

Recent Developments of BWC

based on 2024 WG Meeting & MSP 1 ~ 5

August & December, UNOG Geneva

April 25, 2025

Hei Chan Lee

Sun Moon University

Contents

- Introduction
 - Convention Articles: I - XV
 - Regional Group & Australia Group
 - History and Status of BWC
- Working Group Meeting and MSP 2024
 - I
 - II
 - III
 - IV
 - V

Introduction - History and Status BTWC since 1971



<http://www.bwckorea.or.kr/>

주요 협약조문 내용

제1조 평화목적 이외의 생물무기 개발, 생산, 보유 등의 금지

제4조 국내이행조치 실시
제7조 당사국 원조 및 지원
제10조 평화목적을 위한
설비, 물자 및 과학적, 기술적 정보
의 교환, 국제협력

▶ 제1조 평화목적 이외의 생물무기의 개발, 생산, 보유 등의 금지

이 협약의 각 당사국은 어떠한 경우에도 아래 물체를 개발, 생산, 비축 또는 기타 방법으로 획득하거나 보유하지 아니한다.

- (1) 원천이나 생산방식이 어떠한지 형태나 양으로 보아 질병예방, 보호 또는 기타 평화적 목적으로 정당화되지 아니하는 미생물, 기타 세균 또는 독소
- (2) 적대목적이나 무력충돌시 전기의 물체나 독소를 사용하기 위하여 고안된 무기, 설비 또는 수송수단

Each State Party to this Convention undertakes never in any circumstance 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.

▶ 제2조 생물무기의 평화적 목적으로의 전환 또는 폐기

▶ 제3조 생물무기의 이전, 원조, 장려, 권유의 금지

▶ 제4조 협약준수를 위한 국내이행조치의 실시

▶ 제5조 문제해결을 위한 당사국간의 협력

▶ 제6조 타국의 협약위반에 대해 유엔 안전보장이사회에 불만 제기 권리

▶ 제7조 협약위반으로 인해 위협에 노출되어 있는 당사국에 대한 원조 및 지원

▶ 제8조 1925년 제네바 의정서의 준수 의무

▶ 제9조 화학무기의 금지 및 폐기를 위한 협상 계속

▶ 제10조 평화목적을 위한 설비, 물자 및 과학적, 기술적 정보의 교환, 국제협력

▶ 제11조 협약의 개정요건

▶ 제12조 평가회의 개최

▶ 제13조 유효기한(무기한) 및 탈퇴절차

▶ 제14조 서명, 비준, 발효 등

생물무기금지협약 [B(T)WC]

Biological and Toxin Weapons Convention

목적: 생물작용제 또는 독소를 폭탄이나 포탄 등의 운반 장비를 이용하여
인간이나 동식물의 기능 또는 수명에 영향을 줄 수 있는
생물무기의 개발, 생산, 비축의 금지와 보유하고 있는 생물무기의 완전 폐기

주요내용:

- 생물무기가능 생물작용제/독소의 생산 보유 금지 [1조]
- 협약이행을 위한 당사국의 국내이행조치 의무 [4조]
 - 2007년 1월 1일부터 국내이행법인 생화학무기법 시행
 - 감염병예방법, 가축전염병예방법, 식물방역법 등
- 당사국간 양자간/다자간 협의협력, 검증 [5조]
- 협약위반으로 위험에 처한 당사국 원조 [7조]
- 생물작용제/독소의 평화적 사용 촉진 및 국제협력 [10조]
- 협약 유효기한은 무기한 [13조]

B(T)WC Article Provision

Article I Never under any circumstances to acquire or retain biological weapons.
생물 및 독소 무기의 개발, 생산, 저장, 취득, 보유의 금지

Article II To destroy or divert to peaceful purposes biological weapons and associated resources prior to joining. 생물무기 등의 파기

Article III Not to transfer, or in any way assist, encourage or induce anyone else to acquire or retain biological weapons. 생물무기 등의 비확산

Article IV To take any national measures necessary to implement the provisions of the BWC domestically. (NI, CBM) 조약의 국내실시조치의 확보

Article V To consult bilaterally and multilaterally to solve any problems with the implementation of the BWC. (Verification, Compliance: 자체/상호 검증)

Article VI To request the UN Security Council to investigate alleged breaches of the BWC and to comply with its subsequent decisions. (Verification, Compliance: UNSC경유)
안보리에 불만제기

Article VII To assist States which have been exposed to a danger as a result of a violation of the BWC. (Assistance: Breach of BWC) 원조, 지원

Article X To do all of the above in a way that encourages the peaceful uses of biological science and technology (Cooperation; Peaceful purpose) 국제협력

Article X, XII, XV

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 co-operate in contributing individually or together with other States or international organisations to the further development and application of scientific discoveries in the field of bacteriology (biology) for the prevention of disease, or for other peaceful purposes.

(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 co-operation in the field of peaceful bacteriological (biological) activities**, including the international exchange of bacteriological (biological) agents 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.

