

Commentary on National Implementation Measures for On-site Inspections under the Comprehensive Nuclear-Test-Ban Treaty (CTBT)

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Abstract

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) was adopted by the United Nations General Assembly on 10 September 1996. This Commentary deals with the national implementation measures related to the verification regime established by the CTBT to monitor compliance with the prohibition of nuclear testing.

In particular, it examines the national measures required for the implementation, by States Parties to the Treaty, of their obligations related to on-site inspections, in the context of the activities undertaken by the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization to ensure that the verification regime, including the element of on-site inspections, is operational upon entry into force.

In order to do that, the paper first briefly examines the significance and challenges of the CTBT verification regime, focusing on the preparations conducted to develop on-site inspection capabilities. Thereafter, it provides a general overview of on-site inspections, with reference to other international inspection regimes, and analyses the legislative or other measures that may be required for the implementation of the resulting obligations for States Parties, which are addressed with reference to specific treaty requirements, policy considerations and practical experiences at the organization and the national levels.

To support and facilitate the identification of relevant requirements, assessment needs and desirable measures, Annex 1 outlines the procedure of a CTBT on-site inspection, from the filing of the request to the evaluation of inspection findings by States Parties, while Annex 2 provides a checklist for the implementation of related obligations.

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I. Introduction

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) was adopted by the United Nations General Assembly on 10 September 1996. It will enter into force 180 days after the States listed in Annex 2 of the Treaty have deposited their instruments of ratification with the UN Secretary-General.¹

The CTBT, because of its object, scope and global verification regime to monitor compliance with the ban on nuclear testing, provides a unique international legal framework. Its special situation provides also a unique status under international law. Article IV, paragraph 1, sets out that, at entry into force, the verification regime shall be capable of meeting the verification requirements of the treaty. Accordingly, the Treaty implies that the provisions related to the installation of the verification regime would operate in advance of entry into force.²

The task of ensuring the operationalization of the verification regime was granted to the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (“the Preparatory Commission”), an international organization created for that purpose in November 1996, shortly after the adoption of the CTBT. The mandate of this body exceeds that normally assigned to a preparatory commission, as it includes, apart from the activities usually necessary for entry into force preparations, those required for the establishment of a global monitoring system and an on-site inspection regime.

While the verification regime cannot be implemented before entry into force, it still needs to be established and ready to fulfill its purpose, in accordance with the requirements provided in the CTBT.

This Commentary examines the national measures required for the implementation, by States Parties to the Treaty, of their obligations related to on-site inspections, in the context of the activities undertaken by the Preparatory Commission to ensure that the verification regime, including the element of on-site inspections, is operational upon entry into force.

II. The CTBT and its verification regime: significance and challenges

The purpose of the CTBT is to prohibit nuclear explosions in all environments in an effectively verifiable manner.³ Although the CTBT has yet to enter into force, its significance in the international context of nuclear disarmament and non-proliferation has been widely recognized. The high level of adherence to the CTBT – as of June 2013, 159 States had ratified it and 183 had signed it – reflects the importance that the international community places on this treaty and its entry into force.⁴

¹ Pursuant to Article XIV, the Treaty will enter into force 180 days after ratification by the States listed in Annex 2, of which the following still need to sign and/or ratify: China, Democratic People’s Republic of Korea, Egypt, India, Iran (Islamic Republic of), Israel, Pakistan and United States of America.

² According to the IGGI Clingendael Security Paper No. 6, *A New Look at the Comprehensive Nuclear-Test-Ban Treaty*, 2008, page 46: “One could argue that, through the considerable powers given to the [CTBTO] PrepCom – in particular to set up most of the verification system of the CTBT – quite a substantial part of the Treaty is already provisionally applied. This is true in particular of the IMS/IDC. However, in the strict formal sense, IMS/IDC cannot be used for verification of the Treaty until it has entered into force. And OSI cannot be organized without EIF.”

³ CTBT, Article I on Basic obligations: “1. Each State Party undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and prevent any such nuclear explosion at any place under its jurisdiction or control. 2. Each State Party undertakes, furthermore, to refrain from causing, encouraging, or in any way participating in the carrying out of any nuclear weapon test explosion or any other nuclear explosion.”

⁴ See UNGA Resolution 66/64 on the Comprehensive Nuclear-Test-Ban Treaty; See also paragraphs 83-85 of the Final Document of the 2010 NPT Review Conference.

As with other disarmament and non-proliferation treaties, the verification regime was a key element during the negotiation of the CTBT.⁵ Agreeing on a comprehensive test ban would have been impossible in the absence of a credible verification regime.⁶ Accordingly, Article IV establishes a verification regime consisting of (a) an International Monitoring System; (b) consultation and clarification; (c) on-site inspections and (d) confidence-building measures.

The CTBT shows most elements of verification approaches that may be found in international treaties: transparency, confidence-building, collection of data, monitoring, compliance control and redress measures.⁷ The two main components of its verification regime, - the international monitoring system and on-site inspections – show, however, very special characteristics when compared to other verification regimes:

- As an unprecedented worldwide technical undertaking, the International Monitoring System (IMS) will be comprised of 337 facilities located around the globe that through the collection of seismic, infrasound, hydroacoustic and radionuclide data will be able to detect nuclear explosions in all environments and transmit such data to all States Parties in near real time via the International Data Centre (IDC) in Vienna.⁸ As stated by some authors, “the system, now nearing its completion, is the most comprehensive technical system ever established to verify compliance with a treaty in the multilateral arena, and at the same time among the more ambitious undertakings ever to monitor all environments of the earth”.⁹
- As the final verification measure,¹⁰ upon approval of an on-site inspection by the future CTBTO’s¹¹ executive body, within only six days after receipt of an on-site inspection request, may initiate the conduct of an inspection in the territory of a State Party or in any area beyond the jurisdiction or control of any State in order to clarify whether a nuclear (weapon test) explosion has been carried out and to gather any facts that may assist in identifying any possible violator.

While the design of a system capable of credibly monitoring compliance, and thus effectively deterring non-compliance, posed many challenges during CTBT negotiations,¹² the readiness of this regime to fulfill the verification requirements of the Treaty upon entry into force poses also many challenges during the preparatory phase.¹³

⁵ “Adequate and effective verification is an essential element of all arms limitation and disarmament agreements”. United Nations Disarmament Commission, Principles of Verification (1988).

⁶ As stated by J. Ramaker, “...it was widely accepted by the negotiators that to obtain agreement on a CTBT, an international verification system would be an essential requirement of the Treaty.” Ramaker, Jaap, *The Final Test: a History of the Comprehensive Nuclear-Test-Ban Treaty Negotiations*, 2003, page 91.

⁷ A verification regime for ensuring compliance with a treaty may include “legal commitments, data exchange and notification arrangements, monitoring methods, communication, consultation and clarification mechanisms and an agreed method for making verification judgments.” See UNIDIR, VERTIC, *Coming to Terms with Security: a Handbook on Verification and Compliance*. 2003, pages 17 and 131. See also S. Oeter, *Inspection in International Law: Monitoring Compliance and the Problem of Implementation in International Law*, 1997, pages 108-109.

⁸ Pursuant to paragraph I.16 of the CTBT Protocol, Part I, the International Data Centre shall receive, collect, process, analyse, report on and archive data from International Monitoring System facilities.

⁹ Dahlman, Mykkelveit and Haak, *Nuclear Test Ban: Converting Political Visions to Reality*, 2009, page 113.

¹⁰ Challenge inspections like CTBT on-site inspections are “usually regarded as a verification tool of the last resort [...] The fact that the parties agree to include challenge inspections in the verification package is usually a strong indication of a determination to comply with the treaty.” See UNIDIR, VERTIC, *op cit*, page 26.

¹¹ Article II of the CTBT establishes the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) “to achieve the object and purpose of this Treaty, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and cooperation among States Parties”.

¹² See R. Johnson, *Unfinished Business: the Negotiation of the CTBT and the End of Nuclear Testing*, 2009, Page 147.

¹³ See Dahlman, Mykkelveit and Haak, *op cit*, Chapter 6: “Establishing the Verification Regime.”

