

OPEN CALL FOR

WG 6: Interlaboratory trial & round robin test

The work will be executed with one main contractor on behalf of NEN/547 which is to be organized in two phases, phase one and phase two.

Specific agreement: NEN/M547

Background:

The work will be split into two phases. First the phase 1: interlaboratory trial. The second phase is called the round robin test.

Objective:

The objectives of the two phases are the following:

- Phase 1: the interlaboratory trial.

During this trial, the concepts of the standards that should be developed within WG 6 (The Ryckebosch method and the Chlorophyll method) are tested by preferably about 15 laboratories with the aim to test whether the instructions are clear for the user, and whether it will result in the 'results' which are expected in advance. This interlaboratory trial is an **interactive** and **informal** procedure, where the laboratories could have contact with the main contractor in case of difficulties during the analyses.

Within the interlaboratory trial, the laboratories also will be asked to analyse the amount of *macro nutrients* (like saccharides, proteins and fatty acids) and *contaminants* being present in the samples; the laboratories are allowed to do this by their own procedures; in doing this the necessity of possible future standardisation issues on micro- and algae can be determined (for instance in a future project under which new algae standards could be developed).

- Phase 2: the round robin test.

The round robin test is the formal test of the final procedures for the Ryckebosch method and the Chlorophyll method, both laid down in a CEN standard, currently being developed. In this test, the final versions – which will also will be balloted in the final vote – will be used by the participating laboratories during the round robin test. Since the comments, improvements and suggestions of the interlaboratory trial have been incorporated in the final versions of the method, the chances are minimal that the standards need to be adapted afterwards. In this way, the round robin test must be seen as the final “proof of the pudding” of the final drafts of the two standards.

Task to be performed:

Phase 1: Organization of an interlaboratory trial

The trial consists of testing a predefined set of “naturally enhanced” samples and blanks. The participating laboratories shall also be asked to provide information about the sample preparation and extraction methods, and the analysing equipment. The following elements should be incorporated within trial:

1. Determination of lipids according to the (concept) Ryckebosch method;
2. Determination of chlorophyll and carotenoid content with the (concept) HPLC method;
3. Determination of saccharides, proteins and fatty acids;
4. Determination of heavy metals (As, Cd, Hg, Pb and Se), iodine and inorganic arsenic.

For all elements one micro-algae species and one macro-algae species must be tested.

The detailed activities consist of:

- Preparation of samples;
- Homogeneity and stability check on every method;
- Reference measurements/analyses where necessary (costs to be calculated for item 3 & 4; for item 1 & 2 the samples will be analyzed by other institutes working within Working Group 6);
- The results of item 1 and 2 will be used to test the usability of the sample preparation and analyzing techniques described in the draft standard of the Ryckebosch method and the HPLC method determining the chlorophyll and carotenoid content;
- The results of item 3 and 4 will be used to determine whether there is a need for further develop of specific standards for algae and algae based products within CEN TC 454 in the (near) future;
- Organization of the logistic part of the interlaboratory trial;
- Reporting the results of the interlaboratory trial.

Phase 2: round-robin test

Based on the outcome of the interlaboratory trial it is possibly necessary to adapt the draft procedures and instructions described in the draft of the Ryckebosch method and the HPLC method (item #1 and item #2 of the interlaboratory trial).

Having adapted the both drafts a final round-robin test will be organised to test the final drafts of the standards for the Ryckebosch method and the HPLC method, which at that moment should also be ready for the final vote.

The following elements should be incorporated within the round-robin test:

1. Determination of lipids according to the Ryckebosch method
2. Determination of Chlorophyll content with the HPLC method

For all elements one micro-algae species and one macro-algae species must be tested.

The detailed activities consist of:

- Preparation of samples;
- Homogeneity and stability check on the samples for both methods;
- Organisation of the logistic part of the round-robin test;
- Reporting the results of the round-robin test.

Planning:

The planning for *phase 1* is the following:

Deliverable	Period
Start	Q2 '19
Preparation of interlaboratory trial	Q3 '19
Performing interlaboratory trial in the field	Q4 '19
Concept report of interlaboratory trial	Q1 '20
Final report on activities	Q2 '20

The planning for *phase 2* is the following:

Deliverable	Period
Start	Q4 '19
Organization of round-robin test on Ryckebosch method	Q1 '20
Performing interlaboratory test in the field	Q2 '20
Concept report of round-robin test	Q3 '20
Final report on activities	≤ Q4 '20



Costs:

Financial arrangements for phase 1 are the following:

- The main contractor is requested to report at CEN/TC 454 (preferably WG 6) meetings twice (one time at the end of phase 1, and another time at the end of phase 2).
- Sample material can be obtained from the central stock of sample material of WG 6;
- Laboratories are asked to participate in at least one and maximum all of the elements of the interlaboratory trial; a fee for every participating laboratory on the trial should be calculated in the offer (estimation).

The request for tenderer for phase 2 consists of:

- The laboratory be selected lab should have extensive experience in organizing interlaboratory, round-robin and proficiency tests and is preferably be accredited according to ISO 17043:2010 standards.

Selection procedure:

The selection of the candidate who will perform the experiments will be made by a selection panel, which is composed of:

- Mr. Indra te Ronde (NEN), secretary of CEN/TC 454 'Algae and algae products';
- Mr. Bert van Asselt, Chair of CEN/TC 454 'Algae and algae products';
- Mrs. Jennifer Ogbonna (CCMC).

Selection criteria for the tendering process:

Selection of contractors will be based on the following criteria:

1) Documented experience (maximum 45 points):

- experience in running European or/and international test programs;
- experience in standards writing/drafting, in order to enable an easy uptake of (part of) the outcomes as Annex to the standard mentioned
- extensive experience with freeze drying and stove drying techniques on organic materials.

2) Organization; demonstration of ability and understanding of the project (maximum 40 points):

- organization for the reporting to NEN;

3) Quotation price and detail (maximum 15 points)

Additional points may be awarded if the tenderer can add additional value to the project. In general, a best value for money principle will be applied.

Only offers that pass the selection criteria of scoring minimum 35 points under 1) and 25 points under 2) are eligible for selection.

On the effective contract the "General Terms and Conditions for the Provision of Technical Services to NEN" shall apply. A copy of those can be delivered on request. The Contractor should also agree to the fact that the obligation of NEN to pay is subject to the normal functioning of the financing mechanisms of the Commission of the European Union, also applicable to specific agreement SA/CEN/2016-04/ENER/C2/498-2016/SI2.735225.

Replies to tender:

- Applications should be submitted using the [attached application](#) form by **22th April 2019**. Applications received after the deadline will not be taken into consideration.
- Applications shall be sent by e-mail to indra.teronde@nen.nl.
- If necessary, additional information can be obtained via the CEN/TC 454 Secretary, Mr. Indra te Ronde.
- Candidates are herewith informed that interviews with the selection panel (by telephone/GoTo meeting) will be, possibly, scheduled **on 23th of April 2019**.

Form - Answer to a call for Tender in compliance with FPA 2014

See attachment.