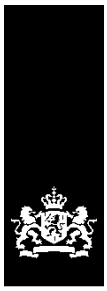

Ministry of Foreign Affairs

CONFIDENCE BUILDING MEASURES

in the framework of the

CONVENTION ON THE PROHIBITION

OF THE DEVELOPMENT, PRODUCTION AND STOCKPILING OF BACTERIOLOGICAL (BIOLOGICAL)

AND TOXIN WEAPONS

THE NETHERLANDS

2019

Introduction

This report contains the contribution of the Netherlands to the Confidence Building Measures information exchange for the Biological and Toxin Weapons Convention. Over the past few years, the Netherlands Ministry of Foreign Affairs has endeavoured to consolidate the information gathering process by strengthening ties with other government departments, research institutions and private companies.

We are pleased to inform State Parties that we can agree to have the attached information published on a public website for information purposes. We encourage other State Parties to do the same, in order to increase mutual trust and confidence.

Date:	April 2019
State Party to the Convention:	The Kingdom of the Netherlands

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2019 CBM Report of the Netherlands to the United Nations Office for Disarmament Affairs covering data for 2018

Pursuant to the procedural modalities agreed upon at the Second Review Conference (1986) of the Biological and Toxin Weapons Convention, relating to the exchange of Confidence-Building Measures (CBMs), the Netherlands submits the information specified below.

Annex I: Form "0"

Revised forms for the submission of the Confidence-Building Measures

At the Third Review Conference it was agreed that all States Parties present the following declaration, later amended by the Seventh Review Conference:

Declaration form on Nothing to Declare or Nothing New to Declare for use in the information exchange

Measure	Nothing to declare	Nothing new to declare	Year of last declaration if nothing new to declare
A, part 1			
A, part 2 (i)			
A, part 2 (ii)			
A, part 2 (iii)			
B			
C			
E			
F		X	2011
G			

Date: April 15, 2019

State Party to the Convention: The Kingdom of the Netherlands

Date of ratification/accession to the Convention: 22 June 1981

National point of contact: Ms. Mieke Molthof +31 (0)6 52503970

Annex II: Contributors

The organizations and companies stated in the table below (in alphabetical order), have contributed to the Netherlands CBM Report 2019 by filling out and returning the forms specified below.

Governmental Organisations / Public Institutions	**Abbreviations**	**Forms**
Erasmus Medical Center Rotterdam, Laboratory for Infectious Diseases	EUR	B, C, G
Food and Consumer Product Safety Authority	VWA	B
Ministry of Defence	DEF	A (part 2) C, E, F
Ministry of Health, Welfare and Sport	VWS	E
Ministry of Infrastructure and Water Management	I&W	C, E
Ministry of Social Affairs and Employment	SZW	E
National Institute for Public Health and the Environment	RIVM	A (part 1), B, C, E
TNO Defence, Security and Safety	TNO	A, C, E, F
Wageningen Bioveterinary Research (formerly Central Veterinary Institute)		C

Companies	**Forms**
Abbott Biologicals B.V.	C, G
Bilthoven Biologicals B.V.	G
Boehringer Ingelheim Animal Health Netherlands B.V. (formerly Merial Lelystad)	C, G
Janssen Vaccines & Prevention (formerly Janssen / Crucell Holland B.V.)	C, G
Intervet International B.V. / MSD Animal Health	C, G
Patheon Biologics, part of Thermo Fisher Scientific (formerly DSM Biologics)	C, G
Wacker Biotech B.V. (formerly SynCo Bio Partners B.V.)	C, G

The following report is a compilation of these CBM returns. The report is compiled in accordance with the order as to be found in Annex 1 (see page 4).

Active promotion of contacts
The Third Review Conference agreed that States parties continue to implement the following:

"Active promotion of contacts between scientists, other experts and facilities engaged in biological research directly related to the Convention, including exchanges and visits for joint research on a mutually agreed basis".

In order to actively promote professional contacts between scientists, joint research projects and other activities aimed at preventing or reducing the occurrence of ambiguities, doubts and suspicions and at improving international cooperation in the field of peaceful bacteriological (biological) activities, the Seventh Review Conference encouraged States parties to share forward looking information, to the extent possible,

- on planned international conferences, seminars, symposia and similar events dealing with biological research directly related to the Convention, and
- on other opportunities for exchange of scientists, joint research or other measures to promote contacts between scientists engaged in biological research directly related to the Convention, including through the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs.

Confidence-Building Measure "A"

Part 1 Exchange of data on research centres and laboratories

At the Third Review Conference it was agreed that States Parties continue to implement the following:

"Exchange of data, including name, location, scope and general description of activities, on research centres and laboratories that meet very high national or international safety standards established for handling, for permitted purposes, biological materials that pose a high individual and community risk or specialize in permitted biological activities directly related to the Convention."

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

Data should be provided by States Parties on each facility, within their territory or under their jurisdiction or control anywhere, which has any maximum containment laboratories meeting those criteria for such maximum containment laboratories as specified in the latest edition of the WHO[1] Laboratory Biosafety Manual and/or OIE[2] Terrestrial Manual or other equivalent guidelines adopted by relevant international organisations, such as those designated as biosafety level 4 (BL4, BSL4 or P4) or equivalent standards.

States Parties that do not possess a facility meeting criteria for such maximum containment should continue to Form A, part 1 (ii).

Contributors	**Abbreviations**
National Institute for Public Health and the Environment	RIVM
TNO Defence, Security and Safety	TNO

[1] World Health Organization
[2] World Organization for Animal Health

Form A, part 1 (i)

Exchange of data on research centres and laboratories[3]

The Netherlands do not possess a facility, within its territory or under their jurisdiction or control anywhere, which has any maximum containment laboratories meeting those criteria for such maximum containment laboratories as specified in the latest edition of the WHO [4] Laboratory Biosafety Manual and/or OIE [5] Terrestrial Manual or other equivalent guidelines adopted by relevant international organisations, such as those designated as biosafety level 4 (BL4, BSL4 or P4) or equivalent standards.

For reasons of transparency, Form A, part 1 (ii), will provide the data requested in Form A, Part 1 (i) regarding facilities handling biological agents with biosafety level 2 and 3.

