

# Air Quality e-Reporting

## Submission procedures for reporting to Eionet CDR

(updated 20/07/2018)

### Contents

<b>1. Reporting cycle and deadlines .....</b>	<b>3</b>
1.1. Data flows B to G.....	3
1.2. Data flows preliminary B and preliminary C.....	4
1.3. Data flows H to K.....	4
<b>2. Tools and support for countries.....</b>	<b>5</b>
2.1. AQUI .....	5
2.2. P&P tool for data flows H - K.....	5
2.3. AQ e-Reporting helpdesk.....	5
2.4. Commercial reporting software tools.....	5
2.5. AQ Portal.....	5
<b>3. Submission and upload to Eionet Central Data Repository (CDR) .....</b>	<b>7</b>
3.1. Delivery .....	7
3.2. Reporting sequence for upload of files .....	7
Data flows B to G .....	7
Data flows preliminary B and preliminary C .....	8
Data flows H to K .....	8
3.3. CDR reporting procedure for all data flows .....	8
<b>4. Resubmission of data flows.....</b>	<b>10</b>
4.1. Concepts .....	10
4.2. Provision of justification for resubmissions.....	10
<b>5. Automatic QA checks .....</b>	<b>11</b>
<b>6. Good practice requirements.....</b>	<b>13</b>
6.1. Naming envelopes on Eionet CDR.....	13
6.2. Envelope period.....	13
6.3. Local IDs .....	13
6.4. Delivering data flows from previous years .....	14
6.5. Year specific and year independent data flows .....	14
6.6. More than one Observing Capabilities at the same Sampling Point .....	14
6.7. Reporting BaP and heavy metals.....	14
6.8. Update data in E1a .....	15
6.9. Deleting a sampling point and its associated time series in E1a.....	15
6.10. Reporting data in E1a with different sampling duration (element primaryObservation: day, hour, var).....	15
<b>7. Helpdesk .....</b>	<b>16</b>

Annex 1: AQ eReporting cycle and deadlines .....	17
Annex 2: Submission – resubmission procedure .....	18



and text in green = new or modification (07/2018)

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

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 submitted by 15 December YY the latest.***

<sup>1</sup> 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.

***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 can 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](#)
- Information on Measures (data flow K) [Art. 13&14](#)

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

## 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 and available at the [AQ Portal](#).

### 2.3. 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](mailto:aqipr.helpdesk@eionet.europa.eu)

### 2.4. 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.

### 2.5. AQ Portal

The [European Air Quality portal](#) (or AQ Portal) contains technical details and services that facilitate the reporting of official air quality information from EU Member States and other EEA member and co-operating countries.

At the portal, users can find 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.

Several products and tools, developed for the AQ eReporting system, are also accessible there. They are divided into four categories (accessible from the menu bar):

- submission monitoring: these tools allows the reporters to follow the status of their submissions.
- feedback on submissions: these tools summarize the issues found in the submissions.
- data viewers: these tools allows to dig into the data and statistics contained in the EEA databases and to present them either in maps, graphs or tables.
- links to EEA products and services:
  - downloading data: these specific tools allows to download the data contained in the EEA database. This covers mainly E1a and E2a data plus part of the meta-information and geometries of zones and agglomerations.
  - AIDE tables: these tables present the data and information reported with the data flows B to K (also allowing data download).
  - European AQ index: air quality index calculated from the UTD data.
  - Air pollution country fact sheets: including air quality data based on E1a and air emission data.

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

The reporting cycle including deadlines for submission and resubmission is graphically presented in Annex 1.

#### 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 AQ e-Reporting QA checks in CDR without blockers (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), and imported (harvested) into CDR database.
- QA on data flow G are based on checks within the delivered XML itself and cross-checks on data submitted (B, C, D/D1b, E1a) and correctly processed in EEA's Content Registry. It means that you can run cross-checks vs. B, C, D/D1b, E1a when your data set G is in draft but your data sets B, C, D/D1b & E1a have to be already effectively released (i.e. without any blockers) and imported (harvested) into CDR database.

