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LONG-RANGE TRANSBOUNDARY AIR POLLUTION

Steering Body to the Cooperative Programme for Monitoring and Evaluation  
of the Long-range Transmission of Air Pollutants in Europe (EMEP)  
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Item 4 (g) of the provisional agenda

**DRAFT NOTE ON THE DIFFERENCES BETWEEN THE REVISED AND  
THE PREVIOUS EMISSION REPORTING GUIDELINES**

Note prepared by the Chairman in consultation with the secretariat and  
the Meteorological Synthesizing Centre West

**Introduction**

1. At its twenty-first session, the Executive Body requested the EMEP Steering Body to prepare a note on the difference between the revised Emission Reporting Guidelines,<sup>1/</sup> adopted by the Steering Body at its twenty-sixth session in 2002, hereinafter “the 2002 Guidelines”, and the previous Guidelines (EB.AIR/GE.1/R.65 of 8 July 1991, superseded by EB.AIR/GE.1/1997/5 of 30 June 1997), hereinafter “the 1997 Guidelines”.
2. This note explains the treatment in the 2002 Guidelines of emissions from air traffic, the calculation of emissions from fuels (in road, inland and maritime transport, as well as fishing) and aims to clarify the treatment of the national territory of a Party for purposes of emission reporting under the Convention.

Documents prepared under the auspices or at the request of the Executive Body for the Convention on Long-range Transboundary Air Pollution for GENERAL circulation should be considered provisional unless APPROVED by the Executive Body.

<sup>1/</sup> The revised “Guidelines on Estimating and Reporting Emission Data” (formerly EB.AIR/GE.1/2002/7 and Corr. 1) were published as the “Emission Reporting Guidelines” in the Air Pollution Studies series, No. 15, a United Nations Sales Publication (ECE/EB.AIR/80), Sales No. E.03.II.E.44, ISBN 92-1-116861-9.

## **I. COMPARISON OF GUIDELINES WITH RELEVANCE TO THE CALCULATION OF NATIONAL EMISSION TOTALS**

3. The Task Force on Emission Inventories and Projections, at its twelfth meeting, held on 22-24 September 2003 in Warsaw, discussed various issues that had arisen in the reporting of emission data by experts using the revised Emission Reporting Guidelines. It recognized that the revisions made to the 2002 Guidelines could give rise to discrepancies in national emission totals when compared with data submitted previously, and in accordance with the 1997 Guidelines. For Parties that are Member States of the European Union, discrepancies could also result between reporting to the Convention (using the 2002 Guidelines) and reporting under the European Community's National Emission Ceiling (NEC) Directive. The Steering Body recommends specific actions in order to alleviate these discrepancies, and to facilitate reporting by Parties, as described below.

### **A. Issues concerning emissions from air traffic**

4. Under the 1997 Guidelines, national totals included emissions from domestic aviation during landing, take-off and taxiing (LTO). Under the 2002 Guidelines, national totals include domestic aviation both at LTO cycles (< 1000 metres) and at cruise level (> 1000 metres, non-LTO). National totals under the 2002 Guidelines include the additional emissions from cruise traffic and thus will not be comparable with data reported in previous years.

5. While the 2002 Guidelines indicate clearly that international aviation emissions should be reported as memo items (i.e. not included in the national totals), the 1997 Guidelines were less clear concerning international aviation. The previous version of the CORINAIR Atmospheric Emission Inventory Guidebook (hereinafter "the Guidebook"), moreover, indicated that emissions from both national and international LTO cycles should be reported. The lack of clarity in the 1997 Guidelines may have led to inconsistencies in the reporting of aviation emissions.

6. Moreover, the NEC Directive includes national and international aviation within the LTO cycle in the reported national totals. Both LTO and non-LTO emissions from international aviation are to be reported as memo items according to the 2002 Guidelines. This implies that the differences in aviation emissions between the 1997 Guidelines, the 2002 Guidelines and the NEC Directive are traceable, i.e. can be documented and explained, as long as these international aviation memo items are reported.

7. The inclusion of domestic aviation emissions at cruise level is expected to make a small contribution to the reported national emission totals. In the 2003 reporting round, few Parties reported domestic LTO aviation emissions. Of these, seven included domestic aviation emissions at cruise level in their reported national totals. The increase in national emissions due to the introduction of domestic cruise emissions for these countries was on average: 0.5% for carbon monoxide, 0.2% for non-methane volatile organic compounds, 0.8% for nitrogen oxide, 0.2% for sulphur, and negligible for ammonia. A larger influence in the national emission totals can be expected when Parties have (erroneously) reported international LTO emissions as part of their national totals.