Form A, part 1 (ii)

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents[6] on a State Party's territory:

→ **Data from the National Institute for Public Health and the Environment (RIVM)**

Biosafety level 3[7]	**yes**	
Biosafety level 2[8] (if applicable)	**yes**	

Any additional relevant information as appropriate:

1. Name(s) of facility[9]

   National Institute for Public Health and the Environment
   Rijksinstituut voor Volksgezondheid en Milieu (RIVM)

2. Responsible public or private organization or company

   Ministry of Health, Welfare and Sport
   Ministerie van Volksgezondheid, Welzijn en Sport

3. Location and postal address

   Location: Antonie van Leeuwenhoeklaan 9, 3721 MA Bilthoven, the Netherlands

[3] The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.
[4] World Health Organization
[5] World Organization for Animal Health
[6] Microorganisms pathogenic to humans and/or animals
[7] In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.
[8] In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.
[9] For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Postal address: P.O. Box 1, 3720 BA Bilthoven, the Netherlands

Internet address: http://www.rivm.nl

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

Ministry of Health, Welfare and Sport
Ministry of Infrastructure and Water Management
Ministry of Economic Affairs and Climate Policy
Ministry of Agriculture, Nature and Food Quality
Ministry of Foreign Affairs
Various government inspectorates
The European Union
The United Nations

No funding by the Ministry of Defence

5. Number of maximum containment units [10] within the research centre and/or laboratory, with an indication of their respective size (m^2)

None

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

Diagnostic research, development of diagnostic methods to detect human diseases or to improve detection methods and research for new or improved vaccines. These activities are about human and zoonotic pathogens belonging to BSL 2 and BSL 3. All in order to:

- **Detect, control and prevent infectious diseases for the benefit of the public health in the Netherlands.**
- **Uniform prevention nation-wide, strengthen vigilance and swift response to possible outbreaks through coordinating infectious disease control activities and international cooperation, and direction of the National vaccination program.**
- **Stimulate effective prevention and control of infectious diseases by advising professionals and ministries, granting subsidies and by providing information to the public.**

Also activities concerning the procurement, storage and distribution of vaccines for the National Immunization Programme (Rijksvaccinatieprogramma, RVP), the National Influenza Prevention Programme (Nationaal Programma Grieppreventie, NPG) and the other national provisions such as pandemic preparedness and the National Serum Depot (NSD).

[10] In accordance with the latest edition of the WHO Laboratory Biosafety Manual, or equivalent.

➔ **Data from TNO Defence, Security and Safety**

Biosafety level 3[11]	**yes**
Biosafety level 2[12] (if applicable)	**yes**

Any additional relevant information as appropriate:

1. Name(s) of facility[13]

   TNO Department of CBRN Protection

2. Responsible public or private organization or company

   Netherlands Organization for Applied Scientific Research (TNO)

3. Location and postal address

   P.O. Box 45, 2280 AA Rijswijk, the Netherlands

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

   Financed mostly by the Ministry of Defence

5. Number of maximum containment units [14] within the research centre and/or laboratory, with an indication of their respective size (m^2)

   No maximum (BSL4) containment units

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

   Development and testing of detection equipment and identification methods using strains of a limited number of category 2 and 3 bacterial and viral pathogens (*Brucella, Francisella, Bacillus, Burkholderia, Staphylococcus, Clostridium, Yersinia, Klebsiella, Acinetobacter, Escherichia coli and Influenza species*), the bacterial simulants *Erwinia herbicola*, *Bacillus* spp, and the viral simulants MS2 and Baculo virus.
   Threat assessment and decontamination testing studies (involving *Bacillus anthracis, Bacillus globigii, Bacillus thuringiensis*). Analysis of biological warfare agents with advanced mass spectrometry is dealing with low and high molecular weight toxins as well as with bacterial or viral extracts from above mentioned sources.
   Filtration and mask leakage testing with the bacterial weapons simulants *Bacillus globigii*, *Bacillus thuringinsies, Erwinia herbicola* and *Escherichia coli* K12 as well as the viral simulant MS2. All activities are performed in closed facilities of appropriate biocontainment level.

[11] In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

[12] In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

[13] For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

[14] In accordance with the latest edition of the WHO Laboratory Biosafety Manual, or equivalent.

Operational study using *Bacillus globigii, Bacillus thuringiensis* to evaluate efficacy of decontamination systems in semi-field conditions.

Part 2 Exchange of information on national biological defence research and development programmes

At the Third Review Conference it was agreed that States Parties are to implement the following:

In the interest of increasing the transparency of national research and development programmes on biological defence, the States Parties will declare whether or not they conduct such programmes. States Parties agreed to provide, annually, detailed information on their biological defence research and development programmes including summaries of the objectives and costs of effort performed by contractors and in other facilities. If no biological defence research and development programme is being conducted, a null report will be provided.

States Parties will make declarations in accordance with the attached forms, which require the following information:

(1) The objective and summary of the research and development activities under way indicating whether work is conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research;

(2) Whether contractor or other non-defence facilities are utilized and the total funding provided to that portion of the programme;

(3) The organizational structure of the programme and its reporting relationships; and

(4) The following information concerning the defence and other governmental facilities in which the biological defence research and development programme is concentrated;

(a) location;

(b) the floor areas (sqM) of the facilities including that dedicated to each of BL2, BL3 and BL4 level laboratories;

(c) the total number of staff employed, including those contracted full time for more than six months;

(d) numbers of staff reported in (c) by the following categories: civilian, military, scientists, technicians, engineers, support and administrative staff;

(e) a list of the scientific disciplines of the scientific/engineering staff;

(f) the source and funding levels in the following three areas: research, development, and test and evaluation; and

(g) the policy regarding publication and a list of publicly-available papers and reports.

Contributors	**Abbreviations**
Ministry of Defence	DEF
TNO Defence, Security and Safety	TNO

Form A, Part 2 (i)

National biological defence research and development programmes Declaration

➔ **Data from the Ministry of Defence & TNO Defence, Security and Safety**

Are there any national programmes to conduct biological defence research and development within the territory of the State Party, under its jurisdiction or control anywhere? Activities of such programmes would include prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

Yes

If the answer is Yes, complete Form A, part 2 (ii) which will provide a description of each programme.

Form A, Part 2 (ii)

National biological defence research and development programmes

Description

1. State the objectives and funding of each programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxicology, physical protection, decontamination and other related research.

