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CONTRIBUTION

From:	General Secretariat of the Council
To:	Working Party on the Environment
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Subject:	Air Quality Directive: follow-up to the meeting on 9 March- comments from delegations

Following the call for comments (WK 3449/23), delegations will find attached comments received from Croatia and Austria.

CROATIA

WPE - 9 March: Articles 7-11

Comments

17 March 2023

In order to facilitate the Member States in planning effective and comparable application of certain provisions of this Directive we propose to consider, where appropriate in the Proposal, defining the deadlines for the adoption/entry into application of specific technical guidelines documents, implementing provisions and/or templates.

Art. 7. and Annex II

Regarding Art. 7.(1) we would welcome further clarification of the linkages between the provision of Art. 6. on the establishment of zones (and agglomerations) and the provisions of Art. 7.(1) on the classification that shall be taken in each zone. Does the provision of Art. 6. - "*MS shall establish zones ...., including,* ***where appropriate for the purpose of air quality assessment and management, at the level of agglomeration***" imply all other provisions of the Proposal, where appropriate and/or where the word "agglomeration" is deleted? Does Art. 6. imply that the Proposal still retains the concept of zones and agglomeration in order to give flexibility to MS in the delimitation of their territory?

We consider as relevant to refer here to Article 5(d), which envisages that Member States shall designate at the appropriate levels the **competent authorities and bodies responsible for ensuring the accuracy of (*air quality*) modelling applications**, and we would emphasise potential problems that may arise in implementation due to the fact that Croatia has specific geographical and meteorological challenges when it comes to modelling. Croatia still needs to improve some important bottom- up emission data and Croatia is on the border of the EU next to non-EU countries that are not obliged to comply with the EU emission inventory requirements and such circumstances increase uncertainty of modelling application and might lead to difficulties in ensuring the accuracy.

Despite given explanation that the assessment regime is being simplified by setting one assessment threshold, we believe that lowering the **assessment threshold for BaP** will cause additional requirements and costs for air quality measurements. It could also be a problem for some Member States to carry out measurements of such low concentrations, considering the detection limits of applied methods. Furthermore, it is noted that the limit value for BaP is set to one decimal place (1.0 ng/m3), while assessment thresholds is set on two decimal place (0.12 ng/m3).

Reference: WHO Air Quality Guidelines 2000, for BaP:

No specific guideline value can be recommended for PAHs as such in air. These compounds are typically constituents of complex mixtures. Some PAHs are also potent carcinogens, which may interact with a number of other compounds. In addition, PAHs in air are attached to particles, which may also play a role in their carcinogenicity. Although food is thought to be the major source of human exposure to PAHs, part of this contamination may arise from air pollution with PAHs. The levels of PAHs in air should therefore be kept as low as possible. In

view of the difficulties in dealing with guidelines for PAH mixtures, the advantages and disadvantages of using a single indicator carcinogen to represent the carcinogenic potential of a fraction of PAH in air were considered. Evaluation of, for example, BaP alone will probably underestimate the carcinogenic potential of airborne PAH mixtures, since co-occurring substances are also carcinogenic. Nevertheless, the well studied common constituent of PAH mixtures, BaP, was chosen as an indicator, although the limitations and uncertainties in such an approach were recognized. To set priorities with respect to control, an excess lifetime cancer risk, expressed in terms of the BaP concentration and based on observations in coke-oven workers exposed to mixtures of PAHs, is presented here. It must be emphasized that the composition of PAHs to which coke-oven workers are exposed may not be similar to that in ambient air, although it was noted that similar risks have been derived from studies of individuals exposed to other mixtures containing PAHs. Having also taken into consideration organic pollutants some recent animal data from which a unit risk of the same order of magnitude can be derived, it was concluded that the occupational epidemiology data should serve as the basis for the risk estimate.

Based on epidemiological data from studies in coke-oven workers, a unit risk for BaP as indicator air constituent for PAHs is estimated to be 8.7 × 10–5 per ng/m3 , which is the same as that established by WHO in 1987. The corresponding concentrations of BaP producing excess lifetime cancer risks of 1/10 000, 1/100 000 and 1/1 000 000 are 1.2, 0.12 and 0.012 ng/m3 , respectively

Article 8.

Regarding Art.8. 3. *"Those modelling applications shall also provide information on the spatial distribution of pollutants and on the spatial representativeness of fixed measurements.",* we expect more clear and detailed guidelines on modelling application.

Regarding Art 8. 5.*" If modelling shows an exceedance of any limit value or ozone target value in an area of the zone not covered by fixed measurements, additional fixed or indicative measurements shall be used during at least 1 calendar year after the exceedance was recorded, to assess the concentration level of the relevant pollutant.",* and taking into account the uncertainty of modelling (dependant on emission data and emission inventories) as well as based on our previous experience in setting up new measurement sites, we would emphasise that it will not be uncommon that **the levels of pollution for the area of the zone might be significantly changed over the period between modelling application and completion of measurement campaign.**

Art. 9. and Art. 10

The provisions define significant changes in criteria for setting up of the sampling points and supersites for specific pollutants (regulated and also non-regulated). At Member State level, such changes will result in extension of the measurement program with additional air pollutants (Article 10) and will require additional costs for the implementation and maintaining of the equipment and data bases as well as additional expert capacities on sites and in laboratories.

