Third Session of the Working Group on the Strengthening of the BWC, 4 – 8 December 2023

Verification and Compliance

Dr Ali A. Mohammadi

Global Health and Security Consultants

The Third Review Conference, September 1991 decided to establish: The Ad Hoc Group of Governmental Experts to Identify and Examine Potential Verification Measures from a Scientific and Technical Standpoint (VEREX) 1992

BWC/CONF.III/VEREX/6

The Group held four sessions, from which three Summaries and a Procedural Report were

Produced:

- VEREX 1 30 March-10 April 1992 (Identification of measures; Annex I);

- VEREX 2 23 November-4 December 1992 (Examination of measures; Annex

II);

- VEREX 3 24 May-4 June 1993 (Evaluation of measures; Annex III);

- VEREX 4 13-24 September 1993 (Preparation of the report; Annex IV);

The Chairman was further assisted by experts acting in their personal capacity as rapporteurs whose task was to introduce the measure(s) to be evaluated, to moderate the relevant discussions, and to prepare reports on the evaluation of those measures. The list of rapporteurs and the respective measures assigned to them are as follows:

- Surveillance of publications, Mr. Max Gevers Netherlands
- Surveillance of legislation, Mr. Max Gevers Netherlands
- Data on transfers, transfer requests and on production
- Mr. Max Gevers, Netherlands
- Multilateral information sharing, Mr Max Gevers Netherlands
- Exchange visits Mr. Thomas Dashiell (USA)

- Declarations Ms. Annabelle Duncan (Australia)
- Surveillance by satellite Mr. Gordon Vachon (Canada)
- Surveillance by aircraft Mr. Gordon Vachon (Canada)
- Ground-based surveillance Mr. Volker Beck (Germany)
- Sampling and identification Mr. Åke Bovallius (off-site) (Sweden)
- Observation Dr. Ali A. Mohammadi (I.R.Iran)
- Interviewing Dr. Ali A. Mohammadi (I.R.Iran)
- Visual inspection Dr. Ali A. Mohammadi (I.R.Iran)
- Auditing (off-site) Mr. John Noble (United Kingdom)

- International arrangements Mr. Thomas Dashiell (USA)
- Identificaiton of key equipment Mr. Åke Bovallius (Sweden)
- Auditing (on-site) Mr. John Noble (United Kingdom)
- Sampling and identification Mr. Patrice Binder (on-site) (France)
- Medical examination Mr. Marian Negut (Romania)
- Continuous monitoring by instruments Mr. Roque Monteleone Neto (Brazil)
- Continuous monitoring by personnel Mr. Roque Monteleone Neto (Brazil)

Special Conference to develop the BWC protocol 1994

During the Special Conference the Group decided to develop the legally binding protocol for implementation of the Convention. In this respect 4 main topics were identified and the following experts acted as Friend of the Chair to direct the negotiation:

- Investigation, Ambassador Weston from UK
- Article X, Ambassador Bergonio from Chile
- Objective Criteria including, Definition of terms, list of agents and toxins as well as dual use equipment, Dr Ali A. Mohammadi from I.R.Iran
- Declaration, Ambassador, Gooson, South Africa

The criteria which were taken into account for development of the list of agents and toxins:

- (i) **Agents or toxins known to have been developed, produced or used as weapons;**
- **(ii) Agents or toxins which have severe public health and/or socio-economic effects;**
- **(iii) High morbidity, incapacity and/or mortality rates;**
- **(iv) Low infective/toxic dose;**
- **(v) High level of transmissibility and/or contagiousness;**
- **(vi) Low effective or low cost-effective prophylaxis, protection or treatment available;**
- **(vii) Ease of production and/or dissemination;**
- **(viii) Stability in the environment;**
- **(ix) Short incubation period and/or difficult to diagnose/identify at an early stage.**
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Further Development of The List

Such criteria can also be used in reviewing any proposed modifications to the list taking into consideration:

- (a) Scientific and technological developments that may affect the potential of individual agents or toxins for use as weapons;
- (b) Effects of potential inclusion or exclusion of an agent or toxin in the list on scientific and technical research and development.

Examples of weaponizable Agents and Toxins

Disease	Agent	Incubation	Fatality
Pneumonic Anthrax	Bacteria	1-7 days, up to 60d	High fatality rate if antibiotics started after symptoms
Cholera	Bacteria	12-48h	High fatality without fluid replacement
Pneumonic Plague	Bacteria	2-3 days	Fatal w/o antibiotics
Pneumonic Tularemia	Bacteria	3-5 days	up to 60% fatality w/o antibiotics
Typhus	Bacteria	7-14 days	up to 40% fatality w/o antibiotics
Ebola	Virus	2-21 days	50-90% fatality, no effective antiviral treatment
Smallpox	Virus	10-14 days	overall 30% fatality
Botolinum	Toxin	12h-5 days	High fatality w/o respiratory support, antitoxin
Ricin	Toxin	8-24 hours	High morality rate

Declaration

Each State Party shall declare, in accordance with paragraphs 1 and 2, whether at any time in the previous calendar year it has conducted national biological defence programme(s) and/or activities. If so, it shall declare:

(a) (a) A summary of the general objectives and main elements of any such programme(s) and/or activities;

