Planned Work Programme for 2013

(as submitted on 26 July 2012)

1. General tasks of EURL

1.1. Participation in annual co-ordinating meetings and general management activities of other EURLs for residues, as far as necessary.

1.2. Technical and scientific support to the Commission and its offices.

1.3. Compilation of the Technical and Financial Report for 2012 by 31 March, 2013

1.4. Compilation of the planned activities, estimated budget and performance indicators for 2014 by 1 September 2013.

1.5. Maintenance of contacts to established National Reference Laboratories (NRLs) and build-up of contacts to possibly newly selected NRLs. The tasks of the EURL and NRLs is to cover dioxins, dioxin-like PCBs and indicator PCBs in food and feed and in particular analytical issues related to both confirmatory and screening methods. However, the structure and capabilities of NRLs differ from Member State to Member State requiring a more complex system of linking the NRLs with the EURL/NRL network. Therefore, the EURL compiled a list with all NRLs and contact points in this field and keeps this list updated. The list includes contact data and information about analytical capabilities.

1.6. In cooperation with the competent NRLs, maintenance of contacts to Official Laboratories (OFLs) and build-up of contacts to newly selected OFLs in cooperation with NRLs, for inclusion of OFLs in proficiency tests (PTs).

1.7. Cooperation with international organizations, in particular EFSA, CEN, WHO and UNEP (also for harmonization of requirements in the field of POPs analysis), where necessary.

1.8. Documentation services (updating of the CIRCA platform/publicly accessible EURL-website on regular basis with focus on disseminating information to NRLs. Constant monitoring of analytical methodology and EU legislation).

1.9. Participation and presentation of EURL activities at most important international conferences in the relevant area.

2. Development and validation of analytical methodology

2.1. Performance of **two proficiency tests (PT) for determination of dioxins and PCBs in food and/or feed** for further improvement of analytical methods with regard to correct determination of PCDD/Fs and PCBs by screening or confirmatory methods (see 3.3).

2.2. In combination with the different extraction methods the EURL will continue the evaluation of **automated, semi-automated and manual clean-up procedures** using a fully automated system, combinations of automated clean-up steps and manual steps for further improvement of the complete methods for PCDD/F and PCB analysis.

2.3. Development of fast **GC/HRMS** methods for control of EU-regulated levels in food and feed for sum TEQ of dioxins, furans and dioxin-like with particular consideration of the comparison of the applicability of different stationary phases of GC columns for separation of all relevant PCDD/F, DL-PCB and NDL-PCB congeners.

2.4. Evaluation of performance of **GC/MS-MS screening methods/confirmatory methods** for the analysis of PCDD/Fs, DL-PCBs and especially NDL-PCBs in food and feed matrices. Therefore the comparison of a GC/Tandem mass spectrometry system will be evaluated, especially regarding limit of quantification, trueness, precision and correlation with GC/HRMS results.

2.5. In order to have a more comprehensive overview on substances with dioxin-like activities, the EURL initiates the further development of suitable methods for the inclusion of **polybrominated dibenzo-p-dioxins and dibenzofurans (PBDD/Fs)** in the scope of the analysis of different food and feed matrices for PCDD/Fs and PCBs. This will be a permanent task of the EURL.

2.6. Development of analytical methods for determination of PCDD/Fs and PCBs in **animal blood**, evaluation of correlations between blood and animal tissue (meat, fat), if possible.

2.7. **Applicability of various bioanalytical methods and technology** for screening samples within the scope of European official feed and food control is continuously evaluated. This involves, in the first place, the DR-CALUX (BioDetection Systems, NL), based on genetically modified H4IIe rat hepatoma cells, the XDS-CALUX (Xenobiotic Detection Systems, USA), using H1L6.1c2 mouse hepatoma cells, and H1L6.1c2 mouse hepatoma cell lines from University of California Davis (UC Davis), USA - referred to as “UCD cell lines”. Performance studies will be adapted to meet the new criteria for application and validation of bioanalytical methods laid down in Commission Regulations. Studies include extensive matrix-matching calibration experiments for most food and feed matrices of interest, aiming at deriving matrix-matching performance characteristics such as sensitivity, recovery, precision, work-