2.1 Preparing for readiness to implement the verification regime upon entry into force

In line with the requirements of Article IV.1 of the CTBT,¹⁴ the Preparatory Commission was created by resolution of the CTBT States Signatories for the purpose of carrying out the necessary preparations for the effective implementation of the CTBT,¹⁵ including those necessary to ensure the “operationalization” of the verification regime upon entry into force.¹⁶

With nearly 85% of the IMS stations installed and 118 States Signatories receiving data from the IDC, preparations for entry into force of the CTBT are well under way.¹⁷ It should be noted however that, until entry into force, the information collected by the system may not be used for verification purposes.¹⁸ Meanwhile, the system is in “provisional operation”¹⁹ and countries may benefit from the civil and scientific applications of CTBT monitoring data.²⁰

2.2 Preparing for readiness to implement on-site inspections upon entry into force

The Preparatory Commission has the mandate to make all necessary preparations, in fulfilling the requirements of the Treaty and its Protocol, for the support of on-site inspections from the entry into force of the Treaty. This includes preparing for approval by the first Conference of States Parties an operational manual containing all appropriate legal, technical and administrative procedures and a list of equipment for use during on-site inspections, developing a programme for the training of inspectors, as well as acquiring and testing inspection equipment.²¹

The Preparatory Commission is fully engaged in developing the on-site inspection regime and States Signatories have recently taken some decisions to increase the activities of the organization in this field. An overview of Commission activities and achievements in this field may be appreciated in the 2011 Annual Report.²² At present, the main project is the conduct of an integrated field exercise in 2014 where a many elements of an on-site inspection will be exercised and related capabilities will be tested in a comprehensive manner.

While preparations for entry into force are thus underway at the international level, States may also need to prepare for the implementation of their obligations related to on-site inspections at the national level.

In general, States Parties to a treaty have the obligation to implement their resulting obligations at the latest upon ratification, or eventually, upon entry into force of that treaty.²³ Depending on the national legal system,

¹⁴ “At entry into force of this Treaty, the verification regime shall be capable of meeting the verification requirements of this Treaty.”

¹⁵ Resolution Establishing the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization adopted in New York on 19 November 1996 (CTBT/MSS/RES/1).

¹⁶ Paragraphs 1 and 13 of the Text on the Establishment of a Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organisation (Annex to the Resolution).

¹⁷ See Annual Report 2011, Preparatory Commission for the CTBTO.

¹⁸ See paragraph 13 (a) of CTBT/PC-19/1/Annex II of 19 November 2002, which contains the Report of Working Group B to the 19th Session of the Preparatory Commission, as adopted by the Commission (see further paragraph 16 of CTBT/PC-19/1 of 19 November 2002).

¹⁹ See Paragraph 5(c) of the Annex to the Resolution Establishing the Preparatory Commission.

²⁰ For more information, see <http://www.ctbto.org/verification-regime/potential-civil-and-scientific-applications-of-ctbt-verification-data-and-technologies/>

²¹ Paragraph 15 of the Annex to the Resolution Establishing the Preparatory Commission.

²² Pages 31-37.

²³ Article 27 of the Vienna Convention on the Law of the Treaties provides that “A party may not invoke the provisions of its internal law as justification for its failure to perform a treaty“.

legislation or other national implementation measures may even be required in advance of ratification. In the case of the CTBT, for constitutional or policy reasons, some States have already adopted legislation or other implementation measures,²⁴ including provisions on on-site inspections, which will become operational upon entry into force of the treaty.²⁵

In this context, it is useful to examine which national measures may be required for the implementation of obligations related to on-site inspections under the CTBT in order to facilitate the assessment of those measures and their implementation by States Parties upon entry into force, taking advantage of the experience of the Preparatory Commission in the development of on-site inspection capabilities. In order to do that, we will start by providing an overview of CTBT on-site inspections, as they may compare to other international inspection regimes.

III. Overview of CTBT on-site inspections

Article IV.3 of the CTBT provides that each State Party shall cooperate to facilitate the verification of compliance with the treaty by, *inter alia*, permitting the conduct of on-site inspections in its territory. On-site inspection provisions are contained in Article IV, Section D and Part II of the Protocol to the CTBT. More detailed administrative and technical procedures will be provided in the operational manual for on-site inspections to be developed by the Preparatory Commission and approved by the first Conference of States Parties after entry into force of the Treaty.²⁶

3.1 Distinctive features of CTBT on-site inspections

Inspections are a common feature of verification regimes established under conventions related to arms control, disarmament and non-proliferation. A wide range of inspection mechanisms may be found in such treaties, being referred to as visits, fact-finding missions, investigations, etc.²⁷ At the outset, they were mostly envisaged as monitoring, transparency or confidence-building measures, subject to the approval of the State concerned, to be further developed to become truly review, control or verification mechanisms and as such binding on the State concerned.

On-site inspections may be classified pursuant to different criteria: (i) whether inspections are permanent or non-permanent; (ii) whether they are conducted in the territory of a sovereign State or in areas beyond the jurisdiction or control of any State; (iii) according to their object, such as baseline, elimination and close-out inspections; and (iv) more relevant to our purposes, according to modalities or trigger mechanisms. In this category we find periodic inspections, which form part of a regular procedure and may include routine or random inspections, and challenge inspections, which are triggered by a demand or a request.²⁸

²⁴ See *Guide to CTBT National Implementation Measures*, Preparatory Commission for the CTBTO.

²⁵ See for instance the Australian Comprehensive Nuclear-Test-Ban Treaty Act. <http://www.ctbto.org/member-states/legal-resources/>

²⁶ CTBT, Article II, para 26(h); Protocol, Part II, para 13.

²⁷ See for instance: 1957 Statute of the International Atomic Energy Agency, 1959 Antarctic Treaty, 1967 Treaty for the Prohibition of Nuclear Weapons in Latin America, 1968 Treaty on the Non-Proliferation of Nuclear Weapons, 1974 Threshold Test Ban Treaty between the US and the USSR, 1975 Sinai Interim Agreement, 1990 Treaty on Conventional Armed Forces in Europe, 1991 START Treaty between the US and the USSR, and notably the 1993 Chemical Weapons Convention, which provided the most recent reference for the negotiation of CTBT on-site inspection provisions.

²⁸ See S. Sur, *Verification of Current Disarmament and Arms Limitation Agreements: Ways, Means and Practices*, 1991, page 34.

On-site inspections under the CTBT represent the most developed concept of international inspections as the ultimate verification measure, being a mandatory, exceptional, technologically complex and strictly regulated verification measure.²⁹

3.1.1 On-site inspections are mandatory

Under the CTBT, a State Party is bound to permit the conduct of an on-site inspection when approved by the future CTBTO's executive body. A State that refuses to allow an on-site inspection would be in non-compliance with its treaty obligations. Inspection related timelines are also mandatory and clearly regulated, i.e. arrival of the inspection team within six days after receipt of the on-site inspection request, and not subject to agreement with the State like in some other inspection regimes. The results of the inspection may lead to an assessment of compliance and the adoption of redress measures by the CTBT States Parties instead of serving only a peer review or similar purpose.

3.1.2 On-site inspections are challenge inspections

Routine inspections are normally intended to ensure transparency or build confidence that a State is in compliance with its treaty obligations. The areas subject to inspection are known in advance (based on declarations). In many cases, the timing of the inspection is also previously known or subject to agreement with the State. On the contrary, in challenge inspections States Parties agree in advance to accept intrusive inspections at "undeclared sites" in their territory should a suspicion of non-compliance arise.

The CTBT does not foresee the conduct of routine inspections. An on-site inspection may only be conducted upon request by a State Party to the CTBT and approval by the organization's executive body. The request needs to be based on information collected by the international monitoring system, national technical means or a combination of both. For these reasons, on-site inspections may be considered to be "challenge inspections" and will as such be an extremely rare and exceptional event.³⁰

3.1.3 On-site inspections are technologically complex

The technological complexity required for the conduct of a nuclear explosion implies that an inspection conducted to clarify whether such an explosion has occurred in violation of the CTBT will need to apply techniques that enable it to credibly achieve its purpose. Inspection activities and techniques are detailed in paragraph 69 of Part II of the Protocol and range from overflights for visual observation to environmental sampling, active seismic survey and drilling. At the same time, an on-site inspection is foreseen as a swift undertaking to prevent the loss of evidence of an alleged nuclear explosion.³¹ Therefore, within a very short time, the organization needs to be ready to prepare and deploy, and the State Party needs to be ready to receive and to support, the equipment and personnel required for an inspection.

3.1.4 On-site inspections are strictly regulated

The CTBT strikes a necessary balance between the requirements of an on-site inspection and the rights of the inspected State Party to protect its national security interests. The treaty provisions reflect the efforts of the negotiators to protect the State against intrusiveness while establishing an effective verification and deterrent measure. Accordingly, the rights and obligations of the inspection team and the inspected State Party are clearly delineated. In particular, the inspected State Party has the right to observe inspection activities, examine data and

²⁹ See Dahlman, Mykkelveit and Haak, *op cit*, page 138.