XII: Five years after....., a conference of States Parties

XV: This Convention, **the English, Russian, French, Spanish and Chinese** texts of which are **equally** authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of the Convention **shall** be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

BWC Universality

188 States Parties / four Signatory States / five States which have neither signed nor acceded to the Convention.

State Parties: Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia-Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape (Cabo) Verde, Central African Republic, Chile, China, Colombia, Comoros, Congo, Cook Islands, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, *Democratic People's Republic of Korea*, Democratic Republic of the Congo, Denmark, Dominica, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Holy See, Honduras, Hungary, Iceland, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Latvia, Lebanon, Lesotho, Liberia, Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands (Republic of), Mauritania, Mauritius, Mexico, Micronesia (Federal States of), Monaco, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niue, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Romania, Russian Federation, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, South Africa, South Sudan, Spain, Sri Lanka, State of Palestine, Sudan, Suriname, Swaziland, Sweden, Switzerland, Tajikistan, Thailand, The Former Yugoslav Republic of Macedonia, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia, Zimbabwe (188)

Signatories: Egypt, Haiti, Somalia, Syrian Arab Republic (4)

Non-Signatory States: Chad, Djibouti, Eritrea, Israel, Kiribati (5)

And ?: Taiwan, Macau, Kosovo, ...

Working Group in BWC - 의장 순환

- Eastern European Group (26)
- NAM: Group of the Non-Aligned Movement and Other States 비동맹국그룹 (128)
- Group of One - Russian Federation (9th RC, 2022)
- Western Group (33)
- JACKSNNZ (Japan, Australia, Canada, Korea, Swiss, Norway, New Zealand)

Regional Groups in BWC

Eastern European Group (EE 26): Albania Armenia Belarus Bosnia-Herzegovina Bulgaria Croatia Czech Republic Estonia Georgia Hungary Kazakhstan Kyrgyzstan Latvia Lithuania Montenegro North Macedonia Poland Republic of Moldova Romania Serbia Slovakia Slovenia Tajikistan Turkmenistan Ukraine Uzbekistan

Group of One (1): Russian Federation

Group of the Non-Aligned Movement and Other States (NAM 128): Afghanistan Algeria Angola Antigua and Barbuda **Azerbaijan** Bahamas Bahrain Bangladesh Barbados Belize Benin Bhutan Bolivia Botswana Brazil Brunei Darussalam Burkina Faso Burundi Cambodia Cameroon Cape Verde Central African Republic Chile China Colombia Comoros Congo Cook Islands Costa Rica Cote d'Ivoire Cuba Democratic People's Republic of Korea Democratic Republic of the Congo Dominica Dominican Republic Ecuador El Salvador Equatorial Guinea Eswatini Ethiopia Fiji Gabon Gambia Ghana Grenada Guatemala Guinea Guinea-Bissau Guyana Honduras India Indonesia Iran (Islamic Republic of) Iraq Jamaica Jordan Kenya Kuwait Lao People's Democratic Republic Lebanon Lesotho Liberia Libya Madagascar Malawi Malaysia Maldives Mali Marshall Islands Mauritania Mauritius Mexico Micronesia Mongolia Morocco Mozambique Myanmar Namibia Nauru Nepal Nicaragua Niger Nigeria Niue Oman Palau Pakistan Panama Papua New Guinea Paraguay Peru Philippines Qatar Rwanda Saint Kitts and Nevis Saint Lucia Saint Vincent and the Grenadines Samoa Sao Tome and Principe Saudi Arabia Senegal Seychelles Sierra Leone Singapore Solomon Islands South Africa Sri Lanka State of Palestine Sudan Suriname Thailand Timor Leste Togo Tonga Trinidad and Tobago Tunisia Tuvalu Uganda United Arab Emirates United Republic of Tanzania Uruguay Vanuatu Venezuela Viet Nam Yemen Zambia Zimbabwe

Western Group (WG 33): Andorra Argentina Australia Austria Belgium Canada Cyprus Denmark Finland France Germany Greece Holy See Iceland Ireland Italy Japan Liechtenstein Luxembourg Malta Monaco Netherlands New Zealand Norway Portugal Republic of Korea San Marino Spain Sweden Switzerland Turkey United Kingdom of Great Britain and Northern Ireland United States of America

Australia Group (호주그룹 AU)

- 1985년 호주 제안:
생물무기 및 화학무기 관련물질과 장비의 국가간 이동 통제
(43개 회원: 1996년 한국가입)

Australia Belgium Canada Denmark European Union France
Germany Ireland Italy Japan Greece Luxembourg Netherlands
New Zealand Portugal Spain United Kingdom United States

Norway 1986

Cyprus Türkiye 2000

Switzerland 1987 Austria 1989

Bulgaria 2001

Finland Sweden 1991

Malta Estonia Lithuania Latvia Slovenia 2004

Hungary Argentina Iceland 1993

Ukraine 2005 Croatia 2007

Czech Republic Poland Slovak Republic 1994

Mexico 2013

Romania 1995 Korea 1996

India 2018

Non Member of WG - Andorra(7.7) Holy See(812) Liechtenstein(3.8) Monaco(3.9) San Marino(3.4)
33 (WG) - 5 + 14 (EEG & NAM) + 1 (EU) = 43

BWC Biological Weapons Convention

생물무기금지협약

<http://www.bwckorea.or.kr/>

○ 협약명칭

세균무기(생물무기) 및 독소무기의 개발·생산 및 비축의 금지와 그 폐기에 관한 협약

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological(Biological) and Toxin Weapons and on their Destruction : Biological Weapons Convention(BWC)

○ 협약목적

생물무기 및 독소무기의 개발·생산 및 비축의 금지와 생물무기의 완전한 폐기

○ 추진 경과

유엔총회의 결의로 협약안 채택 : 1971. 12. 16

서명을 위해 개방 : 1972. 4. 10

협약발효 : 1975. 3. 26

○ 가입국 현황(2025년 4월 현재)

■ 가맹국(Signatories) : 192개국

－ 비준 및 가입국(Ratifications and Accessions) : 188개국

※ 우리나라는 1987년 6월 가입

－ 미비준국(Signatories yet to ratify) : 4개국

■ 비가맹국(Non-Signatories) : 5개국

○ 협약 주요내용

■ 금지규정

협약의 당사국은 제1조 (1) 및 (2)에 규정하는 물질을 개발, 생산, 저장, 취득, 보유하지 않을 의무를 지고(제1조), 폐기 또는 평화적 목적에 사용할 의무(제2조), 어떠한 사람에 대하여도 양도하지 않을 의무 등(제3조)을 협약하고, 각국의 헌법절차에 따라 제1조의 규정의 물질의 개발, 생산, 저장, 취득, 보존을 금지하고 방지하기 위하여 필요한 조치를 취해야할 의무를 제4조에서 규정하고 있다.

