European Environment Agency

Air Quality e-Reporting
Submission procedures for reporting to Eionet CDR
(updated 26/07/2016)

Contents

1. Reporting cycle and deadlines

The Air Quality e-Reporting cycle is shown in Annex 1. Submissions are organised in three separate packages:

- data flows B to G,
- data flows preliminary B and preliminary C,
- data flows H to K.

1.1. Data flows B to G

By **30 September YY**, **the EU Member States** must report information on Zones, Assessment regimes, Assessment methods and Attainment as well as validated assessment data for **YY-1** calendar year under the IPR Decision 2011/850/EU:

- Zones & Agglomeration (data flow B)   *Article 6*
- Assessment Regimes (data flow C)   *Article 7*
- Assessment Methods metadata (data flow D) – for fixed and indicative measurements [1]

  Art. 8 & 9
- Assessment Methods metadata (data flow D1b) – for models and objective estimation [1]

  Art. 8 & 9
- Primary validated assessment data - measurements (Article 10) (data flow E1a)   *Article 10*
- Primary validated assessment data - modelled (data flow E1b)   *Article 10*
- Attainment of environmental objectives (data flow G)   *Article 12*

The request for the **other EEA member countries** not covered by the Air Quality Directive and IPR concerns only:

- Assessment Methods metadata (data flow D) – for fixed and indicative measurements [1]

  Art. 8 & 9
- Assessment Methods metadata (data flow D1b) – for models and objective estimation [1]

  Art. 8 & 9
- Primary validated assessment data - measurements (Article 10) (data flow E1a)   *Article 10*
- Primary validated assessment data - modelled (data flow E1b)   *Article 10*

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[1] Following agreement by the European Commission and as discussed at the first Technical IPR (TIPR) meeting organised in Copenhagen in April 2016, the D dataflow is now split into two envelopes: the **D envelope** (the title remains the same for internal structure) should be used for reporting meta-information on **fixed and indicative measurement** while the **D1b** envelope should be used for reporting meta-information on **models and objective estimation**. Note that this split of the D dataflow does not modify the reporting requirements under Commission Decision of 12 December 2011, but is just intended to simplify the data handling and associated reporting by the Member States.

Note that countries will still be able to report a combined D should they wish (in the 'D' envelope), although this file will not be processed automatically – please inform EEA in advance if you plan to report a D dataset that combines modelled and fixed measurement meta-information in one file/envelope.

When necessary, e.g. following receipt of QA/QC check feedback, *resubmissions following the procedure described in section 4 of the present document, should be received by EEA by 15 January YY+1 the latest.*

Note that EEA will only use data received by the 15th January YY +1 in its annual air quality products e.g. reports, indicators etc. A 'frozen' database will also be prepared at this time and made available for public/research use.

After this date, any resubmission will require explicit prior acknowledgement by the Commission as per art.5 §5 of the IPR Decision 2011/850/EU, before it will be processed by EEA – refer to section 4.

1.2. Data flows preliminary B and preliminary C

By **31 December YY**, the EU Member States must report under Decision 2011/850/EU on **YY+1** prognosis Zones and Assessment regimes.

- Preliminary Information on Zones & Agglomeration (data flow pB)   *Article 6*
- Preliminary Information on Assessment Regimes (data flow pC)   *Article 7*

When necessary, **resubmission** following the procedure described in section 4 of the present document, should be done by **31 March YY+1**. As these data concern zones and assessment regimes foreseen for the coming year, it is not considered that these should be subsequently modified. Therefore **resubmissions will not be processed after this date**.

1.3. Data flows H to K

By **31 December YY**, the EU Member States must also report under Decision 2011/850/EU on Air quality plans, Source apportionment, Scenarios and Measures for **YY-2**:

- Information on Air Quality Plans (data flow H)   *Article 13*
- Information on Source Apportionment (data flow I)   *Article 13*
- Information on the Scenario for the Attainment Year (data flow J)   *Article 13*
- Attainment on Measures (data flow K)   *Art. 13&14*

If necessary, **resubmission of updated details can be done throughout the following year.**

2. Tools and support for countries

2.1. AQUI

AQUI software was provided by EEA to countries as an interim reporting system for the first two years of reporting of the AQ e-Reporting system. The software was designed to support countries in their reporting while they developed their own national system compatible with the e-Reporting requirements. **Since December 2015, the use of AQUI is not supported by the EEA**.

2.2. P&P tool for data flows H - K

Unless the Member State has developed its own IPR compliant system for H - K, the information for these data flows will be transmitted in XML files generated by the "AQ Plans & Programmes eReporting" tool developed by JRC.

