



9TH OBT PRESENTATION.

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9th OBT workshop – Antwerpen 10 – 12 May 2023





Agenda

- Objectives
- OBT workshop
- Next OBT workshop
- OBT WG future

- 😊 Increase the number of capable OBT labs
- 😊 Validate all of the procedures based on the measured results
- 😊 Support international laboratory exercise and workshop
- 😐 Reducing uncertainties in OBT analysis results
- 😞 Provide better OBT model validation dataset
- 😞 Provide more accurate public dose

Organically bound tritium (OBT) behaviour and analysis: outcomes of the seminar held in Balaruc-les-Bains in May 2012

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ABSTRACT Within the last ten years there has been increasing interest in tritium behaviour and distribution in the environment. This is based partly on empirical findings that tritium discharged mostly as HTO can become transformed into organic forms in environmental samples. An international workshop was convened in France in 2012 to gather the scientific community interested in organically bound tritium to share their experience and to establish a current state of knowledge. This paper summarises the outcome of the workshop, which aimed to improve skills concerning OBT (Organically Bound Tritium) determination, transfer and behaviour in the environment. In order to improve OBT measurement credibility, it was decided to conduct and promote OBT analysis through inter-laboratory exercises. This practice will reduce uncertainty in OBT analysis results, providing better OBT model validation data and public dose assessments.

Key words: tritium / organically bound tritium / international standpoint / inter-laboratory exercises

1. Introduction

In most countries where tritium releases to the environment occur, there is increasing interest in tritium's behaviour and its potential impact for several reasons (AGIR, 2007; CNSC, 2010; ASN, 2010):

- ITER, the new experimental reactor with high tritium throughput, might be in operation by 2025.

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Past OBT workshops

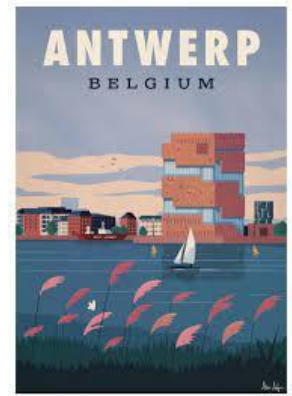


Year	Place	Organiser
2012	Balaruc les Bains	France
2013	Southampton	United Kingdom
2014	Ottawa	Canada
2015	Bucarest	Romania
2016	Le Mans	France
2017	Winchester	United Kingdom
2018	Toronto	Canada
2019	Constanta	Romania





2023 OBT workshop



9th OBT Workshop - 10-12th May 2023 Antwerpen, Belgium.



Thanks to Hilde and the SCK-CEN for the organization of this first occurrence after the pandemic





Last OBT workshop minutes (1)

After the 5th, it was decided to not create an OBT WG website. However, it was advised that increasing participation to the interlaboratory exercise should lead to an automation of the data treatment to save time for the organiser. Therefore, other cheaper solution will be investigated (Excel sheet – commercial software) in the future. **Not done**

Concerning the data treatment, it was confirmed that both robust method (ISO 13528) and intermediate precision method will be used to exploit the results. The consensus value which is used after as the reference value will be calculated from participating labs data using ISO13528 recommendations and therefore both z-score and zeta-score statistical indicators will be determined. In addition the relative bias between lab values and reference value will also be given. **Done.**

The result form will be transformed in an Excel® sheet, validated by the scientific committee before distribution to the participants in April 2018. **A test version was presented during the 7th OBT. It will be forwarded to the scientific committee members then to IEL organisers for validation with the minutes.**

A strategy was proposed to check whether or not the samples proposed in each interlaboratory exercise could be a CRM. After three exercises, organised in the framework of the OBT working group, reference values were determined for three samples potatoes, sediment and wheat. **Not realised.**

Moreover, the scientific committee should summarise the results of the three exercises planned initially regarding the objectives of the working group prior publication (30/06/18). **Not realised.**

It was also decided to translate in English the CETAMA method devoted to OBT analysis from which the French standard NF XP M60-824 is strongly inspired (30/06/17). **Currently under revision.**

Each interlaboratory exercises organiser will summarise the technical information's provided by the participants regarding uncertainty budget for the 7th workshop. From that standpoint some investigation will be done to determine the main components and possibly how that budget could be improved. **Not realised.**

For the next workshops, a reflection must be started on the best way to present the technical information (cocktail, combustion devices) provided by the lab. **Not realised.**



Last OBT workshop minutes (2)

The 6th exercise will be organised by Cernavoda NPP who has kindly accepted to replace GAU. The substitution matrix should be a fruit (apple or quince). **Done.**

The 7th exercise will be organised by France. Matrix is still to be defining but works are in progress to move to a new matrix. **Not realised.**

Next workshop will be organised in Romania in September 2019. **Done.**

The decision to transfer the workshop organisation to new countries (USA, India, China...) not involved in group since the beginning is postponed after the 8th OBT. **9th OBT organise in Belgium.**

It was decided to create a preliminary results form to speed up the transmission to the participants who are using inter-laboratory exercises in their quality insurance system. Ideally, this form could be sent just after gathering all results without waiting the final report. **Not realised.**

During the scientific committee meeting it was decided to think about new research items. For that preliminary proposal summarising the field of interest of scientific committee members will be gathered before the 28th of February 2019. The compilation of submitted paper should allow proposing one or two research “project” to be validation during the 8th OBT. **Not realised.**

- Do we focus on interlaboratory exercises
 - Organisers?
 - Frequency?
 - Matrix of interest?
 - Data collection and treatment?
- Workshop frequency in the future?
- Next exercises?
 - Organisers, sample type...
 - Feedback on the troubles experienced with “soil type” samples (sediments – mud)



- Scientific Committee in the future
 - Catherine replacement?
 - Objectives?
 - organisation?

- How the working group will process the intercomparison results provided by the laboratories and draft the summary performance report?

- Do we want to extend our field of interest?
 - some combination between field investigation, analytical works and modelling
 - new research topics





Thanks for your attention