Program Description:
Unfortunately the threat coming from chemical, biological, radiological and nuclear (CBRN) agents increased and evolved over the last years and is likely to do so for the foreseeable future. The Ministry of Defence is in need of capabilities that not only provide resilience against agents, but also counteracts new developments such as pharmaceutical based agents and man-modified micro-organisms. The V1802 program aspires to provide understanding of consequences of novel threats, improve CBRN situational awareness and accomplish more adequate physical and medical countermeasures.
The Ministry of Defence of the Netherlands observes an increasing and evolving CBRN threat. This threat is multifaceted and unpredictable. This is due to geo-political global developments and to advances in technologies. Moreover, the Dutch military operational deployment is subject to significant changes and this will continue, nationally and internationally. This all implicates that innovative solutions are called for, in order to maintain preparedness and ensure adequate responsiveness against CBRN incidents. As the hereto required CBRN knowledge base has been outsourced to TNO, a new 4-year research program has been launched, coded V1802.
The high level objective is to maintain a broad, topical and high quality knowledge base that contributes to the Armed Forces' capabilities to technically interpret the CBRN threat, to create shared situational awareness and to launch adequate countermeasures.

This knowledge base shall be sufficiently comprehensive to cover the problem area and shall also have a number of innovation spearheads ensuring adaptability to developments in the threat area.
The program comprises 4 work packages (WPs). The Threat Analysis WP addresses the threat posed by several classes of agents including toxins and (natural and modified) BioThreat Agents. Especially the exponential progress in possibilities to genetically engineer (synthetic biology) micro-organisms may be of concern. Selected agents will be studied to determine how they pose a risk. Desktop research will perform scenario analyses and use computational models to categorize agents. Experimental research will look into synthesis/harvesting/production, stability, detectability, toxic effects, infectiousness and pathogenicity. Special emphasis will be on agents in the aerosol phase.
In the Situational Awareness (SA) WP, one of the projects aims to improve detection of low volatile agents using contact-less, mostly spectroscopic techniques. Improvement is also sought in the networking of detectors, thereby optimizing detector placement, combinations of detector techniques, and enriching the output of the resulting network. For bio-detection, a detect-to-treat doctrine is being designed, along with a search for relevant technologies. Another ambition is to contribute to international harmonization of bio-detection testing and evaluation methodology. In our view, diagnosis is also part of SA. The ensemble of point-of-care kits, earlier developed for classical warfare agents, will be broadened by including easy-to-use assays for exposure to toxins. The aspiration is to develop a generic approach for pre-symptomatic diagnosis of infection, using representative (protein) biomarkers, most likely to be discovered using mass spectrometry. For this purpose an integral proteomic and genomic approach is foreseen.
The Countermeasures WP aims to improve personal protection against biological aerosols among others. New materials, based on metal organic frameworks (MOFs) may enable the desired combination of filtration/sorption along with a low thermal load. In parallel, the program provides a demonstrator of a test method that is able to determine the penetration of (hot) aerosols through CBRN protective materials, including demonstration of their performance against requirements. In the field of decontamination, the ambition is to demonstrate the applicability of (modified) MOFs as materials capable to degrade a broad spectrum of threat agents. Furthermore, a proof of concept is foreseen for visualizing and measuring (residual) contamination of surfaces, for example with contact-less imaging technology or with colour reactions for disclosure.

The Bio threat agent part of this program is focused on:

- **Improvement and harmonization of methods for testing B-detection and identification equipment**
- **Development of methods for fast and reliable identification of B agents in suspected samples, mainly based on mass spectrometry.**
- **Development of methods for fast and reliable non-clinical diagnosis of B-agents in biomedical samples and assessment of antibiotics resistance, all mainly based on mass spectrometry**
- **Studies into potential dangers of gene editing tools and do-it-yourself biology.**

2. State the total funding for each programme and its source.

   The funding of the Ministry of Defence CBRN defence research programme is a total of 10M EURO for the period 2018-2021, part of which (3M EURO) is dedicated to biological defence.

3. Are aspects of these programmes conducted under contract with industry, academic institutions, or in other non-defence facilities?

No

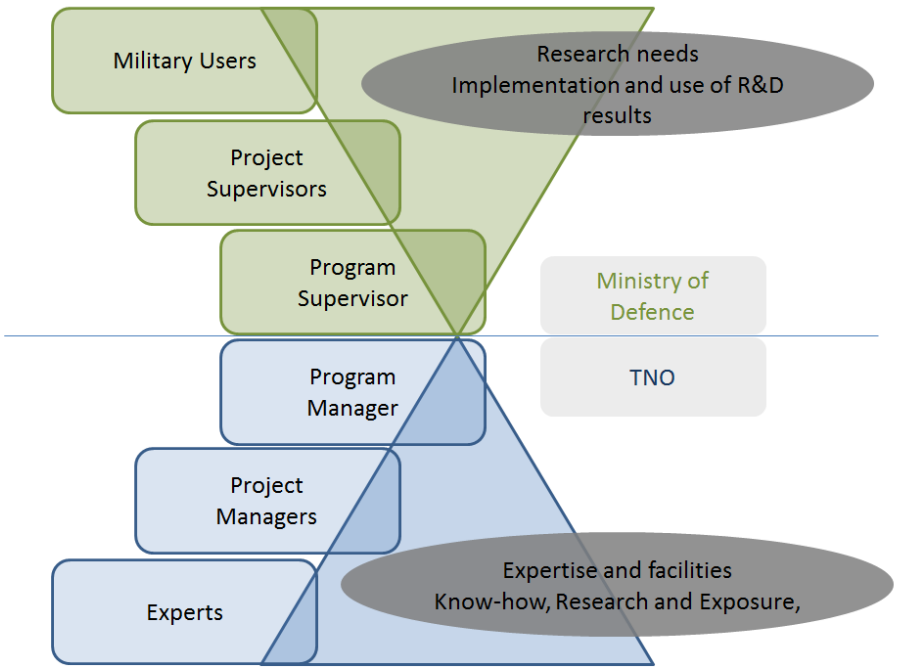
4. If yes, what proportion of the total funds for each programme is expended in these contracted or other facilities?

   Not applicable

5. Summarize the objectives and research areas of each programme performed by contractors and in other facilities with the funds identified under paragraph 4.

   Not applicable

6. Provide a diagram of the organizational structure of each programme and the reporting relationships (include individual facilities participating in the programme).



7. Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.

   Not applicable

Form A, Part 2 (iii)

National biological defence research and development programmes

Facilities

Complete a form for each facility declared in accordance with paragraph 7 in Form A, part 2 (ii).

In shared facilities, provide the following information for the biological defence research and development portion only.

1. What is the name of the facility?

   TNO Prins Maurits Building; Department of CBRN Protection

2. Where is it located (include both address and geographical location)?

   TNO premises, Lange Kleiweg 137, City of Rijswijk, Province of Zuid-Holland, the Netherlands

3. Floor area of laboratory areas by containment level:

BL2	**200 (sqM)**
BL3	**200 (sqM)**
BL4	**- (sqM)**
Total laboratory floor area	**400 (sqM)**

4. The organizational structure of each facility.

(i) Total number of personnel	**8**
(ii) Division of personnel:	
Military	**0**
Civilian	**8**
(iii) Division of personnel by category:	
Scientists	**3**
Engineers	**2**
Technicians	**3**
Administrative and support staff	

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Chemistry, analytical chemistry, toxicology, immunology, molecular biology, microbiology, medical biology, biochemistry, chemical engineering

(v) Are contractor staff working in the facility? If so, provide an approximate number.

No

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

Ministry of Defence approximately	**70%**
Industry + Foreign governments	**30%**

(vii) What are the funding levels for the following programme areas:

Research	**50%**
Development	**10%**
Test and evaluation	**40%**

(viii) Briefly describe the publication policy of the facility:

Publication of R&D results are processed through the TNO hierarchy, and then to the appropriate delegates of the Ministry of Defence (assignor). Subjects of general or scientific interest may be published in the open literature only if the Assignor agrees.

(ix) Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)

Validatie van de MALDI-TOF MS voor de identificatie van Bacillus anthracis, Yersina pestis en Francisella tularensis [V1408]. A. Paauw et al. TNO 2017 R11208.

Genetische manipulatie van micro-organismen en mogelijke dreiging: RVO eindrapport Synthetische biologie. Leeuwen, H.C. van; Paauw, A. ; Noort, D. TNO 2018 R11333.

CRISPR-CAS targeted genome editing of bacteria and viruses. Leeuwen, H.C. van; Paauw, A. TNO 2018 R10076.

Identification of microorganisms grown in blood culture flasks using liquid chromatography–tandem mass spectrometry. E. Berendsen; A. Paauw et al. Future Microbiol. (2017) 12(13), 1135–1145.

Snelle identificatie van pathogene bacteriën uit bloedkweek zonder specifieke reagentia. Paauw, A. TNO 2018 R10720.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms[15] and/or toxins studied, as well as outdoor studies of biological aerosols.

Development and testing of detection equipment and identification methods using strains of a limited number of category 2 and 3 bacterial pathogens (such as: *Brucella, Francisella, Bacillus, Vibrio, Staphylococcus, Clostridium, Yersinia*), the bacterial simulants such as *Erwinia herbicola*, *Bacillus* spp, and the viral simulants such as MS2 and Baculovirus. Threat assessment and decontamination testing studies. Analysis of biological warfare agents with advanced mass spectrometry is dealing with low and high molecular weight toxins as well as with bacterial or viral extracts from above mentioned sources.
Assessing the level of decontamination after containing surfaces with bacterial spores.
Filtration and mask leakage testing with the bacterial weapons simulants such as *Bacillus globigii*, *Erwinia herbicola* and *Escherichia coli* K12 as well as the viral simulant MS2. All activities are performed in closed facilities of appropriate biocontainment level.
Desk-top study into the definition of synthetic biology and closely related fields, the different types of synthetic biology, and scientific advances therein. The dual use character of synthetic biology was discussed and this was placed in perspective with the perception of biological threats. Finally the potential implications of synthetic biology for the detection and identification of biological threats was discussed.

[15] Including viruses and prions.

Confidence-Building Measure "B"

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

At the Third Review Conference it was agreed that States Parties continue to implement the following:

> Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins, and on all such events that seem to deviate from the normal pattern as regards type, development, place, or time of occurrence. The information provided on events that deviate from the norm will include, as soon as it is available, data on the type of disease, approximate area affected, and number of cases.

The Seventh Review Conference agreed the following:

> No universal standards exist for what might constitute a deviation from the normal pattern.

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

1. Exchange of data on outbreaks that seem to deviate from the normal pattern is considered particularly important in the following cases:
    - When the cause of the outbreak cannot be readily determined or the causative agent[16] is difficult to diagnose,
    - When the disease may be caused by organisms which meet the criteria for risk groups III or IV, according to the classification in the latest edition of the WHO Laboratory Biosafety Manual,
    - When the causative agent is exotic to a given geographical region,
    - When the disease follows an unusual pattern of development,
    - When the disease occurs in the vicinity of research centres and laboratories subject to exchange of data under item A,
    - When suspicions arise of the possible occurrence of a new disease.
2. In order to enhance confidence, an initial report of an outbreak of an infectious disease or a similar occurrence that seems to deviate from the normal pattern should be given promptly after cognizance of the outbreak and should be followed up by annual reports. To enable States Parties to follow a standardized procedure, the Conference has agreed that Form B should be used, to the extent information is known and/or applicable, for the exchange of annual information.
3. The declaration of electronic links to national websites or to websites of international, regional or other organizations which provide information on disease outbreaks (notably outbreaks of infectious diseases and similar occurrences caused by toxins that seem to deviate from the normal pattern) may also satisfy the declaration requirement under Form B.

[16] It is understood that this may include organisms made pathogenic by molecular biology techniques, such as genetic engineering.

4. In order to improve international cooperation in the field of peaceful bacteriological (biological) activities and in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions, States Parties are encouraged to invite experts from other States Parties to assist in the handling of an outbreak, and to respond favourably to such invitations, respecting applicable national legislation and relevant international instruments.

Contributors	**Abbreviations**
Erasmus Medical Center Rotterdam, Laboratory for Infectious Diseases	EUR
Food and Consumer Product Safety Authority	VWA
National Institute for Public Health and the Environment	RIVM

Form B Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern[17]

➔ **Data from the Erasmus MC Rotterdam, Laboratory for Infectious Diseases**

1. Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern
   No outbreaks deviating from the normal pattern.