2.3. The AQ portal

An Air Quality Portal website (http://www.eionet.europa.eu/aqportal) has been established, where countries can find all detailed description of the data requirements as well as information on quality assurance checks and aggregation rules. Main documents are:

- the IPR guidance document established by the European Commission (part 1 and part 2),
- the User Guide to XML and Data model,
- the Quality Assurance and Control rules for e-Reporting and
- the Aggregation rules.

2.4. AQ e-Reporting helpdesk

In case of problems as well as for any question or clarification related to e-Reporting and the procedures to be followed, please do not hesitate to contact the AQD e-Reporting Helpdesk:

aqipr.helpdesk@eionet.europa.eu

2.5. Commercial reporting software tools

Several companies are marketing software tools for reporting and support to countries on a commercial basis. EEA is unable to offer support if problems are experienced by countries in using such third-party reporting tools.

3. Submission and upload to Eionet Central Data Repository (CDR)

3.1. Delivery

- The countries will deliver all the data flows into the CDR as XML files.

- The date of delivery recognised by EEA is the date of 'effective release' of envelope(s). 'Effective release' means an uploaded file which has passed the Eionet CDR automatic blocking QA checks (see sections 3.3 and 5).

3.2. Reporting sequence for upload of files

Data flows B to G

There is a sequential series of quality assurance (QA) checks performed on the submitted files as they are uploaded to CDR. Due to the need to perform consistency checks across different data flows, a specific reporting sequence should be followed. The sequence is dictated by the links existing between the different data flows:

- QA on data flow B are based on the XML delivered.

- QA on data flow D and D1b are based on the XML delivered.

- QA on data flow C are based on checks within the delivered XML itself and cross-checks on data submitted (B & D/D1b). This means data sets B & D/D1b have to be already effectively released (i.e. without any blockers).

- QA on data flow G are based on checks within the delivered XML itself and cross-checks on data submitted (B, C & D/D1b) and correctly processed in EEA's Content Registry. It means that you can run cross-checks vs. B, C & D/D1b when your data set G is in draft but your data sets B, C & D have to be already effectively released (i.e. without any blockers).

Countries should therefore release the data flows B and D/D1b first, then after a short period (in principle 10-15 min., time for the system to process B and D/D1b in order to perform crosschecks) release data flow C and data flow E1a and finally dataflow G.

$$B \Rightarrow \begin{matrix} D \\ D1b \end{matrix} \Rightarrow C \Rightarrow \begin{matrix} E1a \\ E1b \end{matrix} \Rightarrow G$$
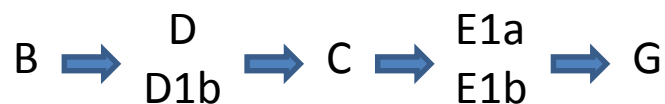
Data flows preliminary B and preliminary C

The same sequence rules apply to delivery of preliminary B and preliminary C data flows. Please note that in this case, QA on preliminary C will be done on the basis of the information of the latest D/D1b delivered.

$$pB \Rightarrow pC$$

Data flows H to K

$$H \Rightarrow I \Rightarrow J \Rightarrow K$$

It must be noted that H and I reporting assumes that G has earlier been successfully delivered.

3.3. CDR reporting procedure for all data flows

Submission steps are the following (see also figure in Annex 2):

1. Create an envelope and activate task in draft mode. As 'period' make sure you indicate the year of the data for which you are reporting on e.g.:

    - if you are reporting data and metadata B-G on 2015 (reporting deadline 30 September 2016), indicate 2015.

    - if you are reporting preliminary B and preliminary C for 2017 (reporting deadline 31 December 2016), indicate 2017.

    - if you are reporting plans and programmes for 2014 (reporting deadline 31 December 2016), indicate 2014.

    The reporting year indicated in envelope period must be consistent with reporting year under the XML's Reporting Header.

2. Upload your file. As you are in draft mode the file is not publicly accessible and it can be deleted and re-uploaded.

3. Run the specific QA checks on data structure which are available for this envelope. The time taken for running the checks is dependent upon the respective data flow and size of file. However normally feedback should be provided within minutes for an 'average' delivery.

4. Go through the QA results and identify anomalies. Use the QA document and the associated list to get detailed descriptions of the checks.

    - Pay particular attention on those errors in RED corresponding to crucial checks or blockers. These checks if not fulfilled will prevent (block) the effective release until errors are corrected.

