD WHICH THIS POSITION GENERATES.

9. AMONG THE TECHNICAL PROBLEMS THAT MUST BE RESOLVED UNDER THE SOVIET PROPOSAL ARE THE UNCERTAINTIES OF LOW-YIELD TESTS; I.E., WOULD ANY GIVEN LOW-YIELD TEST REGISTER ABOVE THE LOWER THRESHOLD ON ONE SIDE'S SCALE AND BELOW ON THE OTHERS. THE QUOTA WOULD INCLUDE SINGLE SEISMIC EVENTS WHICH THE US DELEGATION UNDERSTANDS FROM PRIVATE CONVERSATIONS WOULD PERMIT MULTIPLE SHOTS FIRED ALMOST SIMULTANEOUSLY TO BE COUNTED AS A SINGLE EXPLOSION. ANOTHER PROBLEM IS HOW TO DEAL WITH PNE'S. THE SOVIETS HAVE INDICATED IN PRIVATE CONVERSATION THAT THEIR PROPOSALS WOULD NOT LIMIT PEACEFUL NUCLEAR EXPLOSIONS CONDUCTED AWAY FROM THE ANNOUNCED WEAPONS TEST SITES, AND THAT THEY MIGHT BE WILLING TO PROVIDE CERTAIN DATA ON CONFIDENTIAL BASIS, INCLUDING ADVANCE NOTIFICATION, PURPOSE, LOCATION, GEOLOGICAL DATA, AND YIELD. THEY WOULD EXPECT THE US TO SATISFY ITSELF BY NATIONAL TECHNICAL MEANS THAT THE EXPLOSION WAS INDEED A PNE. THE US DELEGATION HAS MADE IT PLAIN THAT THEY CONSIDER THE TALKS TO BE CONCERNED WITH THE LIMITATION OF ALL UNDERGROUND NUCLEAR EXPLOSIONS FOR WHATEVER PURPOSE. IN THIS CONNECTION THE SOVIETS DELIBERATELY USE THE TERM "LIMITATION OF UNDERGROUND NUCLEAR WEAPON TESTS" WHILE THE US DELEGATION EQUALLY DELIBERATELY USES THE TERM "LIMITATIONS OF UNDERGROUND NUCLEAR EXPLOSIONS"; THE POINT HAS BEEN DULY NOTED ON BOT SIDES.

10. THE US DELEGATION HAS FORMALLY DISCUSSED WITH SOVIETS THE POSSIBILITY OF PREPARING A JOINT REPORT AT CONCLUSION OF THE CONFERENCE. SOVIET RESPONSE HAS BEEN NEUTRAL AND NON-COMMITTAL. WE RECOMMEND DEFERRING THE IDEA FOR NOW.

- 1. ANSWERS TO SPECIFIC QUESTIONS IN REFTEL FOLLOW.
- A. THE PRECEDING PARAGRAPHS HAVE ADDRESSED OUR

SECRET

DD-SS-DD-SS-DD-SS

DECLASSIFIED
 Authority NND979037
 By NR NARA Date 3/31



Department of State

SECRET

TELEGRAM

-3-SECTION 2 OF 2 MOSCOW 8657, June 7
 IMPRESSIONS OF GENERAL PROGRESS TO DATE.

B. SOVIET SEISMOLOGICAL CAPABILITY IS RATED VERY HIGH BY US SEISMOLOGISTS (SEE PARA 3).

C. SOVIETS EXHIBIT VERY GOOD UNDERSTANDING OF VERIFICATION ASPECTS OF THEIR POSITION. (SEE PARA 5 AND 6)

D. SOVIETS APPEAR TO UNDERSTAND US TECHNICAL PRESENTATIONS VERY WELL.

US DELEGATION BELIEVES WE HAVE FULLY ACHIEVED GOAL OF ENSURING SOVIET UNDERSTANDING OF KEY TECHNICAL PROBLEMS ENVISAGED IN US APPROACH TO TTB, AND WE HAVE EXPLORED IN CONSIDERABLE DETAIL SOVIET ATTITUDES ON TECHNICAL ASPECTS OF POSSIBLE AGREEMENT. SINCE SOVIETS HAVE PRESENTED CONCEPT OF PROBLEM WHICH DIFFERS SUBSTANTIALLY FROM OUR ORIGINAL CONCEPT, THERE IS NEED FOR DETAILED EXAMINATION OF TECHNICAL RAMIFICATIONS OF SOVIET PROPOSAL IN WASHINGTON, FOR WHICH PRESENCE ~~OF SOME DELEGATION MEMBERS WOULD BE HIGHLY DESIRABLE.~~ ON THE BASIS OF THIS EXAMINATION, WE WOULD HOPE MORE SPECIFIC US POSITION COULD BE DEVELOPED FOR NEXT STAGE OF TECHNICAL TALKS WITH SOVIETS. THUS, EVEN IF TALKS CONTINUE HERE, SOME DELEGATION MEMBERS SHOULD RETURN PROMPTLY TO PARTICIPATE IN PREPARATIONS FOR NEXT STAGE.

STOESSEL

BT
 #8657

SECRET