■ 협약준수에 관한 국제법적 절차

당사국간의 협의협력(제5조), 협약 위반시 안보리 제소 및 안보리의 조사(제6조), 협약 위반에 따라 지원을 요청하는 당사국에 대한 원조(제7조) 등이 동 협약이 규정하고 있는 내용이다.

■ 다른 국제협약과의 관계

생물무기금지협약은 제네바 의정서에 기초하여 각국의 의무를 경감하는 것이 아니며(제8조), 화학무기금지협약의 조기 실현을 위한 교섭은 계속한다(제9조).

■ 기타 최종조항

생물작용제 등의 평화적 사용을 위한 국제협력 증진(제10조), 협약의 개정(제11조), 검토회의(제12조), 무기한 협약 유효기간(제13조), 협약의 서명·가입·비준·효과발생(제14조) 등을 규정하고 있다

○ 웹사이트 (United Nations Office at Geneva : The Biological Weapons Convention)

<http://www.unog.ch/bwc>

History of BWC [B(T)WC]

- 1971 UN에서 BWC 채택
- 1975 BWC 발효 (1987년 한국 가입) 2025(50)
- Review Conference (RevCon: 평가회의)
 - 1980, 1986, 1991, 1996, 2001, 2006, 2011, 2016, 2022, 2027
- March 26 1975 - 50th anniversary
- MX & MSP & Working Group Meeting
 - MX: Meeting of Experts - July/August
 - 전문가회의
 - Working Group (WG) on the strengthening of 1972 BWC/BTWC
 - MSP: Meeting of States Parties - December
 - 당사국회의

Review Conferences

- 협약 실시 후 5년 이내 실행 점검, 과학기술 발전 등 협약이행 진행 확인

1. 1980.3.3-21: 국가이행수단에 관한 문서 UN에 제공

2. 1986.9.8-26: cover S&T, bioterrorism, WHO to coordinate emergency response measures, CBMs to resolve doubts about compliance

Ad Hoc meeting for CBM format 1987.3.31-4.15

3. 1991.9.9-27: agents relating to humans, animals, and plants/ 국가 이행

Ad Hoc Group of Gov Exp to identify/examine potential verification measures

4. 1996.11.25-12.6: 협약 가입 전 관련 무기 등 폐기, X조 이행 강화

5. 2001.11.19-12.7: Meeting of Experts & Meeting of State Parties

6. 2006.11.20-12.8: Implementation Support Unit(ISU), 과학기술 관련성 강조

7. 2011.12.5-22: intersessional process - "standing agenda items"

- developments in S&T/promoting cooperation and assistance/strengthening national implementation
- Database for assistance & cooperation, CBM revision, ISU renewal

8. 2016.11.7-25

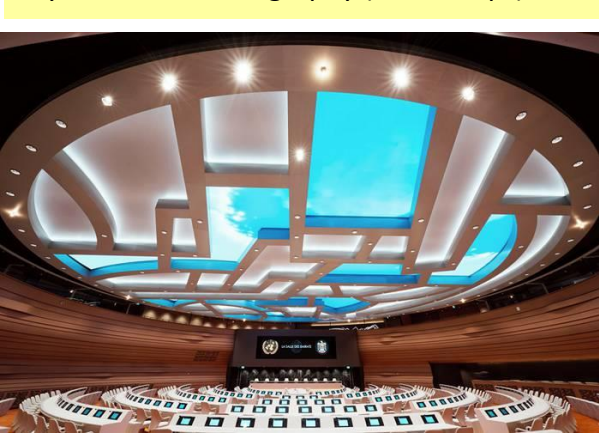
9. 2017 - intersessional process - 2018~2020

10. 9th RevCon - 2022

11. 10th RevCon - 2027



La Salle Des Emirats: UAE, Abu Dhabi, Ajman, Dubai, Fujairah, Ras al-Khaimah, Sharjah, Umm al-Quwain
the name of the United Arab Emirates in stylised Arabic calligraphy (Kufic script),



Working Group on the strengthening of the Convention during Intersessional Period(ISP)

- Compliance and Verification 검증
 - 20년만의 논의 재개
- Biology presents more challenges for verification than other fields
- 1991 RevCon -
 - VEREX: identifies 21 potential on- & off-site verification measures.
 - Special Conference in 1994 - *Ad Hoc* Group(AHG)
 - 2001 group failed to reach consensus
- Three Important Elements related to VERIFICATION
 - The Focus and Function of verification
 - Possible models of BWC verification
 - The Role of Science and Technology

MX5: Institutional Strengthening of the Convention

16 August 2018 - Article V

- Full range of approaches and options to further **strengthen** the Convention and its functioning through possible additional **legal measures** or...
- Ad Hoc Group of Governmental Experts to Identify and Examine Potential Verification Measures from a Scientific and Technical standpoint (VEREX), 1992-93
- VEREX held four sessions in Geneva between 1992 and 1993.
During its first session, the Group identified the following 21 potential measures for later examination and evaluation:

Major Points

- Institutional Legally Binding Measures
- No Easy Way to Verify

By Cuba: NAM States Parties has emphasized that any meeting within the intersessional program will

examine the appropriate measures for
strengthening the effectiveness and improving
the implementation of the Convention with the view to

reinitiate discussions on verification measures (BWC/AD HOC GROUP/CRP.8

30 May 2001) **to be included in a legally binding instrument ...**

PROTOCOL TO THE BWC

BWC/AD HOC GROUP/CRP.8 (Technically corrected version) 30 May 2001

ARTICLE 1 GENERAL PROVISIONS	7
ARTICLE 2 DEFINITIONS.....	8
ARTICLE 3 LISTS AND CRITERIA, EQUIPMENT AND THRESHOLDS.....	13
ARTICLE 4 DECLARATIONS.....	17
ARTICLE 5 MEASURES TO ENSURE SUBMISSION OF DECLARATIONS....	23
ARTICLE 6 FOLLOW-UP AFTER SUBMISSION OF DECLARATIONS.....	25
ARTICLE 7 MEASURES TO STRENGTHEN THE IMPLEMENTATION OF ARTICLE III OF THE CONVENTION ...	48
ARTICLE 8 CONSULTATION, CLARIFICATION AND CO-OPERATION.....	52
ARTICLE 9 INVESTIGATIONS	55
ARTICLE 10 ADDITIONAL PROVISIONS ON DECLARATIONS, VISITS AND INVESTIGATIONS.....	65
ARTICLE 11 CONFIDENTIALITY PROVISIONS.....	68
ARTICLE 12 MEASURES TO REDRESS A SITUATION AND TO ENSURE COMPLIANCE...	70
ARTICLE 13 ASSISTANCE AND PROTECTION AGAINST BIOLOGICAL & TOXIN WEAPONS	
ARTICLE 14 SCIENTIFIC & TECHNOLOGICAL EXCHANGE FOR PEACEFUL PURPOSES AND TECHNICAL CO-OPERATION.....	74
ARTICLE 15 CONFIDENCE-BUILDING MEASURES	85
ARTICLE 16 THE ORGANISATION.....	86
ARTICLE 17 NATIONAL IMPLEMENTATION MEASURES.....	99
ARTICLE 18 RELATIONSHIP OF THE PROTOCOL TO THE CONVENTION .	100
ARTICLE 19 SETTLEMENT OF DISPUTES.....	101
ARTICLE 20 REVIEW OF THE PROTOCOL.....	102
ARTICLE 21 MENDMENTS	103
ARTICLE 22 DURATION AND WITHDRAWAL.....	105
ARTICLE 23 STATUS OF THE ANNEXES AND APPENDICES.....	106
ARTICLE 24 SIGNATURE / ARTICLE 25 RATIFICATION / ARTICLE 26 ACCESSION	
ARTICLE 27 ENTRY INTO FORCE.....	110
ARTICLE 28 RESERVATIONS.....	111
ARTICLE 29 EPOSITARY.....	112
ARTICLE 30 AUTHENTIC TEXTS	113