    - The warnings in ORANGE are important errors which need your attention. These will not prevent the release of the envelope. However, they could have knock on effects concerning QA for other data flows as well as later feedback and data processing.

5. Review and correct any anomalies: you can delete the data file from the envelope in draft, reload a new (corrected) data file, and then rerun the QA checks. Iterate as needed.

6. When you are satisfied with the delivery content, 'release' the envelope.
    Checks will then run automatically with automatic feedback posted back in the CDR envelope. The envelope will be 'effectively released' only if no blocking errors are detected.

    If blocking errors occur, an error message is issued and the envelope will be automatically turned back in draft mode. **If no blocking errors occur, the delivery will be 'effectively released' and a confirmation will be posted in the C**D**R envelope together with the automatic feedback**. Once 'effectively released' countries no longer have the possibility to revoke the envelope into draft mode.

7. Once 'effectively released', data files will then undergo a **final verification** done by the EEA/ETC-ACM. This is a partly manual process and so countries should be prepared that this step can take up to several days following submission of the relevant files. **This step will lead to the acceptance of the data file with or without a request for corrections posted in the CDR envelope**. Regardless of any potential request for corrections at this stage, the envelope will then be finalised and the data imported in the EEA's system. The B, C, D and G data will be available in the system outputs (data viewers) after 24 hours (it might be more in peak reporting periods), including the statistics (F) automatically calculated from the validated measured data (E1a). Specific viewers for preliminary B, preliminary C as well as H – K are under development.

4. Resubmission of data flows

4.1. Concepts

- **Any resubmission** (updated or corrected data file) will have to be made **in a new envelope and will follow the normal submission process**.

- For all resubmissions, **the European Commission requires countries to also describe the differences between the updated and original information, and provide the reasons for the update** (i.e. as per Commission Implementing Decision 2011/850/EU, Article 5). This can be done by including the required information in a Word document and including this within the respective envelope together with the re-submitted data flow (see also section 4.2).

- The **following rules** for resubmission must be respected:
    . for **all data flows except E1a and E1b** always redeliver the **whole data set** and not only the modified/corrected part.
    . in case of correction of **data flows E1a and/or E1b**, redeliver either the complete data set or the corrected part only.

- Please note that the resubmission of data flow G implies prior release of data flows B, C, D and E1a, so the system can provide a comparison between your G dataflow and the EEA analysis on attainment. Keep in mind that it can take up to 24 hours to process E1a after release and therefore at least 24 hours before this comparison can be done.

4.2. Provision of justification for resubmissions

Following the provision of Art.5 of the Implementing Decision 2011/850/EU, all resubmissions must be accompanied by a **justification explaining the reason for resubmitting as well as details on the modifications/correction done**.
However, in case the resubmission follows a request for correction as explained in step 7 of the submission procedure (section 3.2), the justification for re-submission can simply refer to the feedback report earlier produced together with the correction request.
The justification document must be uploaded in the CDR envelope together with the corrected data flow file.

In case of data re-submissions for data flows B to G done after the *15 January YY+1*, the resubmission will only be released and processed by EEA after receiving confirmation from the European Commission that there is sufficient grounds for the re-submission.
For re-submissions of data flows B to G after the *15 January YY+1,* Member States should therefore always directly inform the European Commission (ENV-AIR@ec.europa.eu) that a resubmission has been made and include details of the required justification as per art.5 of the IPR Decision 2011/850/EU. The Commission will then acknowledge the receipt of the new information to the MS. The file can then be released and processed into the AQ e-reporting databases.

Please note that **the Commission might need to re-assess the content** of any specific submission throughout the reporting year. If shortcomings on the information provided by the MS are then detected, the Commission will contact the MS by email to ask for further clarification.

5. Automatic QA checks

A number of automatic quality checks are performed by the Eionet CDR system to ensure the integrity of the data reported under air quality e-Reporting. These checks are categorised as:

- **'Blocking' errors** – serious errors that prevent the submitted file being accepted and processed by the e-Reporting system. Countries must correct the identified issue and redeliver the respective data flow.
- **'Warning' errors** – non-critical issues that do not prevent the processing of the reported data flow, but which need to be checked by country experts.
- **Information items** – a summary of certain reported information and key parameters e.g. number of zones reported.

As few 'blocking' checks are applied as possible. These checks only identify certain critical problems following two key principles:

- the identified problem prevents the data being correctly processed by the air quality e-Reporting system;
- the identified problem indicates that an important inconsistency with a second reported data flow occurs.