8. The Steering Body will encourage Parties to:

(a) Consider the differences in national totals that may arise when reporting in accordance with the 2002 Guidelines, i.e. including additional emissions from domestic aviation at cruise levels;

(b) Revise their aviation emission reporting for previous years and correct possible inconsistencies related to the (erroneous) inclusion of international LTO aviation sources in their national totals. If such inconsistent reporting has taken place in the past, Parties may be requested to explicitly include this information in the informative inventory reports that are to be submitted in accordance with paragraph 38 of the 2002 Guidelines; and

(c) Report the memo items on international aviation emissions in order to facilitate comparison with reporting under other obligations. For Parties that are Member States of the European Union, reporting these memo items will facilitate comparison with national emission reporting under the NEC Directive.

9. To provide the additional information needed, the secretariat will underline the need to report memo items on international aviation for purposes of comparison with reporting under other international obligations, in its letter to designated emission experts initiating the 2005 emission reporting round and in subsequent rounds until the Guidelines are again revised.

**B. Issues concerning the calculation of emissions from fuels in road, inland and maritime transport and from fishing**

10. Under the 1997 Guidelines, reporting of emissions from road transport and other mobile sources and machinery included fuel consumption by marine and air international

bunkers, although neither the fuel nor related emissions were to be included in national emission totals. Treatment of fuel in other modes of transport was not specified, although the Guidebook recommends reporting on the basis of fuel consumed. Under the 2002 Guidelines, Parties reporting emissions from mobile sources on the basis of fuel consumed are encouraged to also report emissions on the basis of fuels sold to the final consumer (Emission Reporting Guidelines, annex I, definitions, para. 2).

11. Reporting according to fuel sold has the advantage of being less resource demanding, more accurate, easier to verify and is in accordance with the reporting guidelines under the Intergovernmental Panel on Climate Change (IPCC), on the basis of which many countries have developed their inventory databases. Harmonization with IPCC reporting was one important rationale for including in the revised Guidelines a paragraph to encourage reporting of emissions on the basis of fuels sold. On the other hand, reporting according to fuel consumed has the advantage of better meeting the needs of source allocation, as emissions are reported on the basis of where they are emitted to the atmosphere.

12. In either case, the method chosen by a given Party is not immediately evident in assessing submissions under the 2002 Guidelines, unless it is specified by the Party in a covering note or in their informative inventory report. This lack of clarity about which fuel statistics are used as the basis for national emission estimates may result in discrepancies in the total emissions reported to the Convention because the same emissions may be reported by more than one Party (double-counting), or omitted, i.e. not reported by any Party. The difference in emissions reported according to fuel sold and fuel consumed can have consequences for total emission reported for road transport, shipping (both inland and maritime) and fishing, as explained below.

13. **Road transport.** Source categories under road transport are the same in the 2002 Guidelines as they were in the 1997 Guidelines. However, in the 2002 Guidelines, Parties are given a choice of whether to report emissions on the basis of fuel used or fuel sold to the final consumer. As noted above, it is not always obvious in a given submission whether a Party has reported on the basis of fuel consumed or fuel sold, so the extent of these differences is difficult to assess. Therefore, it is recommended that Parties should state clearly in their submissions the basis of their calculations, including with respect to previous submissions, as this will allow comparability with reported national emission time-series data.

14. **Inland waterways and maritime activities.** In the 1997 Guidelines, “other mobile sources and machinery” included transport by ship including ferries, irrespective of flags,

between ports in the same country, located within the EMEP area. In the 2002 Guidelines, “national navigation” includes both national sea traffic within the EMEP area and transport by inland waterways. The revision of the Guidelines concerning the option to report according to fuel sold is not expected to have practical consequences for the reporting of emissions from marine activities. It is expected that most Parties report emissions from marine shipping according to fuel sold, since data on emissions based on fuel consumed are not widely available.

15. Differences may arise in relation to the definition of national navigation. Regarding international sea traffic, in the 1997 Guidelines, “fuel consumption by marine and air international bunkers is to be reported, but neither the fuel nor the related emissions are included in national totals.” In the 2002 Guidelines, “national navigation” includes both national sea traffic within the EMEP area and transport by inland waterways. International sea traffic is considered a memo item; no indication is given regarding international inland shipping. It is thus not clear what Parties are expected to report under national navigation. The NEC Directive specifically excludes only international maritime shipping and, therefore, includes international inland shipping.

