Twenty-First Session of the Conference of States Parties

Remarks by Dr Christopher M. Timperley,

Chairperson of the OPCW Scientific Advisory Board

1 December 2016

Mr Chairman,

Excellencies,

Distinguished delegates,

As chairperson of the Scientific Advisory Board (the SAB), I am pleased to address the Conference on the Board's preparations for its report on developments in science and technology to the Fourth Review Conference.

I wish to start by drawing your attention to a simple fact - there are two aspects to every chemical. Take chlorine for example. Its use in small amounts to disinfect water has increased the health of humankind since its discovery over 200 years ago. Midway through its history, though, the same aspect that causes the eyes to sting in swimming pools, was exploited as a weapon in the First World War. This gas, twice as heavy as air, when released on a large scale, forms a green cloud that does not merely irritate: it destroys the lungs. And without protection the results are very dark indeed. It is of grave concern to scientists worldwide that the use of chemical weapons has recently been reconfirmed, and that chlorine has been used again to subtract human life.

The use of chemical weapons by anyone under any circumstances is reprehensible and completely contrary to the legal norms established by the international community.

In recent years, we have seen the OPCW increasingly involved in contingency operations. These rely on scientific and technological tools to collect and analyse information. They underscore the importance of robust scientific advice from the SAB, and the concrete contributions it can make to the implementation of the Convention.

This year the output of the SAB comprised two meetings, advice on two questions from the Director-General (on scheduled chemicals, and on sample storage and stability), and two workshops. Six reports were produced as part of the assessment of developments in science and technology relevant to the Convention. The advice provided to the Director-General was presented to States Parties at "Science for Diplomats" events. We appreciate the strong support of the Director-General and the Secretary to the Board, Dr. Jonathan Forman, in helping make these outcomes possible.

The SAB's joint workshop with VERIFIN on chemical forensics, held in Helsinki in June, provided valuable insights into investigative methods. Scientific advances that enable laboratories to identify not just the presence of a chemical agent, but also *when* and *how* it may have been originally produced, strengthens deterrence against the use of chemical weapons. In this regard, the Board is pleased that there are now laboratories designated by OPCW as proficient for the analysis of biomedical and environmental samples. This represents an enhancement of the investigative capacity of the Organisation. The addition of more analytical data to the OPCW Central Agent Database will further enhance this capability.

The workshop in Paris, held in September, was co-organised with the Secrétariat Général de la Défense et de la Sécurité Nationale (SGDSN) of France and focused on devising a more effective response to chemical agent exposure. This is critical to saving lives and lowering the impact of chemical weapons. Reducing the harm caused by chemical agents also makes these materials less desirable to those that may intend to use them for hostile purposes. The work builds on previous advice from the SAB on medical treatments to treat the effects of toxic chemicals, as part of its ongoing commitment to assistance and protection.

We thank the European Union for providing funding that allowed both of these workshops to take place.

Two SAB workshops are planned for 2017. The first, on emerging technologies, will be co-organised by the OPCW and the International Union for Pure and Applied Chemistry (IUPAC), extending the beneficial partnership between the two organisations. The workshop will focus on: recognising chemical changes in the environment (including in vegetation), mobile and wearable technologies (the "inspector of the future"), point-of-care diagnostics, sample collection in remote and dangerous environments, and artificial intelligence in the chemical and life sciences of relevance to the Convention.

The second SAB workshop in 2017, on trends in industrial chemical production, will review developments in science and technology used to produce chemicals. Its output will extend the findings of the SAB's Temporary Working Group on the Convergence of Chemistry and Biology (which ended in 2014) and on Verification (which ended in 2015). It will also add to knowledge from the Spiez Convergence workshop series, a Swiss contribution to a substantive science and technology review process supporting both the Chemical and Biological Weapons Conventions. The second Spiez Convergence workshop was held in September. It was opened by remarks by the OPCW Director-General and the meeting participants included SAB members. The impressive and informative report of this workshop is now publically available.

The Twenty-Fourth Session of the SAB, held in October, reviewed recommendations from the two workshops held in year. The Board noted that: given the information that chemical forensic and other modern investigative techniques can bring to investigations, it would be valuable to continue gathering information and understanding capabilities within this field. The Board recommended to the Director-General the establishment of a Temporary Working Group on Investigative Studies. Participants could include forensic and other investigative experts and former OPCW inspectors, to explore how to develop forensic and other modern investigative methods and capabilities for verification under the Convention.

Enhancement of such analytical capabilities would support OPCW's operational work including: collection and preservation of evidence, sampling and analysis, and the Technical Secretariat's Rapid Response and Assistance Mission.

The Board looks forward to the Director-General's response to the SAB-24 report, and stands ready to support his decisions on the recommendations.

It is pleasing that the SAB's work has become better known to States Parties through regular briefings by the SAB Chair and Vice-Chair. We have briefed the Industry Cluster and National Authorities on the findings and recommendations of the Temporary Working Group on Verification. And we have explored new partnerships and strengthened existing ones with other science-based organisations:

A range of activities exemplify this important outreach function of the Board. This includes my involvement in the Planning Committee for the CTBTO science and technology event to be held in 2017; the sharing of experiences by SAB members regarding OPCW's science

advice mechanism at the Eighth Review Conference of the Biological Weapons Convention; and efforts made in reaching out to other scientific advisory boards, such as the UN SAB.

Ladies and gentlemen,

Next year, the SAB will need to increase its activity to ensure its science and technology report to the Fourth Review Conference in 2018 is as comprehensive and informative as possible. We have also accepted the kind invitation to contribute to the Open-Ended Working Group of the Future Priorities of the OPCW and look forward to moving this work forward.

We wish to thank New Zealand for the most recent voluntary contribution to the SAB Trust Fund. A call for voluntary contributions to support the Board's work was issued this year (S/1344/2016, dated 29 January 2016). I and the Vice-Chair of the Board encourage States Parties to carefully consider this Note.

To close, the Board acknowledges statements from national and international chemical societies expressing concern on recent reports of, and condemning, the misuse of chemistry. These include the Seville Declaration of the European Association for Chemical and Molecular Sciences, and IUPAC's endorsement of the Hague Ethical Guidelines (which some SAB members helped draft). They demonstrate the strength of the norm against chemical weapons and the conviction of chemistry practitioners around the world to protect it.

Returning to the benevolent or malevolent aspects of every chemical: to see only the former, and protect against the latter, requires resolve from all participants of this conference. Our challenge is to continue to ensure that we are able to translate the complexity of science into tangible advice that usefully informs policy options to implement the Convention. Only then will chlorine, the first of the modern chemical warfare agents, become the last.

I request that this statement be issued as an official document of this session of the Conference of the States Parties and posted on the OPCW external server and public website.

Thank you.