The blocking errors pertain to the following categories:

- **failure at envelope checks**, e.g.: wrong envelope (start) year, wrong Reporting Header (e.g. missing reporting period),

- **failure at XML schema validation**,

- **failure at xlink references**, e.g.: wrongly specified code list URLs, failing cross-checks between C and D,

- **failure at crucial QA checks** (not applying to H-K at the moment).

These blockers are necessary to avoid importing incoherent data and information in the EEA database. The full list of QA checks is accessible [here](#).

6. Good practice requirements

6.1. Naming envelopes on Eionet CDR

For clarity, **follow unambiguous rules and common sense** in naming your envelopes and data files on Eionet CDR. It is always recommended to include the reporting year as well as a version number (instead of e.g. using adjective such as corrected_final, final_2, final_correct_1 etc.)

6.2. Envelope period

Make sure to indicate the correct reporting year. **The reporting year is the year you are reporting on** i.e. in 2016

September delivery:	B – G:	2015
December delivery:	Preliminary B and preliminary C:	2017
December delivery:	H – K	2014 or 2015

The envelope (start) year must be equal to the year specified in gml:beginPosition element (in aqd:AQD_ReportingHeader). If you specified also the end year on the envelope - it must be equal to the year given in gml:endPosition element (in aqd:AQD_ReportingHeader).

If you need to correct the year on the envelope, you can do this in 'Edit properties' tab.

6.3. Local IDs

Local IDs must be:

- **UNIQUE through history and YEAR INDEPENDENT**

  for preliminary B, B & D as well as H to K, e.g. for 2013: ZON_XX0104 and SP_XX8781_7_8, in 2014, if the objects remain the same, they have the same local Ids: ZON_XX0104 and SP_XX8781_7_8

- **UNIQUE through history and YEAR SPECIFIC**

  for preliminary C, C & G, e.g. for 2013: ARE_XX0108_20_LV_H_aMean_2013 and ATT_XX0108_20_LV_H_aMean_2013, in 2014 they must have new local Ids, e.g.: ARE_XX0108_20_LV_H_aMean_2014 and ATT_XX0108_20_LV_H_aMean_2014

WARNING

LOCAL IDs WHICH ARE UNIQUE THROUGH HISTORY AND YEAR INDEPENDENT SHOULD ONLY BE CHANGED IF THE OBJECTS THEMSELVES HAVE CHANGED.
DO NOT CHANGE THEM UNLESS STRICTLY NECESSARY AND ONLY AFTER HAVING PREVIOUSLY CONTACTED THE EEA.

6.4. Delivering data flows from previous years

Once you have delivered your files for the latest reporting year**, do not re-deliver data flows for previous years before contacting the EEA first.**

6.5. Year specific and year independent data flows

Preliminary C, C and G are year specific which means that they contains data and information only for the specified reporting year.

Preliminary B and B is year independent although the attributes might change from year to year (e.g. population number may change from one year to another). Preliminary B and B may contain exactly the same zones (with the same local Ids) as in previous years if there are no changes in zoning.

D is also year independent and is not specific to the reporting year: it contains the most up-to-date information including the historical meta-information on measurement techniques, sampling points, stations and networks as well as the information for the coming year. **Do not forget that D is used to accept UTD data as well as the preliminary C** which means that it might/must contain up-to-dated meta-information and not only the meta-information strictly necessary for e.g. the 2015 reporting year. However, the start year in D data set (gml:beginPosition in element aqd:AQD_ReportingHeader) should be always equal to the reporting year (current year – 1), independently from how far in the past it goes. The end year (gml:endPosition in element aqd:AQD_ReportingHeader) can be the current or future year, e.g. if you include data corresponding to your UTD it will be 2016, if you include the plan (preliminary reporting) for next year, the end year will be 2017.

6.6. More than one Observing Capabilities at the same Sampling Point

Keep in mind that **if you report more than one Observing Capabilities within the same Sampling Point with corresponding time series, they should not overlap in time.**

6.7. Reporting BaP and heavy metals

The code corresponding to BaP and heavy metals monitoring performed in line with the AQ Directive are:

- **5012**   **Pb in PM10**
- **5013**   **Hg in PM10**
- **5014**   **Cd in PM10**
- **5015**   **Ni in PM10**
- **5018**   **As in PM10**
- **5029**   **BaP in PM10**

Make sure to use the proper codes in a consistent way throughout the different data flows B to G.

6.8. Update data in E1a

Resubmit the time series to be updated (see resubmission procedure). The new data will overwrite the previous ones.
Keep also in mind that E1a overwrites E2a.

