



QUALITY ASSURANCE PROGRAM FOR AMBIENT AIR QUALITY MONITORING AT REFIK SAYDAM CENTER OF HYGIENE, MINISTRY OF HEALTH

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ABSTRACT

Within the framework of the Matra Pre-accession Project Program managed and financed by the Dutch Agency for International Business and Cooperation (EVD), an institutional strengthening project on ambient air quality assessment and management was carried out in the period 2003 – 2004 in Turkey. One of the objectives of the project was to introduce a laboratory quality assurance system in accordance with the international ISO 17025 standard at the Air Quality Control and Research Laboratory (AQCRL) of Refik Saydam Center of Hygiene (RSCH).

AQCRL has several major responsibilities with respect to ambient air quality monitoring in Turkey. AQCRL operates the largest urban ambient air quality monitoring network in Turkey for the city of Ankara. The current network consists of five automatic and several seasonal semi-automatic monitoring stations. In 2006, the monitoring system will be renewed with nine fully-automatic monitoring stations with telemetric and central control network functions. Besides the regular urban air quality monitoring activities, the laboratory operates the only regional background continuous air quality monitoring station in Turkey. The monitoring station operates within the framework of EMEP program to monitor the long-range transmission of air pollutants in Europe. Furthermore, the laboratory is responsible for the overall technical coordination of semi-automatic ambient air quality measurements conducted nationwide on behalf of the Ministry of Health. Recently, the laboratory has been selected as the National Reference Center (NRC) on ambient air quality within the European Environment Information and Observation Network (EIONET).

The laboratory has been conducting its activities along the lines of certain scientifically accepted laboratory quality assurance principles. However, there has not been any systematic formal laboratory quality assurance program within the laboratory. With the Matra project, a formal laboratory quality assurance system was introduced to the AQCRL in accordance with the international standard ISO 17025 – General Requirements for the Competence of Calibration and Testing Laboratories. The project involved introduction of the system to the laboratory through institutional strengthening activities over a two year period. The works were

conducted in two parallel paths: management and technical. The management part of the project involved establishing the necessary management structure among the laboratory staff, the relationship between the laboratory staff and RSCH management, and establishing structure for internal audits and management reviews. The technical part of the project focused on establishing structured scientifically-sound operating procedures, quality control mechanisms, and data and procedure validation methods. Furthermore, information from a parallel study (preliminary air quality assessment in Ankara) was used to promote effective urban ambient air quality monitoring within the laboratory activities.

Within the MATRA project the laboratory staff of AQCRL started a Training of Trainers (TOT) program in the Region of Kutahya, for the introduction of a laboratory quality system also in the laboratory performing air quality analyses for the Kutahya region.

In this paper, the laboratory quality assurance studies conducted within the AQCRL are described. Attention is given to the typical difficulties encountered and lessons learnt during the process. The road ahead on the matters of ambient air quality monitoring in Turkey is discussed through experiences of the AQCRL.

Keywords: air quality monitoring, quality assurance, quality control