³⁰ See UNIDIR, VERTIC, *op cit*, page 25.

³¹ During CTBT negotiations, the expert group appointed to consider the detectable characteristics of nuclear detonations and evasion scenarios in various environments identified the following as "time-critical" manifestations: aftershocks, radioactive noble gases such as xenon and argon and human-generated artefacts that could be quickly concealed or altered. See R. Johnson, page 161.

samples gathered, appoint escorts for the inspection team and take measures to protect sensitive installations and locations and to prevent the disclosure of confidential information not related to the purpose of the inspection.

3.2 Procedures for CTBT on-site inspections

The future CTBTO will conduct an on-site inspection upon approval of the inspection by the Executive Council of the organization, following a request received from a State Party to the CTBT. A table outlining the procedure of an on-site inspection is attached as Annex 1.

3.2.1 General principles

- *Purpose of the inspection.* Pursuant to Article IV, paragraph 35, the sole purpose of an on-site inspection is to clarify whether a nuclear weapon test explosion or any other nuclear explosion has been carried out in violation of the treaty and, to the extent possible, to gather any facts which might assist in identifying any possible violator. This wording is intended to prevent misuse or abuse of on-site inspections, in line with the verification principles endorsed by the United Nations, whereby “requests for inspections [...] should be used only for the purposes of the determination of compliance, care being taken to avoid abuses.” Additional protections are contained in Article IV, paragraph 36, which requires States Parties to keep on-site inspection requests within the scope of the treaty and to refrain from unfounded or abusive requests. Redress measures may be implemented by the Executive Council against the requesting State Party in the case of frivolous or abusive requests.³²
- *Inspection area.* An on-site inspection may be conducted in an area that is under the jurisdiction or control of one or more States Parties to the CTBT or one that is beyond the jurisdiction or control of any State Party.³³ The size of the inspection area cannot exceed 1,000 square kilometers.³⁴
- *Inspection team.* The members of the inspection team are selected by the CTBTO Director-General from the list of inspectors and inspection assistants nominated by the Director-General or by States Parties.³⁵ Their number shall be kept to the minimum necessary for the conduct of the inspection and shall not exceed 40, except during drilling activities, if any.³⁶
- *Duration of inspection.* The inspection shall have a duration of no more than 60 days from the date of approval of the inspection request by the Executive Council. It may be extended for 70 additional days, for a maximum of 130 days in total, if so requested by the inspection team and approved by majority vote of all members of the Executive Council.³⁷
- *Timelines for an on-site inspection.* As may be appreciated in Annex 1, the CTBT establishes strict timelines for the conduct of an on-site inspection. Due to the importance of immediate action, the respect of these timelines will be paramount to a credible inspection. The following are particularly important:
 - The Executive Council shall adopt a decision within 96 hours after receipt of an on-site inspection request,³⁸

³² CTBT, Article IV, para 67. These measures may include: (a) requiring the requesting State Party to pay for the cost of inspection preparations, (b) suspending the right of the requesting State Party to request an inspection for a period of time, and (c) suspending the rights of the requesting State Party to serve on the Executive Council for a period of time.

³³ CTBT, Article IV, para 34 ; Protocol, Part II, para 5.

³⁴ CTBT, Protocol, Part II, para 3.

³⁵ CTBT, Protocol, Part II, paras 10 and 15.

³⁶ CTBT, Protocol, Part II, para 9.

³⁷ CTBT, Protocol, Part II, para 4.

³⁸ CTBT, Article IV, para 46.

- The inspection team shall arrive at the point of entry for the inspection within six days after receipt of the request;³⁹
 - The inspection team shall arrive at the inspection area within 36 hours after arrival at the point of entry;⁴⁰
 - Inspection activities in the inspection area shall commence no later than 72 hours after arrival of the inspection team at the point of entry.⁴¹
- *Obligation of the inspected State Party to support the inspection.* A number of provisions place a strict obligation on the part of the inspected State Party to enable, to assist and to facilitate the conduct of the inspection.⁴² There is also an obligation to provide for or arrange the amenities necessary for the inspection team such as communication means, interpretation, transport, working space, lodging, meals and medical care.⁴³ The extent of cooperation granted to the inspection team forms part of the inspection report⁴⁴ and will certainly play an important role in the examination of the matter by the Executive Council.
 - *Obligation of the inspection team to conduct activities in the least intrusive manner.* The CTBT provides that verification activities shall be conducted in the least intrusive manner possible consistent with the effective and timely accomplishment of its objectives. It also provides that the inspection team shall seek to minimize interference with normal operations of the inspected State Party.⁴⁵

3.2.2 Launch of an on-site inspection

*On-site inspection request*⁴⁶

An on-site inspection starts always with a request from a State Party to the CTBT. The International Monitoring System (IMS) is designed to detect suspicious events and any State Party may request the conduct of an on-site inspection to clarify the matter on the basis of the information provided by the system. As a general principle of the CTBT, the International Data Centre (IDC) nor the Technical Secretariat of the CTBTO are entitled to make judgments as to the nature of any event, as the IDC only collects, analyzes and makes the data available to States Parties. It is for States Parties to take any relevant action. The request may also be based on national technical means obtained in accordance with generally recognized principles of international law, or a combination of these and IMS data.⁴⁷

During negotiations, it was agreed that States Parties, and not the organization, were to have the responsibility to assess compliance. The concerns of some States of not having the necessary resources to analyze and make judgments on the basis of the data received from the International Data Centre were addressed by establishing standard event screening criteria and the obligation for the IDC to perform national event screening and provide technical assistance upon request.⁴⁸

The request is to be submitted simultaneously to the Executive Council and the CTBTO Director-General. The following information needs to be included in the request: coordinates of the event location, State Party and boundaries of the area proposed to be inspected, probable environment of the event, estimated time of the event

³⁹ CTBT, Article IV, para 53.

⁴⁰ CTBT, Protocol, Part II, para 54.

⁴¹ CTBT, Protocol, Part II, para 57.

⁴² CTBT, Article IV, paras 57 and 59 ; Protocol, Part II, para 58.

⁴³ CTBT, Protocol, Part II, paras 11-12.

⁴⁴ CTBT, Protocol, Part II, para 62.

⁴⁵ CTBT, Protocol, Part II, para 58 ; See also Article IV, para 2.

⁴⁶ CTBT, Article IV, paras 34-38; Protocol, Part II, para 41.

⁴⁷ See also CTBT, Article II, para 5, and R. Johnson, *op cit*, page 169, on the discussions on national technical means during treaty negotiations.

⁴⁸ CTBT, Protocol, Part I, paras 18-22; See also R. Johnson, pages 155-157 and O. Dahlman, page 76.

that triggered the request, all data on which the request is based, details of any proposed observer and the results of a consultation and clarification process or the reasons for not having taken place.

Inspection preparations

Preparations for the conduct of the inspection, including liaison with the inspected State Party for all relevant purposes pertaining thereto, start as soon as the Director-General ascertains that the request satisfies the above requirements,⁴⁹ that is, even before the inspection has been approved by the Executive Council, so that the necessary arrangements may be made for the arrival of the inspection team and equipment at the point of entry within the required timeline of six days after receipt of the request.

*Decision by the Executive Council*⁵⁰

The Executive Council is called to begin immediately the consideration of the inspection request and must adopt a decision no later than 96 hours after receipt of the request.⁵¹ Meanwhile, the Director-General seeks clarification about the event from the State Party sought to be inspected. If the requesting State Party decides to withdraw the request on the basis of the clarification provided, or if the Executive Council does not approve the request, preparations are stopped and no further action is taken on the request.

Upon approval of the inspection by at least 30 affirmative votes of the 51 members of the Executive Council,⁵² the Director-General issues an inspection mandate specifying, *inter alia*, the location and boundaries of the inspection area, the planned types of inspection activities, the point of entry for the arrival of the team and equipment, the name of inspection team members and the list of equipment to be used.⁵³ The decision is notified to the inspected State Party, together with the date and time of arrival of the inspection team.⁵⁴

3.2.3 Support and cooperation by the inspected State Party

Upon receipt of the notification of the inspection by the Director-General, the inspected State Party has to permit the conduct of an on-site inspection in its territory.⁵⁵ Furthermore, the inspected State Party has the right and the obligation to make every reasonable effort to demonstrate its compliance with the CTBT and, to this end, to enable the inspection team to fulfill its mandate.⁵⁶ In more particular terms, these obligations refer to the following:

- Ensure the immediate entry of the inspection team upon arrival at the point of entry.⁵⁷
- Allow the entry of inspection equipment without restrictions upon arrival at the point of entry. The inspected State Party has the right to check that the equipment has been approved by the Conference of States Parties and certified by the Technical Secretariat as having been calibrated, maintained and

⁴⁹ CTBT, Article IV, para 41.