To "delete" data either indicate "-999" as value or set the validity flag to -1. By doing so, these "deleted" data won't be used for any further processing including aggregation and statistics calculation.

6.9. Deleting a sampling point and its associated time series in E1a
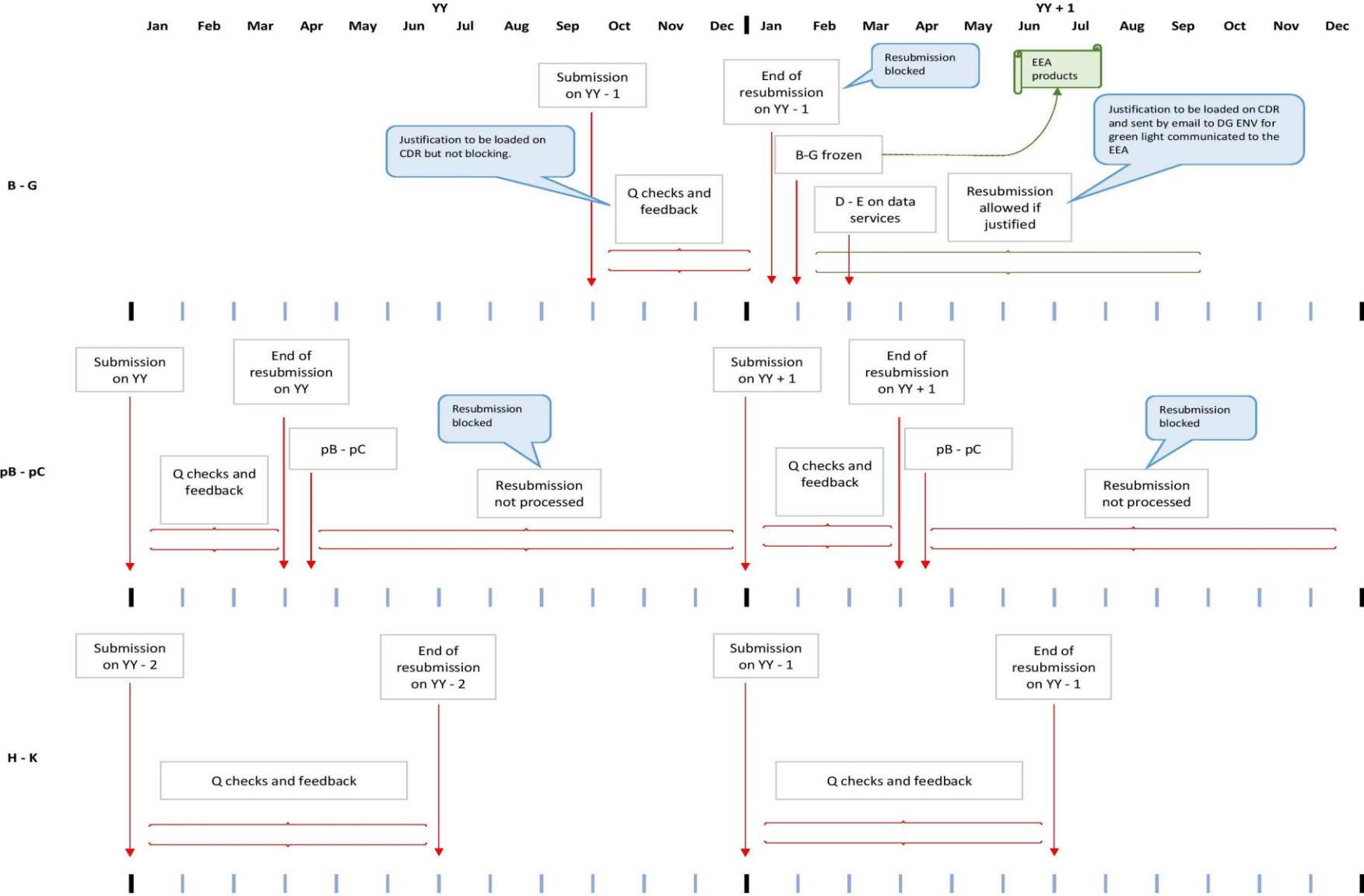
Remove the meta information (Sampling Point and Observing Capability) associated to the time series in D. The corresponding data in E1a will become "orphan" in the air quality e-Reporting system and then will not be used for any further processing and use.

7. Helpdesk

In case of problem as well as for any question or clarification related to e-Reporting and the procedures to be followed, please do not hesitate to contact the AQD e-Reporting Helpdesk :

aqipr.helpdesk@eionet.europa.eu

Annex 2: Submission procedure