CONFERENCE ON DISARMAMENT

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THE NETHERLANDS

The role of military detection and monitoring equipment for the verification of non-production of chemical weapons.

Summary.

The possible role of military chemical weapons detection and monitoring equipment during inspections to verify non-production of Schedule 1 chemicals is discussed. The conclusion is drawn that this type of equipment can have an appropriate role with respect to the detection of the great majority of Schedule 1 chemicals. Additional development may yield dedicated instruments that can be used as preselectors during inspections.

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The Chairman's summary of the meeting of the Technical Group on Instrumentation of July 1989 concluded that military chemical weapons detection and monitoring equipment could not be relied upon as means of verification of non-production of chemical weapons. It might indicate recent production but could also raise false alarms. Moreover, it was not certain whether the sensitivity and specificity of detection equipment was satisfactory.

In this paper we will not debate the validity of the above mentioned arguments in detail, but we would like to point out several advantages of using military chemical weapons detection and monitoring equipment in the verification process of the non-production of chemical weapons.

During a recent trial inspection in the Netherlands, military detection kits proved useful. The inspection consisted of a routine inspection of a Schedule 2 facility and an *ad-hoc* inspection (CD/925). During the latter, water samples were analyzed with the Netherlands military water sampling kit and air samples with the gas reconnaissance kit of the Netherlands armed forces to determine the presence of chemical weapons agents.

Verification in a chemical production facility may lead to a large amount of samples. As a result, the inspection team may have to wait a fairly long time for the results of the analyses and therefore may be unable to react on its findings. In such a case, the use of military chemical weapons detection and monitoring equipment during an inspection may accelerate the process by acting as a qualitative sieve or as a pre-selector. This type of equipment is capable (or should be capable) of detecting, to a significant degree, the present or recent production and storage of a majority of Schedule 1 chemicals.