

**AD HOC GROUP 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**

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**PRACTICE RANDOMLY-SELECTED TRANSPARENCY VISIT TO A
BIODEFENCE FACILITY**

Introduction

A Practice Randomly-Selected Transparency Visit (PV) was conducted on 29 June 2000 at Australia's Defence Science and Technology Organization (DSTO) biodefence facility. The aims of the PV were to:

- assess the potential benefits of Randomly-Selected Transparency Visits conducted at biodefence facilities in promoting the overall objectives of the future Protocol;
- determine the level of information that could be provided to a visiting team without compromising sensitive information;
- assess the impact on biodefence facilities of Randomly-Selected Transparency Visits under negotiation in the Biological Weapons Convention (BWC) Protocol; and
- familiarize the staff at the DSTO biodefence facility with the Randomly-Selected Transparency Visits procedures being developed under the BWC Protocol.

Background

The Australian Government conducts a biodefence programme with the objective of obtaining an appropriate understanding of the issues pertinent to protection against biological weapons. This programme is undertaken primarily within the Combatant Protection and Nutrition (CPN) Branch at the DSTO Aeronautical and Maritime Research Laboratory (AMRL), located in Melbourne, with some activities undertaken in collaboration with other institutions.

The principal research activities are concerned with the detection of, and protection against, potential biological warfare agents, including toxins that are threats in terms of both the BWC and Chemical Weapons Convention. The Australian programme is concerned with diagnostic techniques, detection, treatment, toxicology, physical protection (in conjunction with chemical protection) and decontamination. It includes studies on mechanisms of actions of toxins, and on the detection and analysis of toxins and inactivated organisms. Details of

the various activities are provided in the BWC Confidence Building Measures information that Australia provides annually.

The visit team used the provisions on Transparency Visits contained in the BWC Protocol Rolling Text BWC/AD HOC GROUP/51 (Part I) dated 6 April 2000 (AHG/51) as a basis for the PV. Prior to the conduct of the PV, the facility prepared a declaration based on the declaration format in AHG/51. The declaration trigger on which the PV was based was the “defensive biological and toxin programmes and/or activities conducted during the previous year” (ie. ‘biodefence’).

Mandate

The mandate of the PV was to visit those parts of the DSTO AMRL covered by the biodefence facility declaration formats contained in AHG/51.

Visit Team

The visit team consisted of four government officials, including a DSTO scientist responsible for provision of scientific advice on BWC issues, and policy officials from the Department of Defence and Department of Foreign Affairs and Trade.

Conduct of the Practice Visit

Briefing

The visit team was briefed by the CPN Branch Manager who was assisted by relevant project managers. The briefing of the biodefence facility covered an outline of the organizational structure, including a general overview of the activities of CPN Branch, an outline of the Biological Defence Programme, and the main activities undertaken within the declared facility. Project managers then provided more detailed presentations on their areas of responsibility, including information on the current research. A map of the site and building plan with the relevant areas highlighted were also provided for the use of the visit team during the conduct of the PV.

The facility management emphasized that the facility conducted research into specific areas which would be of direct relevance to the Australian Defence Force (which would include to support the ability of the Australian Defence Force to operate in support of the United Nations in parts of the world where biological weapons may be used). Some of the research was out-sourced to other organizations including the private sector.

During the briefing, the visit team was advised that most of the AMRL site activities and laboratories are engaged in materials science related to ships and aircraft, and the areas which came within the mandate of the PV represented only a small area of the overall site. A brief overview of the other activities on the site was provided.

Orientation Tour and Visit Plan

At the conclusion of the briefing, the visit team was given an orientation tour of the building which contains the declared facility. The visit team then developed a visit plan in consultation with the facility management, which was agreed to without delay. The orientation tour assisted in the development of the visit plan.