APPENDICES

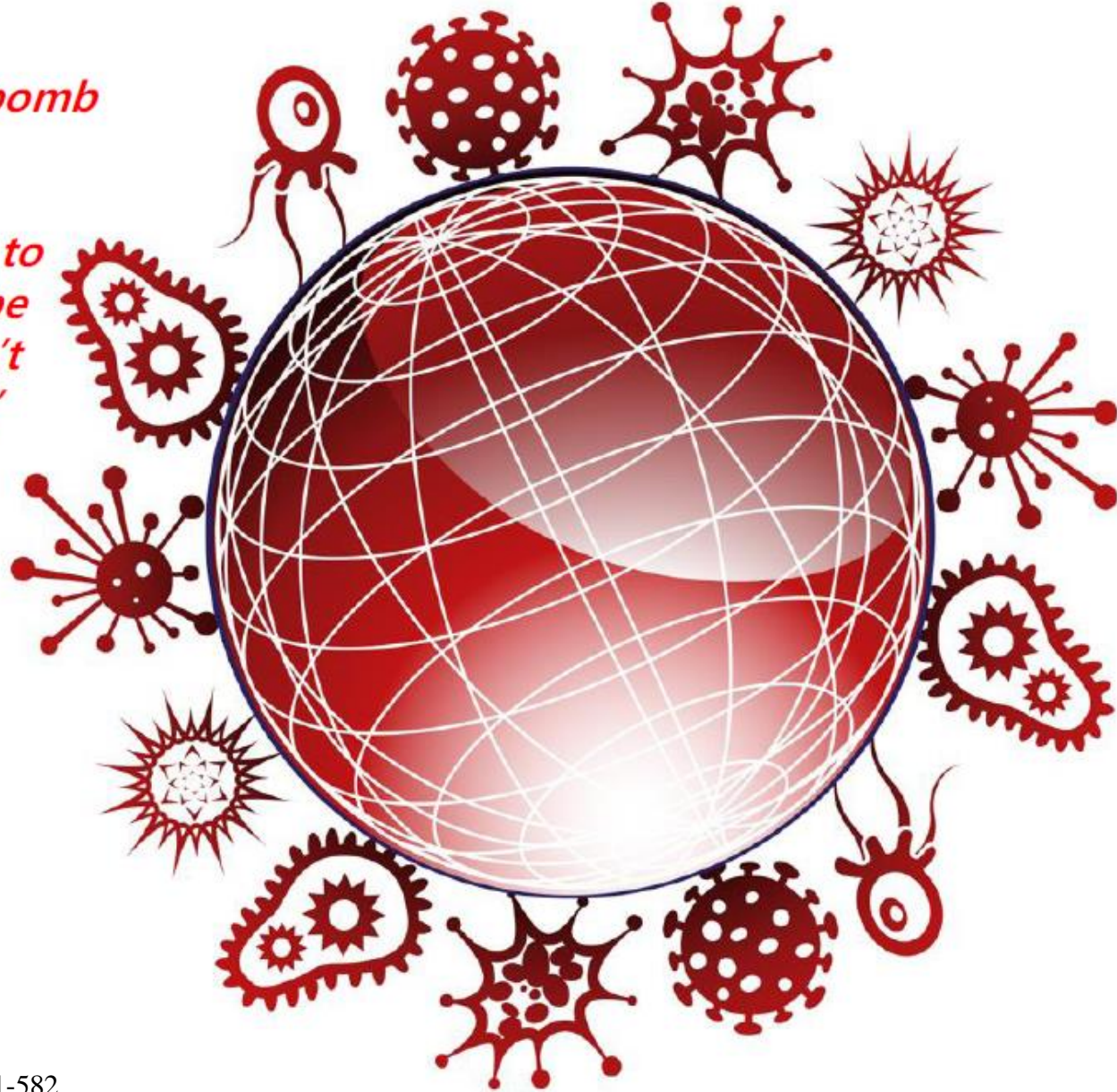
A. DECLARATIONS OF OFFENSIVE AND/OR DEFENSIVE BIOLOGICAL AND TOXIN PROGRAMMES AND/OR ACTIVITIES CONDUCTED PRIOR TO ENTRY INTO FORCE OF THE CONVENTION/PROTOCOL FOR EACH STATE PARTY	163
B. DECLARATION OF CURRENT NATIONAL BIOLOGICAL DEFENCE PROGRAMMES AND/OR ACTIVITIES	170
C. DECLARATION FORMAT FOR FACILITIES DECLARED IN ACCORDANCE WITH ARTICLE 4 (6) AND (7)	174
D. DECLARATION FORMAT FOR FACILITIES DECLARED IN ACCORDANCE WITH ARTICLE 4 (8) TO (14).....	191
E. LISTING OF FACILITIES IN ACCORDANCE WITH ARTICLE 4 (7)	203
F. LISTING OF FACILITIES IN ACCORDANCE WITH ARTICLE 4 (15)	205
G. FACILITIES EXISTING ON THE TERRITORY OF A STATE PARTY BUT FALLING UNDER THE JURISDICTION OR CONTROL OF ANOTHER STATE PARTY/STATE.	206
H. INFORMATION TO BE PROVIDED IN THE DECLARATIONS REQUIRED UNDER ARTICLE 14 (33).....	208
I. FORMAT FOR REPORTING INTERNATIONAL TRANSFERS OF EQUIPMENT	209

Hard to Prove - King's College of London

Compliance with the Biological Weapons Convention

*"This is not like finding a bomb
in a building some place.
The challenge
in biological inspections is to
find information that can be
easily disguised and doesn't
leave much of a signature."*

UNSCOM chief biological
inspector
David Huxsoll



BWC Compliance: Is Verification Feasible?

9.00-10.00 United States

[Dr. Yleem D.S. Poblete](#), Assistant Secretary, Bureau of Arms Control, Verification and Compliance, United States Department of State

[Dr. Seth Carus](#), Distinguished Research Fellow at the Center for the Study of Weapons of Mass Destruction, National Defense University, United States Department of Defense

[Dr. George W. Korch](#), Senior Advisor to the Assistant Secretary for Preparedness and Response, United States Department of Health and Human Services

[Dr. Douglas Brown](#), Director, Treaty Compliance Division, Bureau of Industry and Security, United States Department of Commerce



Dr. Yleem D.S. Poblete, Assistant Secretary Remarks: BWC Compliance: Is Verification Feasible?

- Assistant Secretary for Arms Control, Verification and Compliance, **my core responsibility** is the overall supervision within the Department of State of all matters relating to **verification and compliance** with international arms control, nonproliferation, and disarmament agreements and commitments, including reports on these matters to the Congress
- United States has **carefully reexamined** previous effort at negotiating a verification protocol - **determined** such a regime would **not provide an effective means** to assure compliance or improve U.S. national security or, for that matter, global security
- **some** who believe that a negotiation of **a legally binding verification regime is both feasible and necessary**
- We also **support practical measures, but not legally binding measures** that enhance transparency and confidence in compliance.

Earlier US view on BWC verification

- Making a compliance judgment requires a high degree of confidence in the ability to distinguish between the prohibited from permissible (i.e. **verification**).
- To suggest that the BWC can be strengthened by provisions or a regime to verify compliance assumes that one can construct **an effective and reliable verification mechanism**. Absent the presence of certain things Moreover, a State pursuing biological weapons **does not necessarily need any of those things** to have a meaningful capability.
- While the US considers the BWC to be the key instrument against the threat of biological weapons, **thus far, the United States is not aware of any formal mechanism or set of agreed procedures that would enable Parties to verify compliance** with core prohibitions set out in Articles I and II of the BWC.

