

High-Level Laboratories is the Key to a Sound Environment Legislation

Philippe Fichaux – Tacis Expert in Institutional Development

Introduction

One of the main tasks of the Tacis project “Improvement of Solid Domestic Waste Management in Donetsk Oblast of Ukraine” is to improve the operation of ecological inspections and the monitoring procedures, especially the ones dealing with the control of impact produced by SDW landfills on the environment. The audit of ecological inspections of the Donetsk oblast has shown that almost all claims submitted to the court rely on the results of laboratory analyses.

When speaking about environment we cannot use the notion of borders, in case, for instance, of air pollution or pollution of rivers and seas. That’s why the international community is trying to harmonise laboratory analysis techniques thus ensuring that a comparison of data received from different countries is possible. As the analysis techniques in CIS countries and Europe are different, nowadays a comparison of data reflecting the state of the environment (quality of water, air, etc.) is next to impossible.

EC Practice

The international community has defined a whole series of standards within ISO (International Standard Organization) or CEN (Comité Européen de Normalisation). ISO 17025 sets up conditions for accreditation of the work of laboratories. The certificates are issued for types of analyses but not for laboratory activities as a whole. In Europe each type of an analysis is certified in accordance with either ISO or CEN standards or national standards of a particular country. Certificate ISO 17025 guarantees that the results of the certified analysis cannot be contested. Beside that, the French Ministry of Environment approves the establishment exclusively of those laboratories who have received ISO 17025 accreditation for implementation of environment analyses.

It is interesting to note, that the usual practice in EU is that the control analyses are paid by the controlled company.

ISO 17025 requirements are divided into two main parts:

- ❑ Management prescriptions (quality control section – section 4)
- ❑ Technical prescriptions (technical section – section 5)

The environment control analyses are done by private laboratories recognized by an accreditation (ISO 17025) and/or an agreement by the Ministry of Environment. The usual organization is 3 levels:

1. Private laboratories (and even internal laboratories) make control analysis;
2. The regional administration has its own laboratory whose role is to make counter-expertises: a sample may be shared in two parts and the administration verifies by itself the results provided by the 1st level laboratory;
3. The national administration has its own referee laboratory that can be a research centre or the scientific establishment of the Ministry; often this laboratory is in charge of the development or the validation of new analysis methods.

Situation in Ukraine

Within the framework of the Tacis project an audit of the laboratories of the State Department of Ecology and Natural Resources have been organised with the aim to:

1. Get acquainted with the structure and operation of local laboratories carrying out a state analytical control of the environment.
2. Get to know the rules and conditions of organisation of the laboratories of the Ministry of Environment Protection.
3. Find out the difference between Ukrainian standards used for laboratory accreditation and international standards ISO 17025.

The operation of the Central laboratory of the State Department of Ecology has been studied by the French quality expert who was checking the compliance with the EC ISO 17025 standard. In general, it has been established that the laboratory is more in line with technical prescriptions (72% of formal and informal documents) rather than with management prescriptions (40% of formal and information documents). Thus, the situation is quite favourable as the technical prescriptions employed are more numerous and create a foundation for proper professional activities.

The recommendations prepared by the French expert will allow the laboratory together with the project team to improve its operation and quality system in accordance with ISO 17025 in a quicker way.

Recommendations

1. The question of the recognition of the international laboratory analysis standards by Ukraine must be debated by the Ministry of Environment Protection.
2. It would be advisable to improve a multi-level system for environment analysis laboratories, using the experience of European countries and North America. If the 3 level policy is adopted, an effort can be done in aim to help to extend the network of private and institutional laboratories, as 1st level laboratories.
3. We recommend to concentrate the investments on the central laboratory in Donetsk. It may be something like 500 000 € spread on some years. In parallel, it's necessary to implement a quality management satisfying the requirements of the ISO 17025 standard.
4. A transportation network must be organized (perhaps by a private laboratory) able to carry and deliver the next day any sample to centralised laboratories.