➔ **Data from the Food and Consumer Product Safety Authority (VWA)**

1. Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern
   No outbreaks deviating from the normal pattern.
2. Background information on outbreaks of reportable infectious animal diseases

Animal Disease	**Number of cases per year**				
	2014	2015	2016	2017	2018
Food-and-mouth disease	0	0	0	0	0
Scabies	-	-	-	-	-
Footrot (sheep)	-	-	-	-	-
Anthrax (all cattle)	0	0	0	0	0
Hog cholera	0	0	0	0	0
Pseud. fowl plague	0	0	0	0	0
Fowl cholera	0	0	0	0	0
Atrophic rhinitis	-	-	-	-	-
Rabies	0	0	0	0	0
African Swine fever	0	0	0	0	0
American foul brood	4	2	0	3	0
Infectious anaemia	0	0	0	1	0
Rabies (bats)	3	3	9	9	2
Salmonella enteritidis	50	18	29	31	18
Bovine Spongiform Encephalopathy	0	0	0	0	0
Vesicular swine fever	0	0	0	0	0
Avian Influenza Highly Pathogenic	5	0	9	1	2
Avian Influenza LP	2	3	2	1	0
Bluetongue	0	0	0	0	0
Psittacosis	43	38	46	38	36
Tuberculosis in mammals(cattle)	4	0	0	0	0
Q-fever in dairy goats/dairy sheep	0	1	0	0	0

[17] See paragraph 2 of the chapeau to Confidence-Building Measure B.

➔ **Data from the National Institute for Public Health and the Environment (RIVM)**

Information on notification of infectious diseases can be found on:
https://www.rivm.nl/meldingsplicht-infectieziekten/overzicht-meldingen

Data available on April 3th, 2019 as copied from this site are:

Group A	**Number of cases per year**						
	2018	2017	2016	2015	2014	2013	2012
MERS-CoV	0	0	0	0	0	0	0
Smallpox	0	0	0	0	0	0	0
Polio	0	0	0	0	0	0	0
Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0	0	0
Viral Hemorrhagic Fever	0	0	0	0	1	0	0

Group B1	**Number of cases per year**						
	2018	2017	2016	2015	2014	2013	2012
Diptheria	2	4	2	5	1	0	1
Human infection with animal influenza virus	0	0	1	0	0	0	0
Plague	0	0	0	0	0	0	0
Rabies	0	0	0	0	1	1	0

Group B2	**Number of cases per year**						
	2018	2017	2016	2015	2014	2013	2012
Typhoid	19	20	18	17	20	25	17
Cholera	2	0	1	1	3	0	3
Cluster of food infections	29	30	29	29	28	36	48
Hepatitis A	187	372	81	79	105	109	124
Hepatitis B Acute	100	115	114	108	141	146	175
Hepatitis B Chronic	987	1095	1009	1012	1075	1154	1320
Hepatitis C Acute	59	61	49	72	53	64	54
Invasive Group A Streptococcus	242	293	187	171	149	203	178
Pertussis	4697	4961	5590	6672	9058	3491	13851
Measles	24	16	6	7	140	2659	35
Paratyphoid A	17	11	11	6	9	22	25
Paratyphoid B	28	32	29	23	8	14	18
Paratyphoid C	0	3	0	4	0	2	3
Rubella	0	0	0	1	2	57	1
STEC/enterohemorrhagic E.coli	485	394	575	754	754	849	906
Shigellosis	509	427	446	360	473	473	752

RIVM also reports notification data and shares outbreak information with the ECDC. Notification data are freely accessible through:
https://ecdc.europa.eu/en/surveillance-atlas-infectious-diseases

Group C	**Number of cases per year**						
	2018	2017	2016	2015	2014	2013	2012
Anthrax	2	0	0	0	0	0	0
Mumps	73	46	71	87	40	205	397
Botulism	0	0	2	0	0	0	2
Brucelloses	5	2	4	9	1	6	3
Chikungunya (*)	0	0	13	24	61	0	0
Dengue (*)	0	0	13	32	13	0	0
Yellow Fever	2	1	0	0	0	0	0
Hantavirus infection	37	51	31	10	37	4	23
Invasive Haemophilius influenzae type b infection	40	33	33	18	20	19	22
Invasive pneumococcal disease (in children up to 5 years of age)	68	45	44	43	39	28	43
Legionellose	583	575	465	438	370	311	308
Leptospirosis	52	75	87	86	104	27	44
Listeriosis	77	113	95	71	92	74	71
MRSA (clusters outside hospital)	6	4	5	12	3	11	2
Malaria	254	211	251	344	285	166	199
Meningococcal disease	201	205	156	95	81	109	106
Psittacosis	63	52	60	47	41	53	45
Q-fever	18	22	14	20	26	20	63
Tetanus	1	1	1	1	0	1	2
Trichinosis	0	0	0	0	0	0	0
Tularemia	2	2	4	0	0	0	0
West Nile Fever	2	0	1	0	0	0	0
Creutzfeldt-Jakob (classic)	26	21	30	25	25	30	31
Creutzfeldt-Jakob (variant)	0	0	0	0	0	0	0
Zika	4	9	27	0	0	0	0

Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern
This section is not applicable for 2018.

Confidence-Building Measure "C"

Encouragement of publication of results and promotion of use of knowledge

At the Third Review Conference it was agreed that States parties continue to implement the following:

> Encouragement of publication of results of biological research directly related to the Convention, in scientific journals generally available to States parties, as well as promotion of use for permitted purposes of knowledge gained in this research.

Modalities

The Third Review Conference agreed on the following:

1. It is recommended that basic research in biosciences, and particularly that directly related to the Convention should generally be unclassified and that applied research to the extent possible, without infringing on national and commercial interests, should also be unclassified.

2. States parties are encouraged to provide information on their policy as regards publication of results of biological research, indicating, *inter alia*, their policies as regards publication of results of research carried out in research centres and laboratories subject to exchange of information under item A and publication of research on outbreaks of diseases covered by item B, and to provide information on relevant scientific journals and other relevant scientific publications generally available to States parties.

3. The Third Review Conference discussed the question of cooperation and assistance as regards the safe handling of biological material covered by the Convention. It concluded that other international forums were engaged in this field and expressed its support for efforts aimed at enhancing such cooperation.