The visit plan comprised a visit to each of the relevant areas where facility representatives would provide a briefing on activities being undertaken. The facility had no difficulty with the visit team discussing projects with the relevant staff. It was agreed that the relevant project manager would consider the extent of access that the visit team could have to records, in accordance with the procedures outlined in AHG/51, Article III, D, section II, A, paragraphs 30 to 40.

In addition, in the interest of transparency, the facility management was prepared to offer the visit team access to other parts of the AMRL site which fell outside the visit mandate, but which the facility management considered might assist the visit team in achieving the visit mandate (for example, those parts of the DSTO chemical defence programme which were located in the same building). Where the visit team accepted this offer, the extent of access was provided in accordance with the procedures outlined in AHG/51, Article III, D, section II, A, paragraphs 30 to 40.

Visit Activities

The visit team was briefed by relevant facility representatives on the biodefence activities listed in the Annex. In most cases, the oral presentation and follow-up discussion took place in the laboratory in which the research was performed. Facility representatives provided detailed explanations of the programmes that they were working on, including the equipment being used for particular projects, and in some cases, provided demonstrations of equipment. The exception was that access to the “cell culture room” was limited to looking through a glass observation window fitted in the door, to avoid the possibility of cells becoming contaminated.

The facility management provided responses to the questions asked by the visit team and were prepared to offer access to relevant records, including logs on the quantities of agents and pathogens acquired, how they had been used and/or where they were currently stored, in accordance with the procedures outlined in AHG/51, Article III, D, section II, A, paragraphs 30 to 40.

The visit team were then provided with a tour to other parts of the AMRL site not covered by the mandate including a test facility for chemical decontamination studies and a building undertaking work on monitoring of air quality in submarines.

In this PV, access was provided in accordance with the procedures outlined in AHG/51, Article III, D, section II, A, paragraphs 30 to 40. Procedures utilized included observation into certain rooms through an observation window (for example, the cell culture room, as discussed above, and the air quality monitoring activities), and access to documentation limited to selected parts of records relevant to the visit mandate.

Concluding Comments

Potential Benefits of Transparency Visits

It was recognized, at the outset, that Transparency Visits are a “compliance monitoring activity”, as distinct from “verification”. In other words, based on the conduct of the various visit procedures, at the conclusion of a Transparency Visit, a visit team could report that its observations were consistent with the declaration, and that it observed no indications of any other activities taking place that should have been declared or that could be in violation of obligations under the BWC or Protocol.

The overall assessment by the facility and visit team was that Transparency Visits conducted as discussed above would promote the future Protocol’s overall objectives as outlined in AHG/51 (Part I, page 45, paragraph 11) by:

- (a) enhancing transparency of declared facilities and activities;
- (b) promoting the accurate fulfilment of the declaration obligations under the Protocol; and
- (c) helping the Technical Secretariat to acquire and retain a comprehensive and up to date understanding of the different types of facilities and activities declared globally.

Confidentiality Issues

At the conclusion of the PV, the visit team concluded that the facility representatives had been open, cooperative and helpful in assisting the team to fulfil its mandate. The facility management was amenable to discussing with the visit team the extent of information and access that team considered would assist it in achieving its mandate, this helped ensure an efficient visit process. In this context, it is worth noting that the DSTO biodefence facility is a relatively small facility, but contains both national security information and commercial proprietary information that must be protected. That said, the general information on the biodefence programme is not classified. Indeed, there are several layers of approval required in order to conduct the biodefence programme, including: -

BDAC	Biological Defence Advisory Committee
IBC	Institutional Biosafety Committee (ie. AMRL Biosafety Committee)
AEEC	Animal Experimentation Ethics Committee
CSAP	Chemical Safety Advisory Panel
RSAP	Radiation Safety Advisory Panel.

In addition, a number of national bodies promulgate Codes of Practice and regulations which are required to be met by the biodefence facility, including:

AS/NZS	Australian and New Zealand Standards
AQIS	Australian Quarantine and Inspection Service
GMAC	Genetic Manipulation Advisory Committee
NH&MRC	National Health and Medical Research Council.

