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URGENT NEED FOR SUSPENSION OF NUCLEAR AND
 THERMONUCLEAR TESTS

Information relating to the creation of a world-
 wide exchange of seismological data

Note by the Secretary-General

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I. INTRODUCTION

1. At its 1836th plenary meeting, on 16 December 1969, the General Assembly adopted resolution 2604 A (XXIV), the operative part of which reads as follows:

"The General Assembly,
"...

"1. Requests the Secretary-General to transmit to the Governments of all States Members of the United Nations or members of any of the specialized agencies or of the International Atomic Energy Agency, or parties to the Statute of the International Court of Justice, the request for information annexed to the present resolution;

"2. Invites those Governments to co-operate with the Secretary-General in providing the information requested as soon as possible before 1 May 1970;

"3. Requests the Secretary-General to circulate forthwith, upon receipt, all responses to those Governments mentioned in paragraph 1 above and to members of the Conference of the Committee on Disarmament to assist the Conference in its further consideration of the achievement of a comprehensive test ban."

2. On 30 January 1970, the Secretary-General addressed a letter to the Governments referred to in paragraph 1 of the resolution, requesting the information specified in the annex to the resolution, in the context of the creation of a world-wide exchange of seismological data, which would facilitate the achievement of a comprehensive nuclear test ban. The letter reads as follows:

"I have the honour to draw your attention to resolution 2604 A (XXIV) adopted by the General Assembly at its 1836th meeting on 16 December 1969, copy of which is enclosed herewith. In operative paragraph 1 of the resolution, the Secretary-General was requested 'to transmit to the Governments of all States Members of the United Nations or members of any of the specialized agencies or of the International Atomic Energy Agency, or parties to the Statute of the International Court of Justice, the request for information annexed to the present resolution'.

"I would accordingly appreciate receiving from your Government the information referred to in the annex to resolution 2604 A (XXIV), which is as follows:

'In order to assist in clarifying what resources would be available for the eventual establishment of an effective world-wide exchange of seismological information which would facilitate the achievement of a comprehensive test ban, the Secretary-General of the United Nations requests your Government to supply to him, for transmission to the

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Conference of the Committee on Disarmament, a list of all its seismic stations from which it would be prepared to supply records on the basis of guaranteed availability and to provide certain information about each station as set out below:

'A. Conventional seismograph stations

1. Name of station and name and address of the operating organization;
2. Co-ordinates of station, including elevation;
3. Instrumentation and components recorded together with speed of recording (this should include operational magnification of one-second periods for short-period and broad-band seismographs and at fifteen or twenty seconds for long-period instruments. A complete response curve in absolute units should also be provided).

'Your Government is also requested to give information on the geological description of the station foundation and indicate if fully annotated records will be provided, including the precision of the time. It would also be useful to know the time window within which your Government would be prepared to supply original records or good quality copies, and if the latter the form of the copies (for example, 16, 35 or 70 millimetre film, Xerox copies, etc.). It would be useful if it could be indicated whether the intention is to deposit copies of all records in a seismological centre which makes its data available to everyone, or whether your Government wishes to guarantee the data only on a bilateral demand.

'B. Array stations

1. Name of station and the name and address of the operating organization;
2. Co-ordinates of station and array points, including elevation;
3. A general account of the instrumentation geometry of the array;
4. Instrumentation and components recorded, including magnetic tape specifications (this should include the operational magnification at one-second periods for short-period or broad-band instrumentation and at fifteen or twenty seconds for long-period instruments. A response curve in absolute units should be provided for each instrument);
5. A list of components which record on a parallel visual basis.

'As under part A above, in the interest of obtaining maximum usefulness from an international exchange of data, your Government is requested to give information on the geological foundation of the array stations, together with complete technical information on the recording medium, the precision of time-keeping, etc. It would also be useful to know the time window within which your Government would be prepared to supply the original records or, as applicable, photographic copy, magnetic tape copy or good quality microfilm. In the event that your Government does not envisage depositing copies of all array data automatically in a seismological centre which makes its data available to everyone, it would be useful if your Government could indicate how long an original magnetic tape recording could be made available for individual demands before the tapes are erased and re-used.