Contributors	**Abbreviations**
Erasmus Medical Center Rotterdam – Laboratory for Infectious Diseases	EUR
Ministry of Defence	DEF
TNO Defence, Security and Safety	TNO
Ministry of Infrastructure and Water Management	I&W
National Institute for Public Health and the Environment	RIVM
Abbott Biologicals B.V.	
Boehringer Ingelheim Animal Health Netherlands B.V. (formerly Merial Lelystad)	
Janssen Vaccines & Prevention (formerly Janssen / Crucell Holland B.V.)	JVP
Intervet International B.V. / MSD Animal Health	
Patheon Biologics, part of Thermo Fisher Scientific (formerly DSM Biologics)	
Wacker Biotech B.V. (formerly SynCo Bio Partners B.V.)	
Wageningen Bioveterinary Research (formerly Central Veterinary Institute)	

➔ **Data from the Erasmus Medical Center Rotterdam – Laboratory for Infectious Diseases (EUR)**

Not applicable

➔ **Data from the Ministry of Defence & TNO Defence, Security and Safety**

Encouragement of publication of results and promotion of use of knowledge

- In general, the Dutch Ministry of Defence (MoD) encourages publication of results and the promotion of knowledge.
- Results obtained are subject to consent of the Managing Director of TNO, Defence, Safety and Security – the institute that carries out BW research on behalf of the MoD. Furthermore, publication is only allowed after consent by the MoD.
- Scientific publications can be obtained from the sources. As far as relevant, data are published in (inter)national scientific manuals, peer-reviewed journals and magazines.
- Where appropriate IPR, will be protected by patents.

➔ **Data from the Ministry of Infrastructure and Water Management (I&W)**

As the ministry of Infrastructure and Water Management (I&W) has no influence in whether or not the result of scientific research related to the Convention is published, I&W does not need to classify or unclassify any publication, nor can I&W promote any given publication. Of course I&W will take the recommendation of the Third Review Convention into consideration in the eventuality of any publication in the future.

➔ **Data from the National Institute for Public Health and the Environment (RIVM)**

The National Institute for Public Health and the Environment (RIVM) is a recognized leading centre of expertise in the fields of health, nutrition and environmental protection. The RIVM plays a central role in information exchange with local health services, among other through a national infectious disease bulletin, electronic surveillance systems (for notifiable and voluntarily monitored diseases), yearly seminars and an electronic rapid alert system. Studies carried out by the National Institute of Public Health and the Environment are published in the public domain (www.rivm.nl.). The dual-use aspect of publications was assessed as described in the Dutch Code of Conduct, as well as in the advisory report of the KNAW 'Improving biosecurity; assessment of dual-use research'.

Besides the above mentioned the RIVM develops and exploits its international knowledge base in various ways:

- International research and projects.
- Contributions to international conferences and publications.
- Activities on behalf of international clients such as the European Commission and its agencies, the World Health Organization (WHO) and the Organization for Economic Cooperation and Development (OECD). RIVM plays an active part in the WHO Collaborating Centres.
- Activities further to formal agreements between the Netherlands and other countries, including 'twinning'-programs designed to provide specific assistance, and collaboration with RIVM's sister organizations in other countries.
- RIVM actively participates in the EU CBRN Centres of Excellence initiative that aims to strengthen the CBRN-resilience. RIVM participates in projects dedicated to strengthen biosafety and biosecurity in research facilities and

hospitals in Central Asia. Additionally, within this CoE initiative, CBRN first response and CBRN forensics is strengthened in Southeast and Eastern Europe by train-the-trainer programs and table-top and field exercises, both at national and sub-regional level, thereby promoting inter-agency and regional cooperation in CBRN first response and CBRN forensics.

- Within the framework of the Global Partnership against the spread of weapons and materials of mass destruction, RIVM is actively involved in train-the-trainer programs on biosecurity awareness and biosecurity management in East African countries, including Uganda, Tanzania and Kenya. In addition, RIVM assists in the implementation of a national inventory of dangerous pathogens (). This inventory is a comprehensive overview of all laboratories in the country, the pathogens that are stored by laboratories, the safety classes these pathogens belong to and their required laboratory containment levels. To comply with international agreements, such as the the Biological Toxins and Weapons Convention, countries are obliged to have oversight mechanisms, including a national inventory.
- The Netherlands Biosecurity Office, housed by the RIVM, is the national knowledge and information center for the Dutch Government and for organizations that work with high-risk biological material, and aims to disseminate the government's new policy on biosecurity. The Biosecurity Office provides information to raise awareness on biosecurity issues and to enhance bio-risk management inside the organizations concerned (www.bureaubiosecurity.nl). This is done by organizing workshops and lectures, distribute newsletters to inform the field, by providing tools to assess the organizations current level of biosecurity, such as the recently published vulnerability scan (https://doi.org/10.3389/fpubh.2019.00047). In 2018, the Biosecurity Office participated in a capacity-building initiative to improve Malaysia's capacities by developing a comprehensive biosecurity checklist for laboratory assessments and monitoring. This work was initiated from the Extended Assistance Program as part of the European Union Council Decision 2016/51 aiming to addresses the importance of promoting adherence to the BWC. The primary aim of a tailored biosecurity checklist is to offer a systematic approach for organizations to evaluate and monitor their biorisk management program, especially in the area of biosecurity (https://doi.org/10.1177/1535676019838077)

➔ **Data from Abbott Biologicals B.V.**

Abbott Biological B.V. does not execute any basic research, only clinical studies for the annual update for our influenza vaccine.

➔ **Data from Boehringer Ingelheim Animal Health Netherlands BV Lelystad (formerly Merial Lelystad)**

Boehringer Ingelheim Animal Health Netherlands BV Lelystad manufacturing and R&D works with different strains of the Foot-and-Mouth Disease Virus. At the site only applied research is performed, no basic or fundamental research. Publication of the results is, given the nature of the research, not in the interest of the company.

➔ **Data from Janssen Vaccines & Prevention ((JVP) formerly Crucell Holland B.V)**

JVP very much encourages the publication of results of scientific research. JVP has a general procedure for publication of abstracts, manuscripts, presentations, press releases and any other form of communication of scientific or clinical development result. This procedure ensures, amongst others, consistent language, style, and adequate media content of final publication, adherence to corporate strategy and identity, scientific

soundness, statically correctness of the conclusions and identification of possible IP issues.