Thus, the biodefence programme is subject to considerable scrutiny and oversight by a number of agencies including several which are external to DSTO.

There was general agreement between the visit team and the facility representatives that a comprehensive briefing could be provided to the visit team without reference to sensitive information, and that this briefing would greatly facilitate the conduct of the visit. Members of the visit team were of the view that the access provided to relevant documentation, in accordance with the procedures outlined in AHG/51, Article III, D, section II, A, paragraphs 30 to 40, added significantly to the transparency and confidence building aspects of the practice visit.

Impact on the biodefence facility

The DSTO biodefence facility receives a considerable number of visitors, ranging from politicians, senior diplomats, local and international scientists, and conducts a range of activities with regional countries, including regional workshops and attachments of regional scientists to DSTO. Therefore, managers and researchers are used to discussing their work with a wide range of visitors. The facility management considered that the PV had minimal impact of normal activities and was not onerous, disruptive or intrusive and did not require the release of sensitive information. It required approximately one working day to prepare for receiving the PV. The facility management commented that they were impressed at how smoothly the PV was conducted. On that basis, it was considered that the conduct of an occasional BWC Protocol Transparency Visit at this biodefence facility should not cause any significant difficulties.

Familiarization of staff at biodefence facility

Finally, another very important benefit in the conduct of the PV was that it was a very useful exercise for familiarizing the DSTO staff at the biodefence facility with the Transparency Visits procedures that are being developed under the BWC Protocol.

We were encouraged by the extent of cooperation of the biodefence staff in the conduct of this PV. It was clear that once the biodefence staff had become familiar with what is being proposed, they were very supportive of, and willing to assist in the development of, effective strengthening measures being developed for the BWC. Indeed, as discussed above, the biodefence staff felt that an occasional relatively non-intrusive BWC Protocol visit would not be a problem, especially taking into account the various existing regulatory requirements that the biodefence facility complies with.

Our experience of such PVs is that they have been most valuable in allaying perceived concerns among facilities operators and providing a practical basis for development of the visits provisions. We would strongly encourage all States Parties with biodefence facilities that have not yet done so, to evaluate the provisions of the text through the conduct of a PV.

ANNEX Biological Defence activities at DSTO Biodefence Facility

The visit team was briefed by relevant facility representatives on the following biodefence activities:

Detection of biological entities recognised as potential biological warfare agents

The visit team was briefed on the immunological and gene probe techniques that are being investigated for rapid identification of BW agents. The facility discussed how antibodies are being developed for incorporation in ELISA and biosensor tests, and that antibodies are being developed to a number of agents including ricin, *Yersinia pestis*, *Coxiella burnetii* and *Bacillus anthracis*. It was explained that human or animal vaccines are used to raise antibodies against the microorganisms, and that no living, pathogenic material is used in the work.

The visit team was briefed on the development of gene probes and primers for use in PCR identification of BW agents. Information was provided on studies which have involved the use of DNA extracted from vaccine strains or purified DNA samples procured from external sources. This included demonstration using a PCR system that is involved with this project.

A presentation on an ion channel detection system was provided, including showing a prototype system to the visit team. DSTO has a programme to develop a field bioaerosol detector based on this technology.

Physical methods for rapid detection of bioaerosols

There was a discussion of the work that DSTO is undertaking on the assessment of methods of particle characterisation for provision of rapid warning of a bioaerosol.

Treatment/Toxicology

A presentation was provided on a project involving the development of cultured human lung cells as a test bed for examining potential therapeutic compounds against toxin agents. Compounds for treatment of ricin intoxication are currently being examined.

Detection of biological material using physico-chemical methods

A presentation was provided DSTO's studies on detection of biological material using mass spectrometry and other physico-chemical methods, which are being conducted to determine their utility for field detection of biological agents and BWC verification procedures.