⁵⁰ CTBT, Article IV, paras 39-46.

⁵¹ In contrast with challenge inspections under the CWC, the CTBT adopted a “green light” procedure for on-site inspections that requires a positive vote from the Executive Council to allow the inspection to proceed, instead of a “red light” procedure that allows the inspection to proceed unless the Executive Council votes to stop it. In both cases, a substantial vote of the entire membership of the Executive Council is required, making it a very high threshold to achieve.

⁵² This number constitutes three fifths of the members of the Executive Council, as a compromise between the two positions favored by different delegations during the negotiations: two thirds majority or simple majority, which can be found in the CTBT, Article II.36, for Executive Council decisions, respectively, on matters of substance and matters of procedure. See also R. Johnson, page 170.

⁵³ CTBT, Article IV, para 54.

⁵⁴ CTBT, Article IV, para 55 ; Protocol, Part II, paras 42-43.

⁵⁵ CTBT, Article IV, para 56.

⁵⁶ CTBT, Article IV, para 57.

⁵⁷ CTBT, Protocol, Part II, para 45.

protected. The inspected State Party has the right to exclude equipment that is not in conformity with the inspection mandate or that has not been approved and certified.⁵⁸

- Arrange the amenities necessary for the inspection team such as communication means, interpretation services, transportation, working space, lodging, meals and medical care.⁵⁹
- Brief the inspection team on the inspection area, safety and confidentiality issues and logistical arrangements for the inspection.⁶⁰
- Provide assistance and ensure the safe conduct of the inspection team and equipment to the inspection area.⁶¹
- Provide a representative to liaise with the inspection team.⁶²
- Assist the inspection team throughout the inspection and facilitate its task.⁶³
- Provide equipment for the inspection as may have been requested by the Director- General.⁶⁴
- Provide access to the inspection team within the inspection area and allow it to move unimpeded therein to conduct inspection activities.⁶⁵
- Make every reasonable effort to satisfy the requirements of the inspection mandate through alternative means when access is restricted to protect sensitive installations.⁶⁶
- Provide clarification to resolve ambiguities that may arise during the inspection.⁶⁷
- The State Party requesting the inspection may designate an observer to accompany the inspection team and observe inspection activities.⁶⁸ If the inspected State Party agrees to the proposed observer, it must grant access to the observer, who enjoys the privileges and immunities provided in the Treaty.⁶⁹
- The members of the inspection team may communicate with each other and with the CTBTO Technical Secretariat using their approved and certified communications equipment. The inspected State Party has to either grant its consent to the use of the equipment or to provide its own equipment for use by the inspection team.⁷⁰

3.2.4 Inspection activities and techniques

Inspection activities are conducted on the basis of an inspection plan that is elaborated and amended as necessary by the inspection team. At all times throughout the inspection the inspected State Party may provide the inspection team with information, clarification or data related to the event that triggered the request or is otherwise relevant to the inspection. These explanations are taken into account by the inspection team for the development of the inspection plan, and are also included in the inspection report.⁷¹

The application of inspection activities and techniques allows the inspection team to search for features in the inspection area, referred to as signatures, observables or anomalies, which may be indicative of a nuclear explosion in violation of the Treaty. How these will be applied will depend on a number of factors, including the environment in which the explosion is presumed to have been conducted.⁷²

⁵⁸ CTBT, Protocol, Part II, paras 50-51.

⁵⁹ The inspected State Party will be reimbursed by the organization for these expenses. CTBT, Protocol, Part II, paras 11-

12.

⁶⁰ CTBT, Protocol, Part II, para 52.

⁶¹ CTBT, Protocol, Part II, para 54.

⁶² CTBT, Protocol, Part II, para 61.

⁶³ CTBT, Article IV, para 59.

⁶⁴ CTBT, Protocol, Part II, para 59.

⁶⁵ CTBT, Article IV, para 57.

⁶⁶ CTBT, Protocol, Part II, para 88.

⁶⁷ CTBT, Protocol, Part II, para 61.

⁶⁸ CTBT, Protocol, Part II, paras 63-68.

⁶⁹ CTBT, Article IV, para 61; Protocol, Part II, para 31.

⁷⁰ CTBT, Protocol, Part II, para 62.

⁷¹ CTBT, Protocol, Part II, para 60(c)(f).

⁷² In principle, one can distinguish between a nuclear test carried out in the atmosphere, on or near the surface of the ground, under the ground, and near the surface or deep under the ocean. Each of these different, possible testing locations

In accordance with the principle of least intrusiveness of verification measures,⁷³ inspection activities and techniques are divided in two periods, starting with the less intrusive and moving to the more intrusive ones only if necessary.⁷⁴ Some of these techniques are required for narrowing down the search area, while others provide indication of the nuclear character of the event.

During the first 25 days of the inspection, or “initial inspection period”, the techniques listed in the Protocol to the Treaty under paragraphs 69(a) to (e) may be used by the inspection team: position finding, visual observation including multi-spectral and infrared imaging, radioactivity measurements, environmental sampling and analysis and passive seismological monitoring. Following a progress inspection report to be prepared by the inspection team after the first 25 days of the inspection, the Executive Council may by majority vote (simple majority of all its members) decide to stop the inspection.⁷⁵ If this is not the case, the inspection is continued and the techniques listed in the Protocol to the Treaty under paragraphs 69(f) and (g) may also be used: resonance seismometry, active seismic surveys, magnetic and gravitational field mapping, ground penetrating radar and electrical conductivity measurements.

Position finding

The inspection team conducts position finding in order to confirm the location and boundaries of the inspection area. Additionally, position finding is vital to facilitate the orientation and navigation of the inspection team within the inspection area. Moreover, it also supports other inspection activities and their documentation, e.g. by determining the position of OSI-related features and anomalies observed and measurement stations within the inspection area.

Visual observation

The preparations and conduct of a nuclear explosion may leave signatures as to where and how the explosion was conducted (e.g. emplacement equipment, instrumentation and diagnostic equipment, cables, containment features, security precautions, surface preparations, structures and buildings). The purpose of the visual observations is to find and document these observables.

In addition to visual observation by an inspector scanning the landscape with his or her eyes, the Treaty also allows for video and still photography, multi-spectral imaging, including infrared measurements (MSIR). By applying MSIR, potential signatures of an underground nuclear test such as surface disturbances caused by vehicle movements, digging activities leading to changes in hydrology and surface characteristics can be detected.

Radioactivity measurements

On-site inspection techniques for the detection of radiation can be considered as a system of “radionuclide techniques”. This system involves techniques to search and find radionuclide anomalies in the inspection area in order to identify specific radioactive isotopes that may indicate the recent occurrence of a nuclear explosion. The

requires variations in the use of inspection techniques to gather facts relevant to identifying if a nuclear explosion has taken place.

⁷³ „Verification activities shall be based on objective information, shall be limited to the subject matter of this Treaty, and shall be carried out on the basis of full respect for the sovereignty of States Parties and in the least intrusive manner possible consistent with the effective and timely accomplishment of their objectives. Each State Party shall refrain from any abuse of the right of verification“. CTBT, Article IV, Para 2.

⁷⁴ “[w]henver possible, the inspection team shall begin with the least intrusive procedures and then proceed to more intrusive procedures only as it deems necessary to collect sufficient information to clarify the concern about possible non-compliance with this Treaty“. CTBT, Article IV, para 58 ; See also Protocol, Part II, paras 69-70.

⁷⁵ CTBT, Article IV, para 47.

search for radioactivity requires specialized instrumentation to detect and quantify the presence, types and amounts of radioactive isotopes in the search area and can be applied from the ground or the air.

Environmental sampling and analysis

In addition to measurements of levels of radioactivity, environmental sampling including sampling of solids, liquids and gases can be taken. Whenever possible, the inspection team shall analyse the samples on-site. However, samples may be transferred for off-site analysis in at least two designated laboratories if the inspection team demonstrates that the necessary analysis cannot be performed on-site.⁷⁶ Sampling and analysis provides an indication regarding the nuclear character of the triggering event.

Passive seismological monitoring

Passive seismology may be used to record small seismic events (aftershocks) that are associated with the relaxation of rock stress or the settling of the rubble in the crater and chimney due to the effect of an underground explosion. Aftershocks that follow an underground nuclear explosion may also result from the collapse process associated with a cavity created by that explosion. The aftershocks continue at a steadily decreasing rate for weeks following the explosion, though the rate is strongly dependent on the geology near the detonation point of the explosion. Passive seismology can help determine if an explosion or an earthquake has taken place based on the difference in the seismic signals connected with such events.