➔ **Data from Intervet International B.V. / MSD Animal Health**

MSD Animal Health believes in science for healthier animals, and as a research driven organisation, encourages publication of scientific research.

➔ **Data from Patheon Biologics, part of Thermo Fisher Scientific (formerly DSM Biologics)**

Not applicable, due to Patheon Biologics not publishing about our client's products and in view of client confidentiality.

➔ **Data from Wacker Biotech B.V. (formerly SynCo Bio Partners B.V.)**

Wacker Biotech B.V. (formerly SynCo Bio Partners B.V.) is a Contract Development Manufacturing Organization in the (Bio-) Pharmaceutical industry and as such not involved in biological research publications. For this business model reason there is no need for Wacker Biotech B.V. to have a policy on publication of biological research. The process development services Wacker Biotech B.V. can provide are generally only applied after the initial research and 'proof of concept' stages of biological research have been completed.

➔ **Data from the Wageningen Bioveterinary Research**

Wageningen Bioveterinary Research (formerly known as Central Veterinary Institute of The Netherlands) is performing statutory tasks for the ministry of Agriculture, Nature and Food Quality. The Netherlands has legal obligation on publication of results of scientific research. There are no restrictions in general on the publication of results of scientific research. Publication takes place in (inter)national scientific manuals, journals, magazines and other sources.

Confidence-Building Measure "E"

Declaration of legislation, regulations and other measures

At the Third Review Conference the States parties agreed to implement the following, later amended by the Seventh Review Conference:

As an indication of the measures which they have taken to implement the Convention, States parties shall declare whether they have legislation, regulations or other measures:

(a) To prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within their territory or anywhere under their jurisdiction or under their control anywhere;

(b) In relation to the export or import of micro-organisms pathogenic to man, animals and plants or of toxins in accordance with the Convention;

(c) In relation to biosafety and biosecurity.

States parties shall complete the attached form (Form E) and shall be prepared to submit copies of the legislation or regulations, or written details of other measures on request to the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs or to an individual State party. On an annual basis States parties shall indicate, also on the attached form, whether or not there has been any amendment to their legislation, regulations or other measures.

Contributors	**Abbreviations**
Ministry of Defence	DEF
TNO Defence, Security and Safety	TNO
Ministry of Infrastructure and Water Management	I&W
Ministry of Health, Welfare and Sport	VWS
Ministry of Social Affairs and Employment	SZW
National Institute for Public Health and the Environment	RIVM

➔ **Data from the Ministry of Defence & TNO Defence, Security and Safety**

The Ministry of Defence complies to civil legislation, regulations and other measures related to the topics (a) to (d) below, and has issued no additional legislation, regulations or measures on these topics.

Declaration of legislation, regulations and other measures

Relating to	Legislation	Regulations	Other measures[18]	Amended since last year
(a) Development, production stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I	No	No	No	No
(b) Exports of micro-organisms[19] and toxins	No	No	No	No
(c) Imports of micro-organisms[11] and toxins	No	No	No	No
(d) Biosafety[20] and biosecurity[21]	No	No	No	No

➔ **Data from the Ministry of Health, Welfare and Sport (VWS)**

There have been no changes since last year.

➔ **Data from the Ministry of Social Affairs and Employment (SZW)**

There have been no changes since last year.

[18] Including guidelines.
[19] Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.
[20] In accordance with the latest version of the WHO Laboratory Biosafety Manual or equivalent national or international guidance.
[21] In accordance with the latest version of the WHO Laboratory Biosecurity Guidance or equivalent national or international guidance.

➔ **Data from the Ministry of Infrastructure and Water Management (I&W)**

Declaration of legislation, regulations and other measures under the responsibility of the Ministry of Infrastructure and Water Management.

Relating to	Legislation	Regulations	Other measures[22]	Amended since last year
(a) Development, production stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I	No	No	No	N.A.
(b) Exports of micro-organisms[23] and toxins	No	No	No	N.A.
(c) Imports of micro-organisms[11] and toxins	No	No	No	N.A.
(d) Biosafety[24] and biosecurity[25]	Yes No	Yes No	Yes No	No

General remark to the above table:
The ministry of Infrastructure and Water Management (I&W) is responsible for legislation related to the handling, use and making of genetically modified organisms (GMO). The objective of the GMO Decree is to ensure an adequate level of protection in the field of the safe handling and use of GMOs that may have adverse effects on the environment and human health or the environment. It deals with both the contained use and introduction into the environment of GMOs. The Decree implements the European Directives 2009/41/EC and 2001/18/EC on the contained use and the deliberate release into the environment of GMO's, respectively. Where appropriate, the decree requires advanced written consent from competent authorities before activities with GMOs may be conducted. On the basis of the information gathered by government as a result of the procedures of the Decree, it is possible to pinpoint which GMOs are being handled by research facilities and at which location. The level of detail varies for different categories, but for pathogenic micro-organisms comprehensive information is available to the competent authority.
The legislation can be found (in Dutch) at http://wetten.overheid.nl/BWBR0035090/

22 Including guidelines.
23 Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.
24 In accordance with the latest version of the WHO Laboratory Biosafety Manual or equivalent national or international guidance.
25 In accordance with the latest version of the WHO Laboratory Biosecurity Guidance or equivalent national or international guidance.

➔ **Data from the National Institute for Public Health and the Environment (RIVM)**

Declaration of legislation, regulations and other measures

Relating to	Legislation	Regulations	Other measures[26]	Amended since last year
(a) Development, production stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I	Yes	Yes	No	No
(b) Exports of micro-organisms[27] and toxins	Yes	Yes	Yes	No
(c) Imports of micro-organisms[11] and toxins	Yes	Yes	No	No
(d) Biosafety[28] and biosecurity[29]	Yes	Yes for Biosafety Biosecurity: under construction	Yes	No

[26] Including guidelines.
[27] Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.
[28] In accordance with the latest version of the WHO Laboratory Biosafety Manual or equivalent national or international guidance.
[29] In accordance with the latest version of the WHO Laboratory Biosecurity Guidance or equivalent national or international guidance.

Confidence-Building Measure "F"

Declaration of past activities in offensive and/or defensive biological research and development programmes

In the interest of increasing transparency and openness, States parties shall declare whether or not they conducted any offensive and/or defensive biological research and development programmes since 1 January 1946.

If so, States parties shall provide information on such programmes, in accordance with Form F.