Art. 10.

When it comes to pollutants on emerging concern, an advantage situation for Croatia is that we have the long-term measurement practice on NH3 and H2S concentrations in ambient air.

Regarding previous comments on Art. 4. - definition of BC, we would complement as follows:

The definition of terms and abbreviations related to BC in the scientific and professional literature still varies a lot, depending on the pollution origin and the applied measurement method. Different terms and abbreviations are in use (BC, eBC, EC, bBC, rBC, soot), depending on the measuring technique applied. The term eBC is mainly related to the results of measurements obtained by optical methods, which are additionally corrected using the MAC (Mass Absorption Cross-Section) coefficient. However, we have to emphasize that, by now, there is no generally accepted standardized method for BC and the optical method is not the only one, nor it has been proven the best to determine carbon in the air. Apart from the aethalometers, there are, for example, various on-line and off-line methods based on thermo-optical transmission, reflection, reflectometry, etc.). All these methods are still being developed and there is still no common consensus on which measuring principle is proven to be the best. Therefore, in the absence of a standardized method, it might be better not to define BC as eBC at this moment, because it implies the application of only one type of device (measuring principle). Although the Croatian air quality monitoring network was recently modernised and equipped through the EU structural funds project with eight aethalometers for measurement of BC using the optical method (which means that Croatia is able to fulfil the requirements for measuring eBC), we suggest that, at least until the methods are standardized, other available techniques should be taken into account in the Proposal.

Additionally, and given the fact that the Proposal introduces the measurement of new unregulated parameters (UFP, BC), we would refer on possible other important parameters such as **levoglucosan**. In addition to the measurement of EC, OC, anions and cations, for which it is stated in Annex VII: "*The main objectives of such measurements are to ensure that adequate information is made available on levels in urban background and rural background locations.",* we deem information on levoglucosan levels is also essential to *"judge the enhanced levels in more polluted areas (such as urban background, industry related locations, traffic related locations), assess the possible contribution from long-range transport of pollutants, support source apportionment analysis and for the understanding of specific pollutants such as particulate matter. It is also essential for the increased use of modelling, also in urban areas*."

Measurements of anhydrosugars such as levoglucosan, mannosan and galacosan would provide very valuable information about the origin of particulate air pollution. Levoglucosan is a specific marker for biomass burning, so such data are very valuable in the context of assessing the impact of using biomass in heating devices, as well as considering the increasing frequency of forest fires in summer in the Mediterranean area. For levoglucosan, there is a VDI 2444 method from 2020: "*Ambient air - Measurement of levoglucosan - Chromatographic method*" that could be used as a standard.

ANNEX V, B

Annex V,B. *Data coverage of measurements for ambient air quality assessment*" contains minimum data coverage for new, unregulated parameters BC, Ammonia (NH3), UFP, particle size number distribution of UFP, although there is no standardized methods or guidelines on measurement for these pollutants. On the other hand, **in Annex V there is no minimum data coverage for OC, EC and ions NO3-, SO42-, Cl-, NH4+, Na+, K+, Mg^{2+}, Ca^{2+} in PM2.5,** for which Annex VII C clearly states measuring methods and norms. We suggest to include minimum data coverage for OC, EC, NO3-, $SO4^{2-}$, Cl-, NH4+, Na+, K+, Mg^{2+}, Ca^{2+} in the table B of Annex V.

AUSTRIA

AT COMMENTS: Air Quality Directive (WK 3449/2023)

Following the request by the Presidency after the WPE meeting on 9 March, AT submits the following comments on the Commission's proposal for the recast of the Air Quality Directives:

Art. 8 - Annex IV A, Art 8.7 (Annex III.D, Annex VII.3), definitions (Art. 4 points 9, 14, 19, 20, 21, 22)
Art. 4 (14): We support comments regarding the need for an exact definition of the lower limit. Moreover, the phrase "in cm^{3}" might not be correct and should be corrected to "in cm^{-3}" (minus missing).

Art. 8.6: In addition to our clarification request regarding the phrase "*area* of the zone" in para 5, we note that it is also not clear what is meant by the term "*limited number*" in the phrase "*at a limited number of sampling points*". Both terms are open to interpretation and could lead to different approaches in the member states if not clarified or defined.

Art. 8.7: We point out that it is not clear what the phrase "*where applicable*" refers to. Does it link to Annex III.D in a way that additional fixed measurements for UFP is only required if there exist locations where high UFP concentrations are likely to occur (ie such as those listed in Annex VII.3)? If it is to be understood in this way, we propose to include the phrase ***"at locations where high UFP concentrations are likely to occur***" directly in Art. 8.7. instead of the "*where applicable*". In this regard, we also note that the headline of Annex III.D seems to be incomplete (possibly missing "*are likely to occur*").