Continuation period techniques: resonance seismometry, active seismic surveys, magnetic and gravitational field mapping, ground penetrating radar and electrical conductivity measurements

These techniques belong to the group of geophysical techniques for detecting anomalies or artifacts that could be associated with a nuclear explosion. Some of these techniques look for near-surface targets such as buried cables, drill casing, whereas others are intended to detect residual effects of the localized longer-lived features deep underground (excavated cavities, the explosion cavity, chimney, rubble zone, apical void and local fracturing) that are measurable from the surface.

Resonance seismology has the objective to measure the spatial variation in near-surface seismic wave field in the narrowed down search area. Active seismic methods aim to identify the cavity of an underground nuclear explosion and its surrounding.

The use of magnetic field surveys for location of a suspect underground nuclear explosion is based on the fact that an induced magnetization is produced in any magnetic material within the earth's magnetic field. The major reason to employ this technique is to search for shallow artifacts. Gravitational field mapping is intended to detect subtle anomalies resulting from the redistribution and transformation of rock masses in the underground explosion area that leads to density irregularities and subsequent alterations to the local gravitational field. Ground penetrating radar is a nondestructive geophysical method used for evaluating the location and depth of buried objects and to investigate the presence and continuity of natural subsurface conditions and features. Electrical conductivity measurements help to detect changes in density, porosity and permeability in the underground nuclear explosion zone.

During this "continuation period" the inspected State Party has also the obligation to grant access to buildings and other structures to the inspection team where necessary to fulfill the inspection mandate.⁷⁷

Drilling to obtain radioactive samples

If the inspection techniques are successful in narrowing the search areas to a location where it is suspected that a contained nuclear explosion may have taken place, it may be required for the IT to drill-back into the suspected location and take samples from the vicinity of the cavity or rubble region that has been identified. During drilling

⁷⁶ CTBT, Protocol Part II, paras 97-104.

⁷⁷ CTBT, Protocol, Part II, paras 90-91.

the total number of inspectors present on the territory of the inspected State Party may exceed 40 persons.⁷⁸ Drilling may be conducted at any time during the inspection subject to approval by majority vote of all members of the Executive Council.⁷⁹

Overflights

The right of the inspection team to conduct an initial overflight over the inspection area is delineated in the Treaty.⁸⁰ The purpose of the initial overflight is to provide the inspection team with a general orientation of the inspection area, narrowing down and optimizing the locations for ground-base inspection and facilitating the collection of factual evidence. Additional overflights may be conducted subject to agreement with the inspected State Party.

3.2.5 Managed access⁸¹

The inspected State Party is obliged to provide access to the inspection team within the inspection area and allow it to move unimpeded therein to conduct inspection activities. However, under the Treaty's managed access provisions there is still scope for access negotiations between the inspected State Party and the inspection team, which will take place on a case-by-case basis.

Managed access may be defined as the arrangements made by the inspected State Party to protect sensitive installations and confidential information not related to the purpose of the inspection, while still granting limited access to inspectors to conduct inspection activities or providing alternative means to demonstrate compliance if access is totally restricted.⁸² To this end, the inspected State Party may take the following measures:

- (a) Shrouding of sensitive displays, stores, and equipment;
- (b) Restricting measurements of radionuclide activity and nuclear radiation to determining the presence or absence of those types and energies of radiation relevant to the purpose of the inspection;
- (c) Restricting the taking of or analysing of samples to determining the presence or absence of radioactive or other products relevant to the purpose of the inspection;
- (d) Managing access to buildings and other structures; and
- (e) Declaring restricted-access sites.⁸³

The inspected State Party is obliged not to invoke these rights to conceal any violation of the Treaty. Furthermore, whenever such measures are applied, appropriate alternative means need to be implemented by the inspected State Party to satisfy the requirements of the inspection mandate.⁸⁴

Finally, in relation to restricted access sites, it is important to note that if the inspection team demonstrates credibly that access is necessary to fulfill the mandate, the inspected State Party shall grant access to a limited number of inspectors subject to modalities to be negotiated between the inspection team and the inspected State Party.

⁷⁸ CTBT, Protocol Part II, para 9.

⁷⁹ CTBT, Article IV, para 48; Protocol, Part II, para 70.

⁸⁰ CTBT, Protocol, Part II, paras 71-84.

⁸¹ CTBT, Protocol, Part II, paras 86-96.

⁸² Managed access is a common concept in verification activities. See for instance, Article 7 of the IAEA Model Additional Protocol (INFCIRC/540) and the Chemical Weapons Convention, paras 46-52 of Part II of the Verification Annex.

⁸³ Each restricted access site cannot exceed four square kilometers, while the total area of restricted sites cannot exceed 50 square kilometers. CTBT, Protocol, Part II, para 92.

⁸⁴ CTBT, Article IV, para 57(d); Protocol, Part II, para 88(b).

3.2.6 Termination of the inspection

As indicated above, the inspection may be terminated if approved by majority vote of all members of the Executive Council following the progress inspection report presented by the inspection team after the first 25 days of the inspection. Thereafter, it may also terminate at any time following the recommendation of the inspection team, unless the Executive Council, within 72 hours, decides by two thirds majority vote of all its members not to approve the termination of the inspection.⁸⁵

Otherwise, the inspection is concluded 60 days after the initial approval to proceed is decided by the Executive Council, or 130 days after its approval, if an extension has been approved by majority vote of the Executive Council, upon request of the inspection team.

3.2.7 Inspection report and examination by the Executive Council

The inspection report contains the following information: a description of conducted activities, the factual findings of the inspection team, an account of the cooperation granted by the inspected State Party, a factual description of the extent of the access granted, including any alternative means provided and any other details relevant to the purpose of the inspection.⁸⁶

Upon conclusion of the inspection, a preliminary findings document is elaborated by the inspection team and reviewed with the inspected State Party before the departure of the inspectors. On the basis of this document, after the return of the inspection team to headquarters, a draft inspection report is elaborated and made available to the inspected State Party.⁸⁷ The inspected State Party has 48 hours to provide its comments to the draft, which shall be considered by the Director-General and incorporated whenever possible, and shall in any case be attached to the inspection report. The Director-General shall promptly transmit the inspection report to the requesting State Party, the inspected State Party, the Executive Council and all States Parties.⁸⁸

The Executive Council reviews the inspection report to address whether any non-compliance to the CTBT has occurred and whether the right to request an on-site inspection has been abused.⁸⁹ The Conference of States Parties, upon recommendation of the Executive Council, may take the necessary measures to ensure compliance or remedy situations that contravene the Treaty. States Parties may decide to take collective measures in accordance with international law or bring the issue to the attention of the United Nations.⁹⁰

⁸⁵ CTBT, Article IV, para 50.

⁸⁶ CTBT, Article IV, para 62.

⁸⁷ The Chemical Weapons Convention (Verification Annex, Part X, para 60) provides that the draft report must be made available to the inspected State Party within 20 days of the completion of a challenge inspection. No timeline for this action is established in the CTBT.

⁸⁸ CTBT, Article IV, paras 63-64.

⁸⁹ CTBT, Article IV, paras 65-66.

⁹⁰ CTBT, Article V.

IV. Measures to implement obligations related to CTBT on-site inspections

Pursuant to Article III of the CTBT each State Party shall, in accordance with its constitutional processes, take any necessary measures to implement its obligations under the treaty, including those related to on-site inspections.⁹¹ The necessary measures will depend on the national legal system and existing legislation in each State. In some cases legislation may be necessary, in others regulations or administrative measures may be sufficient.

Without going into the different constitutional requirements that need to be considered when addressing the issue of implementing legislation in a particular State,⁹² it is interesting to pause and discuss certain legal and policy aspects that may be contemplated in favor of implementing measures for arms control and disarmament treaties in general, even when the regulated activity may be non-existent in the State concerned.⁹³

From the legal perspective, implementing measures establish the means for: (i) ensuring compliance by the State Party and all actors in its jurisdiction, should a concern arise; (ii) effectively and promptly investigating and prosecuting violations of prohibited activities; and (iii) facilitating cooperation with other States Parties for treaty implementation, e.g., for mutual legal assistance in the investigation and prosecution of treaty violations.

