**European Commission Ref. 070201/2014/693666/FRA/ENV.C.3 Service Agreement 7:
Continued improvements of inventory methodologies**

**Task 3.1: Restructuring and development of improved methods for the agricultural sector**

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**Consultation paper for discussion**

**1. Context**

Ricardo-AEA Ltd, Aether Ltd and AMEC have been commissioned to investigate and propose improvements to inventory methodologies in a number of key areas identified by the Task Force on Emission Inventories and Projections (TFEIP) and other bodies. The European Commission, as part of a collaborative initiative, has provided funding for this project, which is expected to be the focus of discussion at the TFEIP meeting and workshops in May 2015.

Task 3.1 of this project is entitled “Restructuring and development of improved methods for the agricultural sector.” This paper sets out our initial views on the delivery of this task, and is intended to form the basis of discussions with TFEIP subgroup chairs, TFEIP members, and other stakeholders.

**2. The issue/s to be addressed**

The recent revision of the UNECE reporting guidelines has led to a reorganisation of the NFR codes – the categories used for reporting emissions under the CLRTAP and the NECD. This revision has been conducted to maintain as much consistency as possible with the CRF – the reporting formats used for greenhouse gas emissions inventories. However it does have implications for air quality emissions inventories, and in particular in the Agriculture sector.

This reorganisation of the NFR codes means that the existing information in the Guidebook does not always readily match the reporting categories, and the definition of some new emission source categories means that there may not be information in the Guidebook that is specific to these source categories. This is particularly relevant for the new 3D category: Emissions from crops and soils.

For the reasons stated above, we intend to restructure the existing agriculture chapters of the Guidebook in order to align them with the new NFR reporting structure. In addition to this, we need to ensure that, for the calculation of ammonia (NH3) emissions, emissions are seen as part of the overall manure management process which recognises that emissions from buildings, manure stores and following application to land are linked. It is therefore essential that the importance of these links is made clear where the new reporting format arbitrarily assigns the reporting of emissions from one stage of manure management independently from emissions from other stages.

In addition, most of the methodologies in the Guidebook have been developed to estimate the emissions of NH3. PM emissions are also included for some activities. However, by drawing on recent research findings, it may be that methodologies can be extended to include NOx and PM (and potentially other pollutants). In particular, significant differences have been identified in reporting of NOx emissions from agricultural soils. For some states, up to 10% of reported NOx emissions arise from soils, whereas there is no estimate or a much lower estimated emission from other states. The possibility of improving the clarity of this chapter in relation to the reporting of NOx emissions will be investigated.

**3. The proposed approach to addressing these issues**

The proposed approach follows that proposed at the TFEIP's Agriculture and Nature Expert Panel Meeting in May 2014.

***Review the Finalised NFR Structure***

We will review the existing methodologies in the Guidebook in the context of the new NFR reporting structure, and match existing methodologies to the new NFR codes.

***Undertake a methodology gap analysis for NH3***

We will determine where the existing methodologies do not provide information for the sources included in the new NFR format (especially relevant for emissions from crops and soils), and hence where it is important to focus efforts for obtaining new information.

***Undertake a literature review***

We will collate and review the most up to date information from research studies for potential inclusion in new and updated methodologies where the gap analysis indicates a lack of information in the current Guidebook.

***Formulate new methodologies for NH3 if/where appropriate***

We will review the information obtained from the literature review, and then use this where possible to develop new NH3 emission methodologies (Tier 1 and 2) to address any gaps found in the methodology gap analysis.

***Identify where other pollutants can be added to methodologies***

Where possible and appropriate we will include NMVOC, NOx, PM and other pollutants to emission methodologies.

**4. Key sources of data**

The key sources of data will be the datasets used in National Emissions Inventories. We will therefore make use of our contacts with the compilers of national agricultural emissions inventories, e.g. the EAGER group, to ensure that the calculation of NH3 emissions is based on up to date methods and data and to elicit data and approaches to calculate emissions of NMVOC, NOx, PM and any other pollutants from agricultural sources reported.

**5. Your views**

Your views are sought on the following key issues:

* The accuracy and completeness of the revised Guidebook structure.
* Any gaps in the current reporting of NH3 emissions and, where gaps are identified, any data that may be used to fill those gaps.
* Suggestions for data and approaches to calculate emissions of NMVOC, NOx, PM.
* Comments on any proposed methodologies to calculate emissions of NMVOC, NOx, PM
and whether the data are robust enough to include in the Guidebook. In particular, methodologies and data on NOx emissions from soils will be welcomed

**6. Consultation programme**

An introductory discussion has been held with the TFEIP management group at their meeting on 11 February 2015. These matters will be discussed at the meeting of the EAGER group on 16-17 April and the views of the group elicited. Consultation with TFEIP members is planned to take place during the TFEIP meeting and workshop in May 2015. Following this, the project team will develop draft methodologies and Guidebook text. This will be circulated for consultation in late 2015, working with the TFEIP Expert Panel co-chairs.

Thank you for your co-operation with this process.

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