ing range, false-compliant and false-noncompliant rates, and especially bioassay cut-off concentrations to be applied in routine when checking sample compliance with new EU legal levels.
Curve fitting algorithms and additional criteria for assay working ranges recently developed and introduced at EU-RL shall be applied and evaluated to keep lack-of fit errors well under control.
EU-RL further aims at including vacuum evaporation devices for automated sample extract reduction and collection of evaporated solvents, in the extraction and clean-up processes, to enhance the laboratory procedures involved for more time efficiency and to keep environmental burden at a minimum. Focus, and challenge, will probably be on keeping blank values potentially generated by these devices low.
New “3rd generation” (G3) H4L7.5c2 rat and H1L7.5c3 mouse hepatoma cell lines, recently developed by UC Davis, will also be included as detection systems in these studies, according to their suitability as evaluated during 2012.

3. Quality assurance and quality control

3.1. Maintenance of in-house QA/QC activities within the scope of the ISO 17025 accreditation of all analytical work done within the EURL.

3.2. Further evaluation of QA/QC tools, measures and techniques for cell culturing in bioassays for several different cell lines. Cooperation with NRLs using bioassays will be further intensified and possibilities for validation in interlaboratory studies evaluated.

3.3. Organisation of **two interlaboratory studies (proficiency test, PT)** on determination of dioxins, furans, dioxin-like PCBs and marker PCBs in **food** and / or **feed** (see 2.1). The PT will be addressed to NRLs with **confirmatory methods** (based on GC/HRMS, GC/MS or GC/ECD, depending on the analyte) and **screening methods**. Results will be discussed and conclusions be drawn at two EURL/NRL workshops organized in the first respectively second half of 2013.

4. Technical and scientific support to Member States and the Commission, inclusive arbitration and training activities

4.1. Analytical support and training to Member States (NRLs) and Commission upon request

4.2. For specific tasks, working groups might be formed to address specific needs with regard to physical-chemical or bioanalytical aspects, e.g. regulation, development of physical-chemical screening methods, validation schemes, or practical guidelines on validation (in particular for bioanalytical methods).

4.3. During evaluation of the new criteria for application of bioanalytical methods it became obvious that a guideline for how to put into practice what has recently been

laid down in Commission Regulations might support bioanalytical laboratories to correctly apply EU legislation. A **Bioassay Expert Working Group** was therefore founded in May 2011, to draft a "Guideline for validation of bioanalytical methods", which is expected to be finalized by the EU-RL/NRL network in 2013. Scope of this guideline will be to provide rules and ways to demonstrate sufficient performance of bioanalytical methods to make sure that those methods

- comply with the analytical criteria as currently defined in EU Regulations,
- have been validated according to the procedures described in this guideline,
- are suitable for checking of sample compliance with EU legal limits.

4.4. In May 2012, a **core working group on Measurement Uncertainty (MU)** was formed which will contribute to the harmonization of the application of MU. The work of this core working group will be continued in 2013; results will be communicated to the NRL network for discussion and reflection.

4.5. Mission to NRLs and dissemination of scientific information if necessary

4.6. Individual follow-up and assistance to NRLs of which the analytical results from the interlaboratory study are not satisfactory

4.7. Analyses of official samples on request (submitted by EU Member States in case of dispute between Member States or in case of analytical problems with a responsible NRL)

4.8. Organisation of **two annual workshops** and discussion of interlaboratory studies in both fields food and feed for dioxins, dioxin-like PCBs and indicator PCBs (see 2.1 and 3.3) for NRLs using confirmatory methods (based on GC/HRMS, GC/MS or GC/ECD, depending on the analyte) and / or bioassay screening methods with follow-up for underperforming NRLs. The workshop concept will be based on organization (at least) of one workshop per year at the EURL in Freiburg and allow the organization of the second workshop at one of the NRLs.

4.9. Organisation of specific training for NRLs on request