(b) (b) A summary of the research and development conducted as part of such programme(s) and/or activities on prophylaxis, pathogenicity, virulence, diagnostic techniques, detection, aerobiology, medical treatment, toxinology, physical protection and decontamination, and aerobiological testing and evaluation;

(b) (c) Facilities in the categories below:

(i) (i) All facilities conducting research and development on pathogenicity, virulence, aerobiology or toxinology at any site at which 15 or more technical and scientific person years of effort or 15 or more technical and scientific personnel were engaged on such research and development as part of the national biological defence programme(s) and/or activities;

(ii) (ii) If fewer than 10 facilities are declared in accordance with subparagraph (c) (i), a State Party shall declare the largest facilities, measured in terms of whichever criterion (technical and scientific person years of effort, number of technical and scientific personnel employed or level of financial resources expended) it selects, representing 80 per cent of the national biological defence programme(s) and/or activities devoted to research and development on pathogenicity, virulence, aerobiology or toxinology.

RANDOMLY-SELECTED TRANSPARENCY VISITS

The Technical Secretariat shall conduct randomly-selected transparency visits, which shall be confidence building in nature. These visits shall, through co-operation with the visited State Party, promote the overall objectives of the Protocol by:

(a) (a) Increasing confidence in the consistency of declarations with the activities of the facility and encouraging submission of complete and consistent declarations;

(b) (b) Enhancing transparency of facilities subject to the provisions of this section;

(c) (c) Helping the Technical Secretariat, subject to the provisions of this section, to acquire and retain a comprehensive and up-to-date understanding of the facilities and activities declared globally.

Where to pickup Verification and Compliance?

- What are the prerequisites before picking up these two important tasks
- Do we need a legally binding instrument
- Turning the Discussions into Negotiations

Issues to be discussed/agreed with respect of Verification?

- Definition
- Concept
- Target

- Who does the verification, local authorities, UN Agency, Independent body?
- On which legal base, National or International?
- What is the best and effective governance?
- Any other aspects

1. A basic Definition of Verification (without prejudice)

The definition of "verification" in the arms control context relies on three operational components:

- Gathering information related to the fulfillment of an obligation;
- Analysis, interpretation, and evaluation of that information; and
- Assessing compliance with the obligation

(Drobysz, 2020; Zilinskas, 1998).

2. Target

- Type and function of entity to be verified, Vaccine and other bio-industries
- Research and diagnostic laboratories
- Biodefence facilities
- Biosafety levels, BSL3, BSL4
- Is the activities of the facility meets its mandate?
- Is there a need for list of dual use agents, toxins and equipment
- Does threshold quantity plays a role
- How advanced biotechnology is to be addressed (periodic review)

3. Scope

- Does Verification applies only to governments (States Parties)
- In such case how to deal with Bioterrorist facilities
- Is there a need to extend the scope of the Convention
- What about the extraterritorial materials

Questions about Compliance?

- Compliance with what?
- Do we need a set of Criteria?
- What if there is no Compliance?
- In such case, what should be further steps?
- Any other aspects to be discussed

Core Articles of the Convention

- Article I: Avoid and Prevent misuse of Biological Agent and Toxins as well as their infectious Materials for warful purposes

- Article X: Enhance and support peaceful use of Biological Agents and Toxins as well as their non-infectious Materials
- Therefore, the main outcome of Verification should be to differentiate between:

Prohibited/Missuse VS permitted/ peaceful use of Biological Agents and Toxins and their derivatives

Article I

- Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:
- (1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;
- (2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

Article X

- (1) The States Parties to this Convention undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the use of bacteriological (biological) agents and toxins for peaceful purposes. Parties to the Convention in a position to do so shall also cooperate in contributing individually or together with other States or international organizations to the further development and application of scientific discoveries in the field of bacteriology (biology) for prevention of disease, or for other peaceful purposes.

Article X

- 2) This Convention shall be implemented in a manner designed to avoid hampering the economic or technological development of States Parties to the Convention or international cooperation in the field of peaceful bacteriological (biological) activities, including the international exchange of bacteriological (biological) and toxins and equipment for the processing, use or production of bacteriological (biological) agents and toxins for peaceful purposes in accordance with the provisions of the Convention

Global Health and Security Consultants (GHSC)

- GHSC is an accomplished, dynamic and forward-thinking$ and strategic consulting group based in Geneva, Switzerland and founded in 2011.
- More than 70 high level and specialized experts in public health and security who have been long serving in the WHO and other public and private health and Security intitutions with more than 30 years experience on national and international level.

Main activities of GHSC include:

- Training including Train the Trainers on, Biological and Public Health Security, Biosafety, Biosecurity and Biological Risk Management
- Consultation
- Project Management
- More information on: www.global-consultant.org

Side event:
Workshop on Biosafety, Biosecurity and Biological Risk Management
9-10 am, 7 December 2023, Room XXV

Organizer:
Global Health and Security Consultants, Geneva

The outline of the workshop will distributed to the members of the Working Group

Accidental release

Natural infection

Deliberate use

Biological Risk Reduction Management

- Safety of staff and environment
- Laboratory security of valuable biological materials
- Responsible biomedical research
- Operational links for response to deliberate events

- Emerging and dangerous pathogens expertise
- Outbreak response capacity
- Laboratory resource mapping
- Preparedness and surge capacity

Wishing You All a Healthy, Safe and Secure World

Thank you

mohammadi@global-consultant.org