Biological Weapons: Still a Security Threat

Dr. W. Seth Carus



Terrorist Threats

- Relatively little evidence of past terrorist interest in biological agents
 - Few instances of intent to develop mass casualty capabilities
- Past examples:
 - Rajneeshees in United States, 750+ victims
 - Aum Shinrikyo in Japan, failed attempts to cause mass casualties
 - Al Qaeda in Afghanistan, initial research efforts only but interest in mass casualties
 - Amerithrax
- No public reporting that any current terrorist group has capabilities to inflict mass casualties using biological agents
 - However, the possibility that ISIL or similar groups could pursue BW should be taken seriously
- Concerns about the prospects for lone wolf bioterrorism
 - DIY biology may make lone bioterrorists more dangerous than previously

Past State Programs

- During the past 100 years, around two dozen countries believed to have had BW programs for some period of time
 - Most programs had a short duration. were small, and developed limited, unsophisticated capabilities: tactical military, sabotage, assassination
 - Small size made them difficult to discover: many identified only after they ended
 - Only two are known to have had sophisticated capabilities for large area coverage that could inflict mass casualty or extensive economic harm
 - One large program continued for more than 15 years after BWC came into force
 - All programs highly secret, even before BWC made them illegal, suggesting existence of a strong taboo against BW
- Limited past employment
 - First World War: covert use by Germany
 - Second World War: substantial attacks on China by Japan, some clandestine use in Europe against Germany
 - Very limited known use since 1945

Future Threats

- Changing character of security threats may create conditions favorable to BW
 - State programs remain a concern
 - Non-State actor use more likely
 - Fewer overt wars, more “gray zone” conflicts
 - Not necessarily mass destruction, but targeted attacks against individuals or small groups
 - Economic warfare may be more attractive, including attacks on agriculture
- Concerns that advances in biology could lead to new types of biological warfare
 - Gene editing tools, like CRISPR, might make it easier to create new pathogens with unique characteristics
 - Artificially recreate extinct or highly controlled pathogens (e.g., smallpox)
 - Production of toxins through biotechnology
- Future state BW programs likely to be small, although they may rely on legitimate activities for scientific and technical support

Public Health and Biotechnology Perspective on BWC Verification

The Central Issue: Accounting for Dual-Use when Assessing Compliance

Some Ways to Promote Confidence in Peaceful Use

- Oversight and Regulatory Programs to Safeguard Use of Pathogens
 - Biological Select Agent and Toxin Programs, Biorisk Management Programs
- Advisory Committees at National Level to Enhance Biosafety and Biosecurity National Coordination
 - Federal Experts Security Advisory Panel
- Joint Development of National Biodefense Strategy
 - Inclusion of Global Health Security Agenda (GHSA) norms and objectives
- Leadership for Pandemic Potential Pathogens Oversight and Care (P3CO)
- Engagement with Industry and Academia for medical countermeasures research, capacity building and norms
 - Synthetic DNA Policy
 - Dual-Use Research of Concern (DURC) Policy
 - Novel approaches for diagnostics, drugs, therapies, devices
- Annual BWC Confidence Building Measures (CBM) report

U.S. Government Concerns With A Compliance Protocol

Past models for verification: IAEA/CWC

- Common Factors:
 - Critical Materials
 - Verify that facilities are not conducting prohibited activities

- BWC - National Trial Visit
 - “Almost impossible to demonstrate that illicit BW activities are not, have not, and will not take place at the facility”
 - Visiting team gleaned limited proprietary information
 - Visiting team had heightened concerns about activities in areas where access was denied despite offered alternatives

- Industry Concern remain Valid/Think outside the “box”

BWC Compliance:

Is Verification

Feasible?

HardFeasible???

Compliance and Verification

- Purpose of Verification - detect a violation
- Scope of Verification - Article I whole convention
- Objects of Verification
- Comparisons with other regimes
- Past negotiations ? VEREX
- Multiple elements Required
- How much to pay for what levels of effectiveness
- No 100% verification & need for an organization
- Natural or alleged use?

Two mechanism

- “to break the cycle of discussions of BWC. ... We need a forcing mechanism to break the logjam once and all” by Ambassador Frederico S Duque Estrada Meyer (Brazil), the Chair of the WG
- S&T mechanism: Science and Technology Review Mechanism”
- ICA mechanism: International Cooperation and Assistance Mechanism

S&T Measures on Scientific and Technological Developments relevant to Convention

- Creation of possible review mechanism
- S&T development
- RevCon 5년의 기간이 과학기술발전 속도와 시간차가 있어 검토 및 감시에 어려움
- Benefits of S&T review process including verification and ICA
- S&T process should be led by science and not by politics

Process of Adoption ...

- Only Review Conferences or Special Conferences could take decisions
- WG cannot decide on anything
- WG -> MSP -> Special Conference (WG ?)
- “decision is a decision or not a decision”
- Adopting a decision to create an S&T mechanism
- Urgency – “sense of urgency of the world just coming out of the worst pandemic in a century”

The Structure for S&T Mechanism in the Chair's proposal

- S&T Review Group
 - Participation of all state parties
- Reporting Committee
 - 25 experts selected for their expertise
 - Selection process: fair and transparent
 - Balanced in terms of independence of experts

MX2: Science and Technology: Article I

9-10 August 2018

1. S&T: 협약준수 개선, 새로운 과학기술개발의 유익성과 위험성
particular attention to positive implications
2. 위해성평가 및 관리
3. Voluntary model code of conduct for biological scientists and all relevant personnel, and biosecurity education, adaptable to national requirements

Voluntary Model Code of Conduct

Legally Binding ? Iran

4. Genome editing
5. Any other S&T developments and the activities of WHO, OIE, FAO, IPPC and OPCW

ICA Mechanism

Intercessional cooperation and Assistance under Article X

- Improving implementation

VS

- Specifics of a possible ICA mechanism
- ICA Programme under Article X of the Convention
- ICA Advisory Group & ICA Steering Group

ICA: International Cooperation and Assistance (Article X)

- The selection of membership of the Steering Group
 - Fair, transparent, balances
 - in terms of geographical representation
 - and gender
 - free of political bias?
- Unilateral coercive measures, i.e. sanctions, and denials of export licenses by Iran and echo by Russia
- Need more discussion, which NOT scheduled yet.