Art. 9 - Annex IV B, C, D, Annex III, Art 9.4 (Annex VII.2.A-C), definitions (Art. 4 points 11, 12, 23, 24)
We support that modelling should not be used for compliance checking.

Art 9.3d: The relevance of the reference to Annex IV.B (Macroscale siting of sampling points) is not obvious, since all measurements have to fulfil the provisions laid down in Annex IV.B.

Art. 10 - Art 10.6 (b) (Annex VII.1), definitions (Art. 4 points 4, 10, 13, 25)
Art 10.2: We propose to add Annex IV.C as a requirement ("*in accordance with Point B* ***and Point C*** *of Annex IV.")* since micro-scale siting criteria may also be relevant for monitoring supersites.

Art. 11 - Annex VI, Annex V
Art 11.2: We support the comment that data quality objectives for the new pollutants are not covered by Annex V and should therefore be added.

Annex V.C: The methods to account for missing data might be more complex than described (rf eg methods used in the US (Annex K to U of 40 CFR Part 50)). Hence, a guidance document would be more appropriate.

Annex III.A:
We flag the need to check whether footnote 1 is intended in the present form as it is related to the term "*Sum PM*" in the heading and the text of footnote 1 can also be found in the last sentence of Annex III.A.1.

Regarding the text in Annex III A.1 that follows table 4, we note that the focus of CO on measuring contributions from transport emissions might be outdated since emissions are dominated by "*other stationary combustion*".

Hence, we propose to delete CO from the listing of pollutants:
"*For nitrogen dioxide, particulate matter~~,~~ **and** benzene **~~and carbon monoxide~~**, this shall include at least **~~1~~ one** sampling point focused on measuring contribution from transport emissions*."

Annex IV.B:

Regarding the macroscale siting criteria contained in point 2.(c), it is not clear how the phrase *"is influenced by the integrated contribution from all sources upwind of the sampling point"* contributes to choosing appropriate locations since this is always the case.

We propose to simplify the first two sentences:
"*urban background locations shall be located so that their pollution level **~~is influenced by the integrated contribution from all sources upwind of the sampling point. The pollution level shall~~ is** not **~~be~~** dominated by a single source unless such a situation is typical for a larger urban area*."

Annex VII.3:

There seems to be a typo in the heading of Section 3 ("*particules*" instead of "*particles*").

Regarding point C, we propose to rephrase the sentence as follows:
"*Sampling points shall be established in accordance with Annex IV and V **within the main wind direction** **~~at a location where high~~** **of major** UFP **sources** **~~concentrations are likely to occur and within the main wind direction~~**."*

Art. 12, definitions (Art. 4 point 34)

Following up on our initial comments, to safeguard the directive's objectives by appropriate action and to complement the newly proposed review mechanism (Art 3), we propose to link Art 12 para 1 and 3 explicitly to taking necessary measures to maintain concentration levels below air quality standards. Since other provisions of Chapter III (in particular Art 12 para 2 regarding ozone levels) explicitly refer to "*necessary measures*" to achieve a certain objective, the addition is consistent with the structure of Chapter III from a systematic point of view.

In this regard, we also note that the formulation at the beginning of Art 12 underlines the importance of maintaining good air quality. Hence, we propose the following additions:
"*1. In zones where the levels of sulphur dioxide, nitrogen dioxide, particulate matter (PM_{10} and $PM_{2.5}$), lead, benzene, carbon monoxide, arsenic, cadmium, nickel and benzo(a)pyrene in ambient air are below the respective limit values specified in Section 1 of Annex I, Member States shall **take necessary measures to** maintain the levels of those pollutants below the limit values*."

*"3. In territorial units at NUTS 1 level as described in Regulation (EC) No 1059/2003 where the average exposure indicators for $PM_{2.5}$ and NO_2 are below the respective value of the average exposure concentration objectives for those pollutants as laid down in Section 5 of Annex I, Member States shall **take necessary measures to** maintain the levels of those pollutants below the average exposure concentration objectives*."

Consequently, it might also be useful to define the term "*measures*" (definition is missing) and to distinguish between measures in air quality plans according to Chapter IV and those required to meet other objectives, in particular maintaining good air quality (note: which is also not defined).

We think that this addition is also helpful to be able to maintain measures, which are not only helpful to meet the limit values but also enable to maintain a good air quality and to keep the track towards possible reviewed standards and ultimately the zero-pollution target 2050.

Art. 15 - Annex I.4, Annex IX.2 and 3, definitions (Art. 4 points 32-33)

Para 3 and 4 are partly overlapping and therefore, entailing redundant content. They should be merged into one paragraph. The same holds for Annex IX.1 and 2 that partly contain overlapping content that could be streamlined.