From a policy perspective, implementing measures contribute to: (i) demonstrating the State's political commitment to comply with a treaty; (ii) enhancing a State's credibility and its international relations in other areas; (iii) enabling to publicize treaty obligations among stakeholders; and (iv) making Government departments become aware of their duties in relation to treaty implementation.⁹⁴

These rationales may also be advanced in favor of implementation measures for the CTBT and its on-site inspection regime.

The most common elements of legislation adopted in States to enable inspections under multilateral verification regimes⁹⁵ - also those adopted for CTBT implementation⁹⁶ - relate to the privileges and immunities of inspectors, including visas; the right of, and the obligation to ensure, access to areas or facilities subject to inspection; and the recognition of inspection powers to conduct activities allowed under the relevant instrument. Other measures such as designation of points of contact or amenities and other support to be granted to inspectors are normally of an executive or administrative nature, or may be regulated in bilateral agreements or arrangements between the organization and the State.⁹⁷

⁹¹ Modern treaties tend to contain such a specific requirement, though the absence of such provisions does not exempt a State Party from taking the measures necessary to enable the implementation of their obligations. See L. Tabassi, *National Implementation and Enforcement of Nuclear-Weapon-Free Zone Treaties*, 2009, pages 36-37 and A. Woodward, *National Implementing Laws for Arms Control and Disarmament Treaties*, 2003, page 151. See also Article 27 of the Vienna Convention on the Law of Treaties.

⁹² It is generally considered that States of the "dualist" tradition (e.g., common law countries) will normally require implementing legislation for the domestic enforceability of international treaties, while this will not be the case for States of the "monist" tradition (e.g., civil law countries), where treaties become a part of national law automatically upon ratification. However, even in these countries there may be a distinction between self-executing treaty obligations, which would not require legislative incorporation, and other obligations, which do require domestic implementation. In any case, even when legislation in a State is not deemed to be necessary, at least some administrative measures, such as designation of points of contact, will usually be required.

⁹³ Some States with little or no domestic nuclear activities may tend to consider that implementing measures for treaties related to nuclear security and non-proliferation are not necessary in their jurisdiction.

⁹⁴ See A. Woodward, *op cit*, page 153.

⁹⁵ See for instance *IAEA Handbook on Nuclear Law: Implementing Legislation* (model provisions for safeguards inspections) and the *CWC National Legislation – Implementing Kit* (model provisions for international inspections).

⁹⁶ See *Guide to CTBT National Implementation Measures* (model provisions for on-site inspections).

⁹⁷ See for instance Article 13 of the IAEA Model Additional Protocol (INFCIRC/540) on Subsidiary Arrangements.

4.1 Providing for standing arrangements for an on-site inspection

Due to the strict timelines provided for on-site inspections, preparations cannot start from zero when an on-site inspection is requested or approved. Certain arrangements have to be permanently in place with all States Parties so that the inspection may be conducted as prescribed in the CTBT. Therefore, making certain that such standing arrangements with the organization exist, with the view to ensure that an inspection could be swiftly conducted at any time in its territory, forms part of the implementing obligations of all States Parties.

Standing arrangements relate to nomination of inspectors, procedures enabling respect for privileges and immunities, designation of points of entry, arrangements for issuance of a standing diplomatic clearance number for use of non-scheduled aircraft and provision of inspection equipment, where applicable. Though not specifically provided in the CTBT, standing arrangements for logistic support may also need to be envisaged.

4.1.1 Nomination of inspectors and inspection assistants⁹⁸

The CTBTO will not have a standing inspectorate. Due to the exceptional nature of an on-site inspection, this was not considered to be necessary. An on-site inspection will be conducted by a team composed of both CTBTO staff and experts from States Parties selected by the Director-General from the list of inspectors and inspection assistants nominated by the Director-General (from among the staff of the organization) and by States Parties.

A process for nomination, training and qualification of inspectors is provided in the CTBT. Within certain deadlines, States Parties are to nominate inspectors and inspection assistants for inclusion in the list. States Parties may refuse to accept nominated individuals for inspections in their territory, but not after an inspection in that State Party has been approved. These procedures will be further delineated in the operational manual for on-site inspections.

Though the nomination of inspectors for the roster is not strictly mandatory, the Treaty envisages that States Parties will provide experts to participate in an inspection. The organization will thus rely to a great extent on nominations from States Parties to allow for availability of an appropriate number of inspectors and inspection assistants.

The liaison of the organization for all these communications will be the National Authority designated pursuant to Article III, paragraph 4, as the national focal point for liaison with the organization and all States Parties. Therefore, States Parties have to make sure that this or another institution is given the task or, where necessary, the authority, to coordinate relevant actions at the national level for the nomination of inspectors and making other administrative arrangements specified below.

4.1.2 Privileges and immunities of inspection team⁹⁹

To exercise their functions effectively, inspectors and inspection assistants that are members of an inspection team shall be accorded diplomatic immunity in the territory of the inspected State Party. The privileges and immunities are granted for the sake of the CTBT and not for personal benefit. These are granted to the team as assimilated to a diplomatic mission (inviolability of living quarters and office premises, papers, samples and equipment) and to the members of the inspection team as assimilated to a diplomatic agent (inviolability of person, tax exemption, currency facilities, etc.).

⁹⁸ CTBT, Protocol, Part II, paras 14-25.

⁹⁹ CTBT, Protocol Part II, paras 26-31.

Multiple entry visas shall be issued by the inspected State Party to enter and to remain on the territory of that State Party for the sole purpose of carrying out inspection activities. This shall be done no later than 48 hours after receipt of the application or immediately upon arrival at the point of entry.

The recognition of the privileges and immunities of inspectors and inspection assistants may require national legislation or other measures such as a resolution or an administrative order. In particular, in countries having a general statute on privileges and immunities the relevant measures will need to be adopted to extend the application of the statute to CTBTO inspectors, as appropriate.

Observer(s) also enjoy privileges and immunities.¹⁰⁰ If the inspected State Party agrees to accept the observer proposed by the requesting States party, it shall accord the same privileges and immunities as enjoyed by the inspection team except the inviolability of samples and equipment and exemption from customs duties.

4.1.3 Designation of points of entry¹⁰¹

Each State Party shall designate one or more points of entry for an inspection team. Always careful to ensure dispatch for the activities of the inspection team, the CTBT provides that these points of entry shall be such that the inspection team can reach any inspection area from at least one point of entry within 24 hours. This should be a purely administrative measure. It is expected that the CTBT national authority in each country will be in charge of these communications with the organization.

4.1.4 Standing clearance diplomatic number for non-scheduled aircraft¹⁰²

The unavailability of commercial flights cannot impede the timely travel of the inspection team and equipment to the inspected State Party. In such an event, a non-scheduled aircraft could be used. For this reason, States Parties are required, upon entry into force, to obtain and inform the organization of the standing clearance diplomatic number that would be used for the aircraft, if necessary. Obtaining this number will normally require specific national measures enabling the competent authority to issue the respective authorization.¹⁰³

4.1.5 Provision of inspection equipment¹⁰⁴

Approved inspection equipment will be purchased, calibrated and maintained by the organization and held in storage for use in the event of an on-site inspection. State Parties may also provide such equipment, in which case the equipment will be maintained and calibrated by them. In these States, measures may be required to ensure the inviolability of the equipment and that maintenance and calibration follow treaty requirements. It may be expected that bilateral agreements will need to be concluded between the future CTBTO and such States for this purpose.

¹⁰⁰ CTBT, Article IV, para 61; Protocol, Part II, para 31.

¹⁰¹ CTBT, Protocol, Part II, paras 32-34.

¹⁰² CTBT, Protocol, Part II, para 35.

¹⁰³ The experience at the OPCW shows that a diplomatic clearance number may not be required in a few countries. For States Parties in this situation, it will suffice that they inform the organization accordingly. See J. Hart, *Political and Technical Aspects of Challenge Inspections under the Chemical Weapons Convention*, 2004, page 10. However, OPCW experience also shows that a considerable number of States Parties have not provided the Organization with such number (i.e. the Secretariat lacked respective information from 96 States Parties as of 5 September 2011). See Note by the Director-General: Update on the Technical Secretariat's Readiness to conduct a challenge inspection or an investigation of alleged use. EC-66/DG.10, dated 8 September 2011.

¹⁰⁴ CTBT, Protocol, Part II, paras 36-40.