16. It is recommended to include international inland shipping explicitly as a memo item in the 2002 Guidelines to facilitate comparison with reporting under other obligations. For Parties that are Member States of the European Union, reporting these memo items will facilitate comparison with national emission reporting under the NEC Directive. Parties may be requested to explicitly document whether international inland shipping is included in their national reports. In a future revision of the Guidelines, it may be considered to include international inland shipping in national totals in order to be consistent with the energy balance as treated by the International Energy Agency (IEA) and reporting under the NEC Directive.

17. **Fishing.** Under the 1997 Guidelines, emissions from fishing boats are included under “other mobile sources and machinery” and are to be reported if nationally registered within the EMEP area. The NEC Directive does not directly address fishing but since it is not excluded it is considered part of national maritime shipping and inland shipping. In the 2002 Guidelines, fishing is not included under transport, but under other sectors (agriculture/forestry/fishing). This is not a significant difference and the reported national totals are not expected to change because of the change in sector classification.

18. More relevant are the differences that may arise from the choice given to Parties to report according to fuel used or fuel sold to the final consumer. The Guidebook states that

emissions from fishing should be reported according to fuel sold. It also states that all emissions should be considered domestic (no bunker fuel). This is consistent with the energy balance of IEA. The difference between emissions reported based on fuel used and fuel sold may have consequences for Parties that have large fishing fleets operating in distant areas and possibly bunkering in other countries. As in the case with emissions from other mobile sources, this may give rise to discrepancies because more than one Party may report the same emissions.

19. As a possible solution, the Steering Body will:

(a) Encourage Parties to state clearly in their informative inventory report the method of calculation used for reporting emissions on mobile sources, either fuel consumption or fuel sold to the final consumer. This should also apply to previous submissions, in order to allow comparability with national emission time-series data;

(b) Encourage Parties to report the contribution from international inland shipping as a memo item, in order to facilitate comparison with reporting under the NEC Directive;

(c) Consider the merits of adding a memo item to the reporting tables for the calculation of emissions from transport on the basis of fuels sold, whenever Parties have chosen to report their transport emissions on the basis of fuel consumption. Such a memo item would facilitate reporting under the 2002 Guidelines which request Parties to additionally report emissions on the basis of fuel sold when they have reported according to fuel consumption (Emission Reporting Guidelines, annex I, definitions: para. 2). As mentioned above, this recommendation was introduced in the 2002 Guidelines because the method of calculating emissions from transport on the basis of fuel sold was considered less resource-demanding, more accurate, easier to verify and in accordance with the IPCC guidelines, on the basis of which many countries have developed their inventory databases.

## **II. ISSUES ARISING FROM A LACK OF CLARITY CONCERNING THE TERRITORY OF A PARTY**

20. The 1997 Guidelines state: “all Parties submit national annual emission data from the territories covered by EMEP.”(EB.AIR/GE.1/1997/5, para. 12). The 2002 Guidelines go further in clarifying its scope, specifying the relevant reporting provisions in the Convention and with regard to each of its protocols (Emission Reporting Guidelines, para. 6).

21. Under the respective protocols, a Party should report on the level of emissions within its territory, if it is a Party within the geographical scope of EMEP. According to the Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (1984 EMEP Protocol), the “geographical scope of EMEP means the area within which, coordinated by the international centres of EMEP, monitoring is carried out” (art.1). This is also referred to as the EMEP gridded area. Parties that are outside the geographical scope of EMEP are encouraged to make available similar information to that requested by the Guidelines.

22. For several Parties to the Convention, this definition of territory implies that their national emission totals do not correspond to the emission totals within the EMEP gridded area. This is the case for European countries with overseas territories (e.g. Spain and France) and for countries extending beyond the geographic scope of EMEP (e.g. the Russian Federation and Kazakhstan). The geographical scope of EMEP has changed in the past. The most significant change was in 2000, when the EMEP grid was extended to the East to cover the territory of new Parties to the Convention (in particular, Armenia and Georgia). It can be expected that the inclusion of new Central Asian Parties to the Convention will involve a further extension of the geographical scope of EMEP in the coming years.

23. In order to secure the traceability, continuity and harmonization in national emission reporting, some Parties have expressed the need to report emissions for their entire national territory as well as to report gridded emissions for the territory within the geographical scope of EMEP. The Steering Body will consider the question of coverage for emission reporting and consider adding a memo item to the reporting tables of the 2002 Guidelines requesting Parties with national territories beyond the geographical scope of EMEP to report in a transparent way both their protocol totals and also their total within the EMEP area.