Organization, Institution, Finance

- Need to be addressed to Underpin almost all aspects of “strengthening the BWC”
- Support for human resources and direct financial costs - failure without adequate resources
- US: **Organization** to harness 7 separate topics of WG : like a car with 7 parts
 - an element: a proposal for “familiarization visits” to biodefense sites and locations such as BL4 - better understanding and a spur(박차) for ICA



USA analogy car - Organization



- OPCW annual costs 82 million euro - 1/2?
- A Fiat Uno vs a school bus
- Familiarization visits: voluntary vs not to be (USA)
 - Function?, more detail needed....
- Wheels fit(?) The car (Kazakhstan)

IABS International Agency for Biological Security

as an concept paper by Kazakhstan

Based on

- UN General Assembly had adopted by consensus a resolution on Monday(A/RES/79/79 Dec 2, 2024) that encouraged the WG
- “to further consider
 1. the measures aimed at strengthening and institutionalizing the Convention in all aspects,
 2. in particular on how to proceed on organization matters within the Working Group,
 3. including the possibility of an international agency for biological security and other institutional arrangements”
- Russia suggested possible support an IABS if reported on UN Security Council
- Stand-alone body and answerable to BWC state parties
- Financial considerations
- ISU status ???



United Nations

General Assembly

A/RES/79/79

Distr.: General
9 December 2024

Seventy-ninth session

Agenda item 105

**Convention on the Prohibition of the Development,
Production and Stockpiling of Bacteriological (Biological)
and Toxin Weapons and on Their Destruction****Resolution adopted by the General Assembly
on 2 December 2024***[on the report of the First Committee (A/79/415, para. 9)]***79/79. Strengthening and institutionalizing the Convention on the
Prohibition of the Development, Production and Stockpiling of
Bacteriological (Biological) and Toxin Weapons and on
Their Destruction***The General Assembly,*

Recalling that the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction was adopted by the General Assembly in its resolution 2826 (XXVI), on 16 December 1971, was opened for signature on 10 April 1972 and entered into force on 26 March 1975,

Recalling also its annual resolutions on the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction,¹

Noting that the Implementation Support Unit was established within the Geneva branch of the United Nations Office for Disarmament Affairs by the decision of the Sixth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction to provide administrative support to meetings agreed by the Review Conference as well as comprehensive implementation and universalization of the Convention and the exchange of confidence-building measures,² and stressing at the same time that its mandate should be reviewed by States parties at each subsequent Review Conference,

¹ United Nations, *Treaty Series*, vol. 1015, No. 14860.² See BWC/CONF.VI/6.

A/RES/79/79

**Strengthening and institutionalizing the Convention on the
Prohibition of the Development, Production and Stockpiling of
Bacteriological (Biological) and Toxin Weapons and on
Their Destruction**

Noting with satisfaction that the Ninth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, in the decisions and recommendations contained in its Final Document, reaffirmed the utility of having an intersessional programme and decided that States parties would hold annual meetings between 2023 and 2026 in Geneva,³

Recognizing the rapid development of new and emerging technologies and that they hold great promise for the advancement in the life sciences, and recognizing also the impact of such technologies on the regime governed by the Convention,

Recognizing also the necessity to strengthen the joint efforts under the Convention in response to and prevention of current and future biological threats and risks, and noting in this regard relevant initiatives,

1. Notes with satisfaction the consensus reached at the Ninth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, and calls upon States parties to the Convention to participate and actively engage in the continued implementation of the Convention and the outcomes of its Review Conferences;

2. Recognizes with appreciation that, determined to strengthen the effectiveness and to improve the implementation of the Convention in all its aspects, the Ninth Review Conference decided to establish a Working Group on the strengthening of the Convention open to all States parties;

3. Acknowledges with appreciation that the aim of the Working Group is to identify, examine and develop specific and effective measures, including possible legally binding measures, and to make recommendations to strengthen and institutionalize the Convention in all its aspects, including measures on organizational, institutional and financial arrangements;

4. Encourages the Working Group on the strengthening of the Convention to further consider the measures aimed at strengthening and institutionalizing the Convention in all its aspects, in particular on how to proceed on organizational matters within the Working Group, including the possibility of an international agency for biological security and other institutional arrangements;

5. Acknowledges that 2025 will mark the centennial of the signing of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare⁴ in Geneva on 17 June 1925, and recognizes that it will also mark the fiftieth anniversary of the entry into force of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, and invites the Secretary-General to mark this special occasion.

*44th plenary meeting
2 December 2024*³ See BWC/CONF.IX/9.⁴ League of Nations, *Treaty Series*, vol. XCIV, No. 2138.