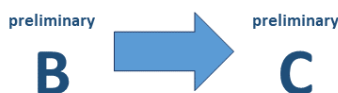
Countries should therefore release the data flows B and D/D1b first, then after a short period (in principle 10-15 min., time for the system to process B and D/D1b in order to perform crosschecks) release data flow C and data flow E1a and finally dataflow G.



Countries should check import/harvest status of their files using data monitor accessible at the AQ portal, before processing subsequent data sets. In case of problem with data harvesting into CDR databases countries should contact [AQ e-Reporting Helpdesk](#).

### 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.



### Data flows H to K



Please note 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 figures 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 2017 (reporting deadline 30 September 2018), indicate 2017.
  - if you are reporting preliminary B and preliminary C for 2019 (reporting deadline 31 December 2018), indicate 2019.
  - if you are reporting plans and programmes for 2016 (reporting deadline 31 December 2018), indicate 2016.

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 manually 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 messages in RED corresponding to errors or blockers. The presence of blockers will prevent (block) the effective release until the corresponding issues are corrected. The presence of errors will trigger a request for correction, automatically produced for data flows C, pC, D/D1b and G, after release.
  - The warnings in ORANGE are other problems which need your attention. These will not prevent the release of the envelope and will not trigger a correction request. 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. Please note that releasing the envelope is not possible if the manual QA checks (step 3) have not been run at least once.

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 CDR envelope together with the automatic feedback. Once 'effectively released' countries no longer have the possibility to revoke the envelope into draft mode.
7. Before processing subsequent data sets, please check import/harvest status of the uploaded files using data monitor accessible at the AQ portal. In case of problem with data harvesting into CDR databases please contact [AQ e-Reporting Helpdesk](#).
8. Once 'effectively released', data files will then go through the final step.
  - For the data flows C, pC, D/D1b and G, the process is automatic: the CDR envelope is finalised with or without a request for corrections posted in the envelope, depending on the results of the automatic checks.
  - This step is similar for E1a but in the case of this data flow there will be no correction request whatever errors and warnings found by the automatic checks. All E1a envelopes will automatically be finalised by 15<sup>th</sup> December (resubmission deadline) and, by default, unless unvalidated by the reporter (see below) the final status of the envelopes will correspond to "Technically accepted" which means that the data can be used for the AQ report and other EEA official products.

The EEA provides tools which allow the reporters to verify, before the deadline of 15<sup>th</sup> December the correctness and completeness of the submission. The tools include data quality reports from the automatic checks in CDR and the viewers available at the AQ Portal ([data monitor](#), [E1A Tier 2](#) and [overview E1a](#)). If considered necessary, the reporter has the possibility to 'unvalidate' the submission by clicking the button '*Not to be used*

*for AQ report'* in CDR. By doing so, the final status of the envelope will be set to a status corresponding to "Correction request"; the data will not be used in the AQ report and other official EEA products. They will however continue to appear in the statistical viewers available at the AQ Portal and the EEA website until a resubmission correcting the errors is submitted.

- For the data flows B and pB, this step remains a partly manual process. 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 completion of the CDR envelope with or without a request for corrections posted in the 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), The statistical viewers including the statistics (F) automatically calculated from the validated measured data (E1a) are updated once a week (Sunday).

## 4. Resubmission of data flows

The reporting cycle including deadlines for submission and resubmission is graphically presented in Annex 1.

### 4.1. Concepts

- For any resubmission, 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).
- Resubmission deadlines are:
  - for data flows B, C, D/D1, E1a, E1b and G: 15 December YY. Any resubmission done after this date will be processed only if the justification provided is accepted by DG Env.
  - For data flows pB and pC: 31 March YY. No resubmission done after the deadline, justified or not, will be processed.
  - For data flows H to K: at present, no resubmission deadline.
- The following rules for resubmission must be respected:
  - any resubmission (updated or corrected data file) will have to be made in a new envelope.
  - 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.
  - If relevant follow the sequence B, C, D/D1b, E1a/E1b, G when resubmitting.