4.1.6 Standing arrangements for logistic support

The CTBT provides that the inspected State Party shall arrange the amenities needed by the inspection team.¹⁰⁵ This includes a wide range of logistic issues such as storage facilities, transport, medical services, etc. Though not specifically provided for in the Treaty, standing arrangements may be necessary with States Parties or with commercial providers to ensure the availability of these services when required.¹⁰⁶

In this regard, some States have identified that inter-institutional arrangements will be needed in their countries to ensure the provision of services such as storage of equipment at port facilities during an eventual on-site inspection.¹⁰⁷

4.2 Enabling and supporting the conduct of an on-site inspection

The inspected State Party has the obligation to permit the conduct of an on-site inspection, support the activities of the inspection team and facilitate its task. Therefore, the inspected State Party will need to take all measures required to enable an inspection team to conduct inspection activities in its territory and to ensure that the necessary support will be provided to it by the competent authorities.

4.2.1 Executive authority for the inspection

If not already granted by virtue of the ratification of the CTBT or through another legal basis pursuant to national laws, the country will need to adopt legislation to grant to the executive the necessary powers to permit and facilitate the conduct of an on-site inspection. This may include the following:

- Establishing the obligation of, or granting the power to, the competent authority to authorize the conduct of the inspection.
- Placing an obligation on all relevant national institutions to collaborate with the inspection, including for:
 - Issuance of visas to inspectors in a rapid manner to ensure timely arrival at the point of entry;
 - Swift entry and checking of inspection equipment to ensure timely arrival at the inspection area;
 - Waiver or swift issuance of permits for the use of equipment, as the case may be, to ensure timely commencement of inspection activities;¹⁰⁸
 - Administrative and logistic support to the inspection team in the conduct of inspection activities.

4.2.2 Investigation powers

Before an inspection is approved by the Executive Council, the inspected State Party will be required to provide clarification on the event that triggered the on-site inspection request within 72 hours after receipt of the request from the Director-General. Therefore, it may be necessary to adopt legislation enabling the competent authority to request relevant information from other entities and private parties. This may include the following:

¹⁰⁵ CTBT, Protocol, Part II, para 11.

¹⁰⁶ It may be noted here that Article II, para 43(g) grants the CTBTO Technical Secretariat the authority to negotiate and conclude, subject to prior approval by the Executive Council, agreements or arrangements for verification activities with States Parties and other States.

¹⁰⁷ See CTBT Legislation Database <http://www.ctbto.org/member-states/legal-resources/>

¹⁰⁸ The experience at the OPCW shows that national regulations on health, safety or environmental issues may prevent or delay the import or use of inspection equipment. See J. Hart, *op cit*, pages 12-13.

- Obligation of State agents and third parties to provide information related to an eventual violation of the CTBT;
- Waiver of confidentiality obligations insofar as necessary for the provision of relevant information;
- Sanctions for obstruction or failure to provide the requested information; and
- Powers to conduct an investigation.

4.2.3 Enforcement measures for inspection activities

The collaboration of private parties may sometimes be necessary for the conduct of inspection activities. Furthermore, granting access to the inspection area may require the use of public force. This may in turn require the issuance of a court order. Accordingly, legislation may be necessary for the following:

- Placing an obligation on private parties to collaborate with the conduct of an inspection;
- Allowing for simplified procedures to apply for court orders during an inspection to ensure timely access to locations in the inspection area; and
- Providing sanctions for obstruction of an inspection.

4.2.4 Role of the National Authority

As may be appreciated in the checklist attached as Annex 2 to the present Commentary, the key factor for the implementation of many of the obligations related to on-site inspections is the designation of the national institution that will be in charge of coordinating or executing the required activity.

Accordingly, the designation of the CTBT National Authority pursuant to Article III, para 4, which is in most cases a purely administrative matter, may often be sufficient to ensure the implementation of those obligations. In some countries however it may also be necessary to grant expressly to the National Authority the powers necessary to coordinate these actions with other national bodies, while yet in others it may be necessary to assign to different entities specific tasks in accordance with their respective competencies. This will also depend on the modality chosen by each State Party for its CTBT National Authority: a single institution or an inter-agency body with the participation of several ministries and national institutions.

V. Conclusion

On-site inspections are an essential factor for the deterrence of non-compliance and the fulfillment of the object and purpose of the CTBT. By accepting to submit to on-site inspections, States are aware of the benefits of this element of the verification regime: “detering violations, increasing the cost and/or complexity of attempted violations, increasing confidence in compliance, and increasing support for the Treaty since it is perceived as verifiable.”¹⁰⁹

After entry into force of the CTBT, an on-site inspection may be requested at any time by a State Party in the event of suspicion of a nuclear test. In view of the strict timelines foreseen for the conduct of the inspection, it is very important for the value of the regime as an effective verification and deterrent measure that the organization is ready to conduct an inspection when required.¹¹⁰ Preparations for on-site inspection readiness are well

¹⁰⁹ J. Ramaker, *op cit*, page 131. See also S. Oeter, *op cit*, page 108: “The existence of such a scheme of challenge inspections usually points to the high political interest of member States in the management of compliance. States usually only consent to challenge inspections if the interest of other member States in verifying whether the members of the regime comply with its obligations is of utmost importance, affects an essential interest of the States concerned. In such cases, a challenge inspection is a clear deterrent against defection from compliance [...]”

¹¹⁰ „On-site inspections may be very rare, but they have to be robust and rigorous enough to provide confidence that treaty violations will be caught. [...] The purpose of verification readiness is not only to detect and provide evidence of

underway at the Preparatory Commission for the CTBTO, and it is to be expected that the integrated field exercises for on-site inspections will provide useful input for the operationalization of the regime.

At the same time, an on-site inspection cannot take place without the assistance of the inspected State Party. Even more, the degree of collaboration of the inspected State Party forms part of the inspection report and will have serious weight in the evaluation of compliance by States Parties. Therefore, States need to prepare for the implementation of their obligations related to the conduct of an on-site inspection if they wish to be able to comply with the relevant Treaty requirements in the event one arises. Furthermore, there are certain requirements, namely those related to standing arrangements for on-site inspections, which will have to be fulfilled by all States Parties within set timelines after the treaty enters into force.

Certainly, the adoption of these measures will not be required until entry into force. At the same time, the activities conducted by the Preparatory Commission for the CTBTO to prepare for readiness of the on-site inspection regime, such as exercises and training, provide an opportunity for States to start assessing the status of their existing legislation and the measures that will be required in their countries to enable the fulfillment of their on-site inspection obligations.

Apart from the obvious legal considerations, there are also policy and practical arguments in favor of adopting, upon entry into force, implementation measures for the CTBT and its on-site inspection regime, and in favor of an assessment of such measures, prior to entry into force.

By adopting the necessary measures to implement their obligations, States will provide the means to: (i) comply with the on-site inspection obligations that will be required of all States Parties upon entry into force, (ii) enable the fulfillment of the requirements for an on-site inspection in their territory should the need arise, and (iii) reiterate their support to the CTBT verification regime and their willingness to comply with their on-site inspection obligations if required to do so.

In turn, by already starting to assess such measures, States may provide the means to: (i) ensure that national stakeholders are aware of, and ready to implement their, obligations upon entry into force; (ii) benefit from the lessons learned from the activities conducted by the Commission to develop the on-site inspection regime, in particular those arising from integrated field exercises; and (iii) collaborate with the overall purpose of on-site inspection preparations and thus with the objectives of the Resolution Establishing the Preparatory Commission for the CTBTO.

States wishing to address this matter will need to identify, *inter alia*:

- Relevant domestic legal framework and eventual needs for amendment or enactment of new laws or regulations to enable inspection activities under the CTBT;
- National institutions that would need to collaborate with an eventual on-site inspection;
- Potential candidates for nomination as inspectors and inspection assistants;
- Potential points of entry for an inspection team and equipment; and
- Eventual needs for standing arrangements for logistic support for an on-site inspection.

The checklist attached as Annex 2 may serve as a reference for States wishing to make an assessment of such measures in order to determine whether legislative measures will be required in their countries or whether their on-site inspection obligations may just as well be performed via regulatory or administrative measures. Many States will already be familiar with these issues, which are similar to those that need to be envisaged for the implementation of other international inspection regimes.

clandestine nuclear explosions, but perhaps more importantly to deter any potential violator by increasing the costs and risks that they might face“. R. Johnson, *op cit*, pages 214-215.

To conclude, it may be said that while on-site inspection readiness of the organization is important for the value and credibility of the regime as a whole, State readiness to accept and to assist an inspection will be important for the evaluation of individual compliance, should the case arise. States may address this issue through an early assessment of the required national measures in their jurisdiction in order to prepare for their implementation upon entry into force.