1. *Notes with satisfaction the consensus reached* at the Ninth Review Conference of the States Parties to the Convention (BWC), and calls upon States parties to the Convention to **participate and actively engage in the continued implementation of the Convention and the outcomes of its Review Conferences;**

2. *Recognizes with appreciation* that, determined to **strengthen the effectiveness** and to **improve the implementation of the Convention in all its aspects**, the Ninth Review Conference decided to establish a **Working Group on the strengthening of the Convention** open to all States parties;

3. *Acknowledges with appreciation* that the aim of the Working Group is to identify, examine and develop specific and effective measures, including **possible legally binding measures**, and to make recommendations to strengthen and institutionalize the Convention in all its aspects, including measures on organizational, institutional and financial arrangements;

4. *Encourages the Working Group on the strengthening of the Convention* to further consider the measures aimed at strengthening and institutionalizing the Convention in all its aspects, **in particular on how to proceed on organizational matters within the Working Group**, including the possibility of **an international agency for biological security and other institutional arrangements;**

5. *Acknowledges* that 2025 will mark **the centennial of the signing** of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare ⁴ in Geneva on 17 June 1925, and recognizes that it will also mark **the fiftieth anniversary of the entry into force of the Convention** on the Prohibition of the Development, Production and Stockpiling of

Special Conference

- Cost
- Format: RevCon?
- The Third Review Conference (1991) - a model?
 - PrepCom: Preparatory Committee - brief but costly
 - A Credential Committee
 - A Drafting Committee
 - A Committee of the Whole

Strengthening Cooperation and Assistance under Article X

BWC/MSP/2018/MX.1/1

**Meeting of the States Parties to the Convention
on the Prohibition of the Development,
Production and Stockpiling of Bacteriological
(Biological) and Toxin Weapons and on Their
Destruction**

5 June 2018

Original: English

2018 Meeting

Geneva, 4-7 December 2018

**Meeting of Experts on Cooperation and Assistance,
with a Particular Focus on Strengthening Cooperation
and Assistance under Article X**

Geneva, 7-8 August 2018

MX1 Content - Article X

- Full and comprehensive implementation of all provisions of Article X
- operation of the assistance and cooperation database established by the 7th RC and renewed by the 8th RC (ISU report) and operationalization, strengthen the operation of the database
- Identification of challenges and obstacles to developing international cooperation, assistance and exchange in the biological sciences and technology, including equipment and material, for peaceful purposes to their full potential, and possible ways and means of overcoming these
- Development of guidelines and procedures for mobilizing resources, including financial resources on a voluntary basis to address gaps and needs
- Facilitation of education, training, exchange and twinning programs and other means - developing human resources in biological sciences and technology
- Capacity building, through international cooperation, in biosafety and biosecurity and for detecting, reporting and responding to outbreaks of infectious disease or biological weapons attacks, including in the areas of preparedness, response, and crisis management and mitigation
- Collaboration with international organizations and networks related to combating infectious diseases, as well as regional and sub-regional cooperation

Major Discussion Points

- 실질적인 협력 및 지원에 대한 내용 파악 불가
- Database: ISU Daniel Feaks
 - 지원이 필요한 내용을 분야별로 상세히
- STIMSON Center: Mismatch 4 Challenges
 - Who, How, Time, Mismatch(What)
- WHO, Interpol, South Center, CTCN
- 미국: 몇몇 국가가 정보공개를 불편해 할 수 있다.
- Russia, Brazil, Cuba...NAM: transparent, no restriction, Institutional Regime(CHINA).....
- OPCW Examples

5th Session

assistance, response and preparedness - Article VII

- Database
- Procedures
- 10 years since the first proposal from S Africa
voluntary guidelines to assist a state party

confidence building and transparency - Article VII

- Database
- Confidence-Building Measures(CBMs)
- 106 - record 2024 and 2023

Enabling greater participation

existing CBMs remain up to date

.

New transparency measures and mechanisms

MX4: Assistance, Response and Preparedness

14-15 August 2018 - Article VII

- Practical challenges of Article VII, and possible solutions
- A set of guidelines and formats to assist a State Party for assistance
- Procedures, including assistance database, to improve the prompt and efficient response without preconditions to a request of assistance by a State Party under Article VII, and coordination and cooperation among States Parties and with relevant international and regional organizations such as WHO, OIE, FAO, as appropriate
- mobile biomedical units for effective assistance, response and preparation - Russia
- States Parties, individually or collectively, to the strengthening of international response capabilities for infectious disease outbreaks, whether natural or deliberate in origin
- Hostile use of biological agents and toxins against agriculture, livestock

Point to Consider

- *BWC/MSP/2015/MX/WP.7*

“Proposal for establishment of a database for assistance in the framework of Article VII of the BWC”

- Learn from Experience
 - OPCW database/requests
 - UK Public Health Rapid Support Team
 - Ebola Outbreak
- Emergency Assistance?
 - When?
 - Who?
 - How?
 - What?
 - Why?
 - Rules and Procedures?



Thank You for Your Attention!

BWC Resources

생물무기금지협약 정보망(KoreaBio)

Biological Weapons Convention

Latest News and Information

Review Conference

BWC Think Zone

Documents

Next / Most Recent Meeting of BWC

Registration Forms

National Implementation

National Implementation Database

Compendiums of National Approaches

Confidence Building Measures

BWC Network

BWC Implementation Support Unit

EU Joint Action in Support of the BWC

Restricted Access Area

Info on relevant s&t developments

And much more

www.bwckorea.or.kr

www.unog.ch/bwc www.opbw.org www.bwpp.org

www.unog.ch/bwc/news

www.unog.ch/bwc/?rc

www.unog.ch/bwc/thinkzone

www.unog.ch/bwc/docs

www.unog.ch/bwc/meeting

www.unog.ch/bwc/register

www.unog.ch/bwc/implementation

www.unog.ch/bwc/NID

www.unog.ch/bwc/cna

www.unog.ch/bwc/cbms

www.unog.ch/bwc/network

www.unog.ch/bwc/isu

www.unog.ch/bwc/euja

www.unog.ch/bwc/restricted/

www.unog.ch/bwc/science