### 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 December YY+1*, the reporter will have no possibility to release himself the envelope. The only possibility will be to press the button '*Justification provided*' which will trigger an automatic email to the European Commission ([ENV-AIR@ec.europa.eu](mailto:ENV-AIR@ec.europa.eu) with CC [aqipr.helpdesk@eionet.europa.eu](mailto:aqipr.helpdesk@eionet.europa.eu)) informing that a resubmission has been made. **The resubmission will only be released and processed by EEA - ETCACM after receiving confirmation from the European Commission that there are sufficient grounds for the resubmission.**

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' issues – critical 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.
- 'Errors' – issues which will trigger a request for correction after release for most of the data flows.
- 'Warnings' – 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 another data flow occurs.

The blocking issues 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 (coming soon for H-K).

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 2018

September delivery:	B – G:	2017
December delivery:	Preliminary B and preliminary C:	2019
December delivery:	H – K	2016 or 2017

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 2014: ZON\_XX0104 and SP\_XX8781\_7\_8, in 2015, 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 2014:  
ARE\_XX0108\_20\_LV\_H\_aMean\_2014 and ATT\_XX0108\_20\_LV\_H\_aMean\_2014, in 2015  
they must have new local Ids, e.g.: ARE\_XX0108\_20\_LV\_H\_aMean\_2015 and  
ATT\_XX0108\_20\_LV\_H\_aMean\_2015.

#### **WARNING**

**LOCAL ID's WHICH ARE UNIQUE THROUGH HISTORY AND YEAR INDEPENDENT SHOULD ONLY BE CHANGED IF THE OBJECT ITSELF HAS CHANGED.**

**DO NOT CHANGE THEM UNLESS STRICTLY NECESSARY AND ONLY AFTER HAVING PREVIOUSLY CONTACTED THE EEA.**

**IF YOU CHANGE THE SPO LOCAL ID's, PLEASE REPORT SYSTEMATICALLY THE LOCAL IDs WHICH ARE CHANGED BY USING THE ELEMENT 'ef:supersedes'.**

#### ***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 2017 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 2018, if you include the plan (preliminary reporting) for next year, the end year will be 2019.

#### ***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 and **set the validity flag to -1**. By doing so, these “deleted” data will not 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. By doing so, the new D will be blocked on release and you will be asked to confirm the deletion. Once your confirmation received, we will release the new D. The corresponding data in E1a will then become “orphan” in the air quality e-Reporting system and will not be used for any further processing and use.

### **6.10. Reporting data in E1a with different sampling durations (element *primaryObservation: day, hour, var*)**

Report the data in separate data array blocks corresponding to the different sampling durations. All the data within one block must have the same sampling duration. Make sure that the different blocks do not overlap in time otherwise the submission will be blocked.

## 7. Helpdesk

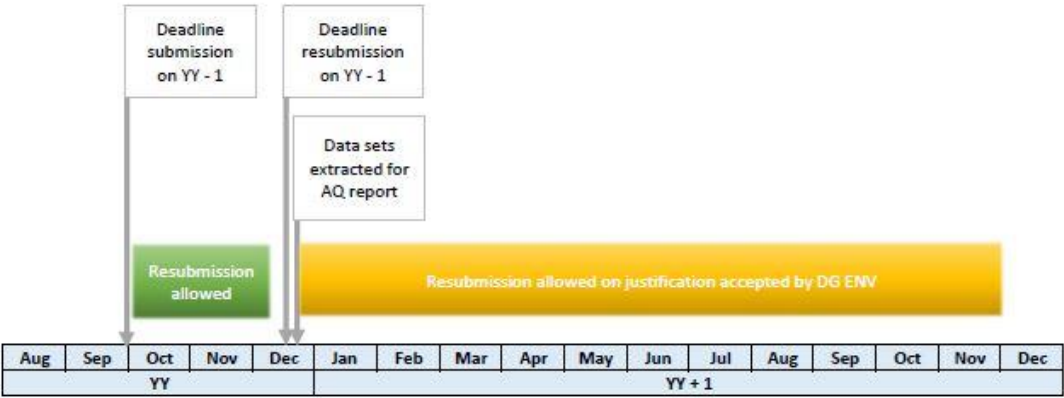
In case of problem as well as for any question or clarification related to e-Reporting and the procedures to be followed, please do not hesitate to contact the AQD e-Reporting Helpdesk:

[aqipr.helpdesk@eionet.europa.eu](mailto:aqipr.helpdesk@eionet.europa.eu)



Annex 1: AQ eReporting cycle and deadlines

B - G



pB - pC

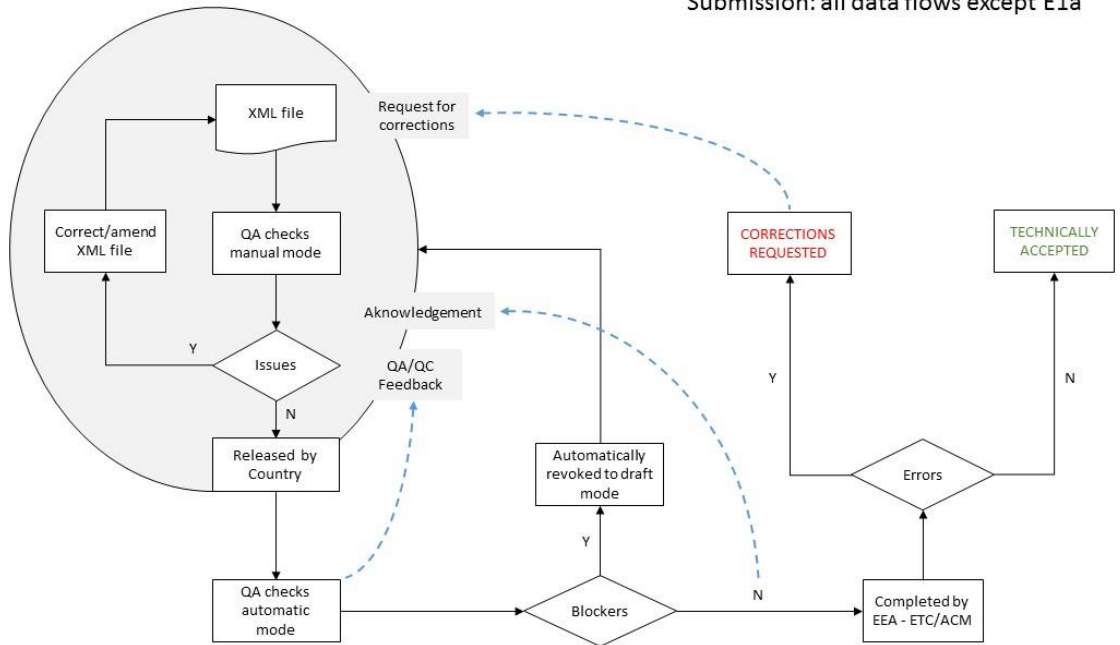


H - K

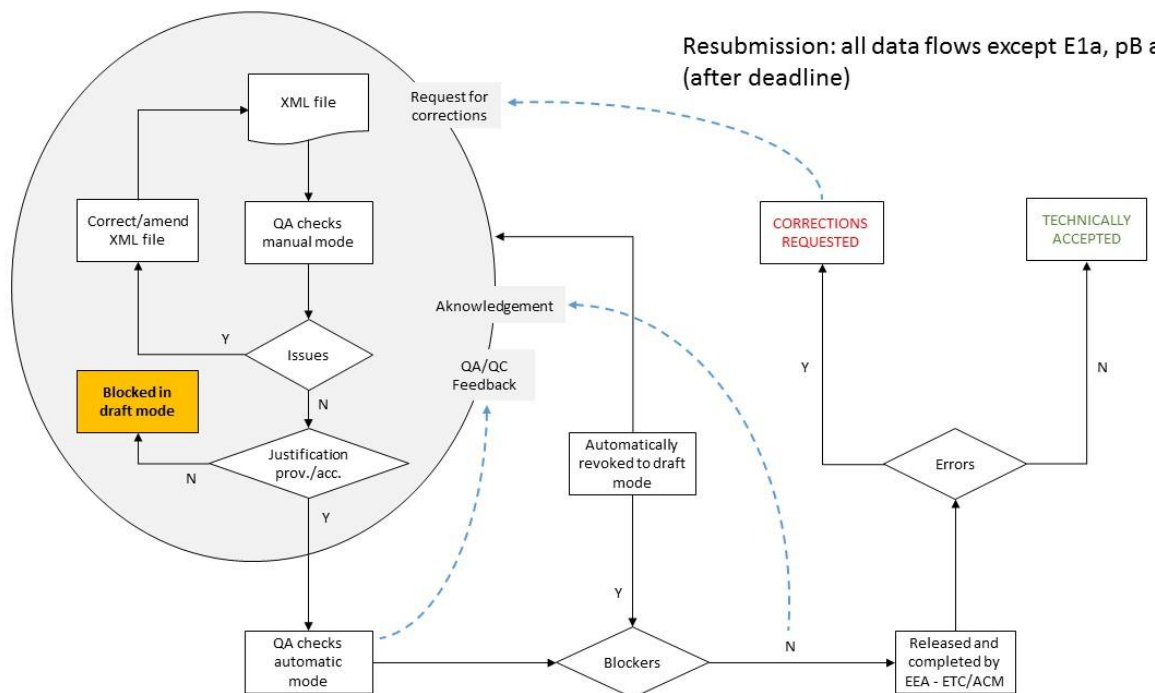