'In view of the urgency in making progress in the direction of a solution for a comprehensive test ban, the Secretary-General would greatly appreciate it if the information requested above could be forwarded to him with the least possible delay for transmission to the Conference of the Committee on Disarmament.'

"I should like also to draw your attention to paragraph 2 of the operative part of the resolution by which the Governments are invited 'to co-operate with the Secretary-General in providing the information requested as soon as possible before 1 May 1970,' so that it can be circulated forthwith to those Governments mentioned in paragraph 1 of the resolution and to members of the Conference of the Committee on Disarmament, to assist the Conference in its further consideration of the achievement of a comprehensive test ban as requested in paragraph 3 of the resolution."

II. REPLIES RECEIVED FROM GOVERNMENTS

3. As of 29 March 1970, the Secretary-General had received, in response to his letter, communications from seven States, the substantive portions of which are reproduced below:

DAHOMEY

Original: French
25 February 1970

"... Dahomey has no seismic station at present and is therefore not in a position to provide the information requested in accordance with General Assembly resolution 2604 (XXIV) of 16 December 1969."

ETHIOPIA

Original: English
11 March 1970

"The Ministry of Foreign Affairs... has the honour to forward herewith the relevant information on seismographic stations in Ethiopia:

"A. Conventional seismograph stations

"There is only one seismic station in Ethiopia, the station of HSIU at the Geophysical Observatory in Addis Ababa.

Name: AAE (WWSSS)
Longitude: $38^{\circ} 45' 56.0''$ E
Latitude: $09^{\circ} 01' 45.0''$ N
Elevation: 2,442 metres a.s.l.
Geological formation: Olivine basalts, Trap series.

"The station is a conventional World-Wide Standard Seismograph Station (WWSSS) using:

3 short-period Benioff seismometers:

$T_0 = 1$ second.
 $T_g = 0.75$ second.
Magnification: 50 k.
Time base: 60 mm/minute.

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3 long-period Sprengnether seismometers:

T_0 = 30 seconds originally. Now 15 seconds.
 T_g = 100 seconds.
Magnification: 1,500.
Time base: 15 mm/minute.

"All seismograms are microfilmed every month and the 70 mm microfilms are deposited at the world data center (WDC 2) in Rockville, Maryland, USA. (Essa, USCGS). Records are available to any scientist at the WDC2. We have no means here of reproducing seismograms.

"The sensitivity and response curves are identical in all WWSSS units.

"B. Array stations

"There are no array stations in Ethiopia, although a tripartite unit would be extremely useful for evaluating seismic risk in Ethiopia."

LAOS

[Original: French]
17 February 1970

"... Laos has no seismograph or array station which would be of interest to the Conference of the Committee on Disarmament."

NAURU

[Original: English]
6 March 1970

"... the Republic of Nauru does not have a seismic station and is thus not able to provide the information as to nuclear and thermonuclear weapon tests."

SAN MARINO

[Original: Italian]
11 February 1970

"... no seismic station exists in the territory of the Republic of San Marino."

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UNION OF SOVIET SOCIALIST REPUBLICS

[Original: Russian]
20 March 1970

"The Soviet Government has already repeatedly stated its willingness to reach an agreement forthwith for the prohibition of underground nuclear tests on the basis of the use of national means of detection to verify such prohibition.

"We believe that present-day science and technology have reached a stage in their development which makes it possible for national means to be used to verify compliance with an agreement for the prohibition of underground tests and thus to give all States the assurance that such agreement was being scrupulously observed. The attempts of some States to make it appear that world-wide verification of a prohibition against underground nuclear tests is necessary are completely without foundation. The settlement of this problem depends at the present time solely on a political decision.

"In the light of the foregoing, we do not see the necessity of resorting to the international exchange of information on seismic stations, in order to verify the prohibition of underground nuclear explosions.

"As to the international exchange of seismological data, the Soviet Union, wishing to further the general development of seismology, is, as is generally known, engaged in carrying out such co-operation on a large scale."

UNITED REPUBLIC OF TANZANIA

[Original: English]
12 March 1970

"The Ministry of Foreign Affairs of the United Republic of Tanzania wishes to state that there are no seismic stations in this country...."
