
Ad Hoc Committee on Chemical Weapons

UNITED STATES OF AMERICA

QUALITY ASSURANCE OF VERIFICATION ANALYTICAL LABORATORIES

Verification of prohibited activities under the multilateral convention to ban chemical weapons will rest largely on laboratory findings and analytical results obtained from samples acquired during inspection. To insure that these critical activities have the required credibility, accuracy and reliability, a quality assurance program must be developed for each laboratory accredited to perform sample analysis. The system must produce data that is scientifically sound, thoroughly documented and legally defensible.

There are many types of quality assurance techniques used around the world in the analytical community but there is little consistency among them, partly because the analytical needs and the laboratories themselves vary greatly. The "Round Robins" which have been completed and which are in progress are an attempt to measure these inconsistencies. Those completed to date indicate the diversity among the laboratories. The following is an attempt to develop some principles which could lead to more consistent results among analytical laboratories.

The first step is to achieve some agreement on definitions of critical importance. Quality Assurance can be defined as a system of activities which provide the producer of a product or service the assurance that it meets defined standards of quality. It consists of two separate but related activities, quality control and quality assessment. Quality Control is the overall system of activities which control the quality of a product or service so that it meets the needs of the users. The aim is to provide quality that is satisfactory, adequate, dependable and economic. Quality Assessment, the second component of Quality Assurance, is the overall system of activities which provides assurance that the quality control activities are done effectively. It involves a continuing evaluation of performance of the production system and the quality of the products produced. (1)

(1) Taylor, J.K. Quality Assurance of Chemical Measurements
(Lewis Publishers, Inc., Chelsea, MI, 1987) P. 2.