Contributors	Abbreviations
Ministry of Defence	DEF
TNO Defence, Security and Safety	TNO

➔ **Data from the Ministry of Defence & the TNO Defence, Security and Safety**

1. Date of entry into force of the Convention for the State Party.

   22 June 1981

2. Past offensive biological research and development programmes:

   No

2a. Period(s) of activities

   Not applicable

2b. Summary of the research and development activities indicating whether work was performed concerning production, test and evaluation, weaponization, stockpiling of biological agents, the destruction programme of such agents and weapons, and other related research.

   Not applicable

3. Past defensive biological research and development programmes:

   Yes

3a. Period(s) of activities

   From mid-1980s up to present

3b. Summary of the research and development activities indicating whether or not work was conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination, and other related research, with location if possible.

   The increasing importance of BW defence has generated research efforts in all aspects of passive BW defence (threat assessment, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection and identification, physical protection and decontamination). All of this work is of defensive nature; it involves concept development and evaluation of concepts and products. For that purpose TNO has BSL facilities, strain collections. This all falls under running assignments of the Netherlands government or the European Defence Agency.

Confidence-Building Measure "G"

Declaration of vaccine production facilities

To further increase the transparency of biological research and development related to the Convention and to broaden scientific and technical knowledge as agreed in Article X, each State party will declare all facilities, both governmental and non-governmental, within its territory or under its jurisdiction or control anywhere, producing vaccines licensed by the State party for the protection of humans. Information shall be provided on Form G [[[attached.

Contributors	**Abbreviations**
Erasmus Medical Center Rotterdam – Laboratory for Infectious Diseases	EUR
Abbott Biologicals B.V.	
Bilthoven Biologicals B.V.	BBio
Boehringer Ingelheim Animal Health Netherlands B.V.	
Janssen Vaccines & Prevention (formerly Janssen / Crucell Holland B.V.)	JVP
Intervet International B.V. / MSD Animal Health	
Patheon Biologics, part of Thermo Fisher Scientific	
Wacker Biotech B.V.	

Erasmus MC Rotterdam – Laboratory for Infectious Diseases (EUR)

1. **Name of Facility:**
   Erasmus Medical Center
2. **Location (mailing address):**
   ‘s Gravendijkwal 230, 3015 CE Rotterdam, The Netherlands
3. **General description of the types of diseases covered:**
   Respiratory, hemorrhagic, neurological

Abbott Biologicals B.V.

1. **Name of Facility:**
   WWY/WWP
2. **Location (mailing address):**
   C.J. van Houtenlaan 36, 1381CP Weesp, The Netherlands

   P.O. Box 900, 1380 DA Weesp, the Netherlands
3. **General description of the types of diseases covered:**
   Influenza (human)

Bilthoven Biologicals B.V.

1. **Name of Facility:**
   Bilthoven Biologicals B.V.

2. **Location (mailing address):**
   Antonie van Leeuwenhoeklaan 9-13
   P.O. Box 457
   3721 MA Bilthoven
   The Netherlands
   www.bilthovenbiologicals.nl

3. **General description of the types of diseases covered:**
   - Diphtheria
   - Tetanus
   - Poliomyelitis
   - Bladder cancer

Boehringer Ingelheim Animal Health Netherlands B.V.

1. Name of Facility:
Boehringer Ingelheim Animal Health Netherlands B.V. (formerly Merial Lelystad)

2. Location:
Houtribweg 39, 8221 RA Lelystad, The Netherlands

3. General description of the types of diseases covered:
Boehringer Ingelheim Animal Health Netherlands BV Lelystad manufactures half product for Foot-and-Mouth Disease (FMD) vaccines and its R&D department develops new strains for vaccine purposes.

The research and production facilities are located on the premises of Wageningen BioVeterinary Research (formerly Central Veterinary Institute of WUR) and have a biocontaiment infrastructure, compliant with or above the minimal standards for working with FMD virus (veterinary biosafety class 4).

Janssen Vaccines & Prevention

1. **Name of Facility:**
   Janssen Vaccines & Prevention

2. **Location:**
   P.O. Box 2048, 2301 CA Leiden, The Netherlands

3. **General description of the types of diseases covered:**
   Ebola, RSV, HIV, Polio, HPV, Influenza, ExPEC, and MRSA.

Intervet International B.V. / MSD Animal Health

1. **Name of Facility:**
   Intervet International B.V., also known as MSD Animal Health
2. **Location (mailing address):**
   P.O. Box 31, 5830 AA Boxmeer, The Netherlands
3. **General description of the types of diseases covered:**
   Pathogens from farm and companion animals, including bacteria, protozoa and viruses.

Patheon Biologics, part of Thermo Fisher Scientific (formerly DSM Biologics)

1. **Name of Facility:**
   Patheon Biologics, part of Thermo Fisher Scientific
2. **Location:**
   P.O. Box 454, 9700 AL Groningen, The Netherlands

   Zuiderweg 72/2, 9744 AP Groningen, The Netherlands

   Telephone: +31 50 5222 222
   http://www.patheon.com
3. **General description of the types of diseases covered:**
   Patheon Biologics is a contract manufacturer that produces antibodies and recombinant proteins for sponsors, who demand our confidentiality on their product information. Therefore this information should be handled accordingly.

   The proteins manufactured at our facility are aimed at treating or diagnosing general diseases such as inflammatory diseases, cancer, metabolic or genetic disorders. Currently, no proteins for vaccine production are manufactured.

Wacker Biotech B.V. (formerly SynCo Bio Partners B.V.)

1. **Name of Facility:**
   Wacker Biotech B.V. (formerly SynCo Bio Partners B.V.)
2. **Location:**
   Paasheuvelweg 30, 1105 BJ Amsterdam, The Netherlands
3. **General description of the types of diseases covered:**

   It should be noted that Wacker Biotech B.V. does not hold the market authorisation for the products manufactured on site. Products are always delivered to our clients, either for final release to clinic or market or for further processing. As such Wacker Biotech B.V. can provide a list of diseases for which vaccines are produced, but cannot provide all the specifics of the vaccines as defined in the applicable product registration dossiers.

List of diseases for which (intermediate drug substance of) vaccine is produced: Cholera, Haemophilus Influenza type B, Diphtheria, Tetanus, Pertussis, Hepatitis B, Haemophilus Influenza type B combined vaccine, Meningitis C, ZIKA.