Annex 1 – Outline of an On-Site Inspection in the CTBT

ACTION	CONDITIONS	TIMELINE	REF.
An OSI request is received by the DG and EC	Submitted by a SP to the DG and the EC at the same time; Based on IMS data, NTMs or a combination of both; Kept within the scope of the treaty; Not abusive or frivolous	0	IV.34-38, Protocol II.41
The EC begins to consider the request		Immediately	IV.39
The DG acknowledges receipt of the request		0 + 2 hours	IV.40
The DG communicates the request to the SP sought to be inspected and seeks clarification on the triggering event		0 + 6 hours	IV.40 IV.42
The DG ascertains that the request fulfills the treaty requirements ¹¹¹	Coordinates of event location; Boundaries of area to be inspected (map); SP to be inspected; Probable environment of the event; Estimated time of event; All data on which the request is based; Details of proposed observer, if any; Results of consultation process or reasons for not taking place	0 + 24 hours	IV.40, Protocol II.41
The TS begins preparations for the OSI	If request fulfills requirements	0 + 24 hours	IV.41
The SP sought to be inspected provides clarification to the DG		Not later than 72 hours after receipt of the clarification request	IV.43
The DG transmits any additional information to the EC	Available from the IMS, Provided by a SP, Results of consultation and clarification	Before the EC takes a decision on the request	IV.44
The EC decides on the request ¹¹²	30 affirmative votes are required for the approval of an OSI	0 + 96 hours	IV.45-46
The DG issues the inspection mandate	EC decision, Name of ISP; Location and boundaries of IA; Planned types of activities; PoE to be used; Any transit or basing points; Name of ITL; Name of IT members; Name of proposed observer; List of equipment to be used		IV.54, Protocol II.42
The DG notifies the EC decision to all SPs		24 hours after EC decision	IV.52
The DG notifies the ISP of the inspection	Inspection mandate; date and time of IT arrival; means of arrival at PoE; standing diplomatic clearance number for non-scheduled aircraft if appropriate; list of equipment which the DG requests the ISP to make available to the IT	No less than 24 hours before IT arrival	IV.55, Protocol II.43
The ISP acknowledges receipt of the DG notification		12 hours after receipt of notification	Protocol II.44
The IT arrives at the PoE in ISP		0 + 6 days	IV.53

¹¹¹ The DG assists the requesting SP to fill the request accordingly if necessary, but this has no effect on the time of receipt of the request.

¹¹² If the inspection is not approved, preparations are stopped and no further action is taken on the request.

ACTION	CONDITIONS	TIMELINE	REF.
The ISP ensures immediate entry of the IT	The ISP has been notified of IT arrival		Protocol II.45
The ISP allows entry of equipment without restrictions	The ISP may check that the equipment has been approved by the CSP and certified by the DG		Protocol II.50-51
The ITL presents the inspection mandate and IIP to ISP representative		Immediately upon arrival at PoE	Protocol II.52
The ISP briefs the IT	Terrain features; safety and confidentiality issues; logistical arrangements for inspection; non-related locations	Immediately upon arrival at PoE	Protocol II.52
The IT modifies the IIP	Taking into account ISP comments		Protocol II.53
The IT arrives at the inspection area	Unless otherwise agreed with the ISP ensuring the commencement of activities no later than 72 hours after arrival at the PoE	36 hours after arrival at PoE	Protocol II.54
The IT commences inspection activities using initial period inspection techniques		72 hours after arrival at PoE	Protocol II.57 and 69-70
The IT transmits a progress inspection report to the EC via the DG		25 days after EC decision	IV.47
The EC approves the continuation of the inspection	Continuation approved unless EC decides by majority vote to stop the inspection	72 hours after receipt of progress report	IV.47, Protocol II.70
The IT continues inspection activities using both initial and continuation period techniques			IV.47, Protocol II.69-70
The IT applies drilling to obtain radioactive samples	IT may conduct drilling only after EC approval but at any time during the inspection period		Protocol II, 60-70
The IT requests an extension of the inspection period	70 days beyond the 60 days, up to 130 days in total	Before the termination of the initial period	IV.49
The EC approves the extension	Majority vote required	72 hours after receipt of the request	IV.49
The IT concludes inspection activities			Protocol II.109
The IT meets with the ISP to review the preliminary findings of the inspection team and clarify ambiguities	PFD to be provided in writing to ISP, with list of samples and materials	Meeting to be concluded 24 hours after conclusion of inspection	Protocol II.109
The ITL and ISP representative sign the PFD	ISP takes notice of the IT findings	Meeting to be concluded 24 hours after conclusion of inspection	Protocol II.109
The IT leaves the ISP territory	The ISP assists in departure procedures	As soon as possible after conclusion of the inspection	Protocol II.110
The DG elaborates the draft inspection report	Description of activities, factual findings, account of ISP cooperation, extent of access granted, any other details, differing observations by inspectors		IV.62
The DG makes the draft report			IV.63

ACTION	CONDITIONS	TIMELINE	REF.
available to the ISP			
The ISP provides its comments to the draft report		Within 48 hours	IV.63
The DG considers ISP proposals and incorporates them whenever possible	The DG also annexes ISP comments and explanations to the report		IV.63
The DG transmits the inspection report to the RSP, ISP, EC and all SPs		Promptly	IV.64
The EC reviews the inspection report and addresses whether non-compliance has occurred or whether there has been an abusive OSI request			IV.65
The EC may address concerns in accordance with Article V			IV.66

DG = Director General, EC = Executive Council, IA = Inspection area, ISP = Inspected State Party, IIP = Initial inspection plan, IMS = International monitoring system, IT = Inspection team, ITL = Inspection team leader, NTMs = National technical means, OSI = On-site inspection, PFD = Preliminary findings document, PoE = Point of entry, SP = State Party, RSP = State Party that requested the on-site inspection, TS = Technical Secretariat.

Annex 2 – Checklist for the Implementation of Obligations related to On-Site Inspections in the CTBT

Can the following be accomplished under existing laws and regulations? What are the applicable requirements in each case? Can such requirements be waived or fulfilled in an expedited manner upon approval of an on-site inspection?

- Issuance of authorization for the inspection and relevant directions (if required)
- Privileges and immunities of inspectors and inspection assistants
- Privileges and immunities of observers
- Issuance of visas for members of an inspection team within 48 hours or at the point of entry
- Immediate entry of the inspection team
- Unrestricted entry and swift checking of inspection equipment
- Conduct of inspection activities and use of inspection equipment (waiver of, or swift procedures for, required permits, etc.)
- Collaboration of national institutions with an on-site inspection
- Enforcement measures to ensure access to an inspection area, if required

Has the competent authority (CTBT National Authority or other) been designated to perform the following tasks? If so, does it have the clear authority to execute, or coordinate the execution of, the following tasks?

- Nominate inspectors for inclusion in the roster of inspectors and inspection assistants (optional)
- Acknowledge receipt of the list of inspectors and inspection assistants and any changes thereto
- Inform the CTBTO Technical Secretariat of its designated points of entry
- Inform the CTBTO Technical Secretariat of the standing diplomatic clearance number for non-scheduled aircraft for transport of an inspection team and equipment
- Acknowledge receipt of an on-site inspection request
- Request information from national entities or persons in connection with matters related to the implementation of or compliance with the treaty
- Provide clarification to the CTBTO Director-General or to a State Party requesting an on-site inspection on the event triggering the request
- Authorize the conduct of the inspection and issue relevant directions (if required)
- Liaise with the CTBTO Technical Secretariat for inspection preparations
- Acknowledge receipt of the notification of the inspection by the CTBTO Director-General
- Appoint a representative to liaise with, and/or national escorts to accompany, the inspection team
- Arrange amenities for the inspection team (transportation, lodging, meals, medical services, etc.)
- Ensure safety and security of the inspection team
- Collaborate with, and facilitate the task of, the inspection team

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The Comprehensive Nuclear-Test-Ban Treaty (CTBT) bans nuclear weapon test explosions and any other nuclear explosion. It aims at eliminating nuclear weapons by constraining the development and qualitative improvement of new or more advanced nuclear weapons.

When the Treaty enters into force, it will establish the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) in Vienna, Austria. The Preparatory Commission for the CTBTO is preparing for entry into force, including the construction and provisional operation of the CTBTO International Monitoring System and the development of operational readiness to conduct on-site inspections.

As of June 2013, 183 States had signed and 159 States had ratified the CTBT.

The programme of legal assistance of the Preparatory Commission for the CTBTO provides States, upon request, with information, documentation and advice regarding the implementation of obligations under the CTBT.

Other reference materials available at the CTBTO website or from the Legal Services Section upon request:

- *Background Information for Parliamentarians on the CTBT*
- *Guide to CTBT National Implementation Measures*
- *CTBTO Legislation Database*

For further information, please contact

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