## Annex 2: Submission – resubmission procedure

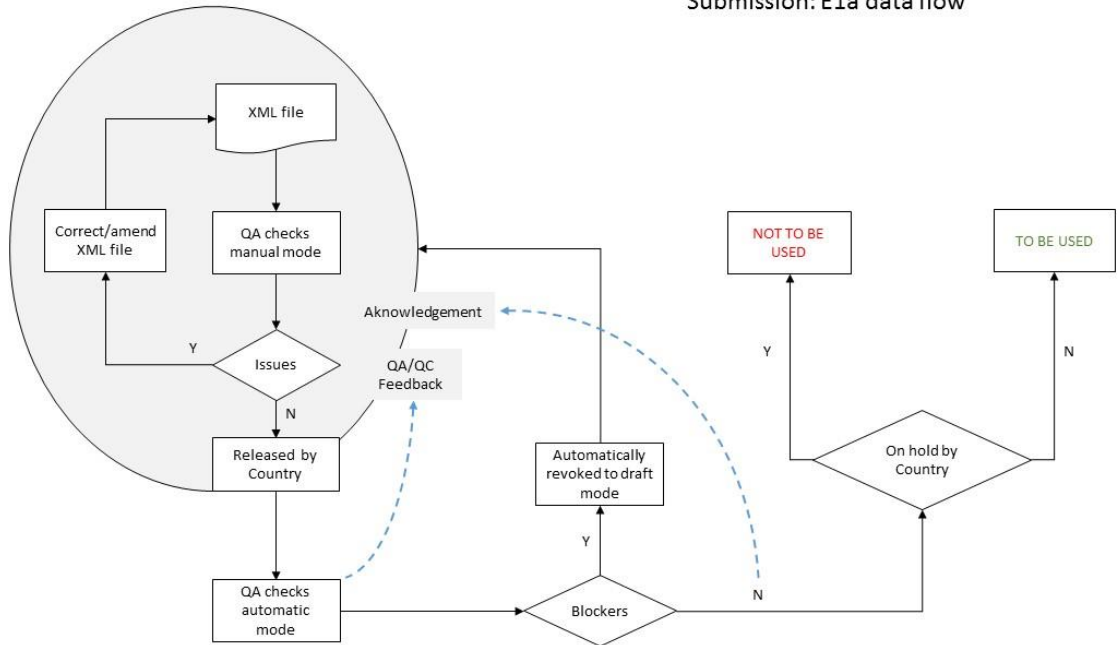
Submission: all data flows except E1a



Resubmission: all data flows except E1a, pB and pC (after deadline)



### Submission: E1a data flow



### Resubmission: E1a data flow (after deadline)

