

| Checks | Original | User friendly text | Crucial check | QA blocker as implemented in CDR | Status/Note | Review in 2016 |
|--------|---|---|---------------|----------------------------------|-------------|--------------------|
| 1 | aqd:AQD_ReportingHeader element must be present. | XML must include Reporting Header | Yes | Error | | System requirement |
| 2 | The (start) year value must be equal to the year specified in (aqd:AQD_ReportingHeader) in the XML file and it must be between 2014 - 2015. | The envelop starting year must match the specific year within Reporting Header in the XML | Yes | Error | | System requirement |
| 3 | aqd:AQD_ReportingHeader must include aqd:inspireId, aqd:reportingAuthority, aqd:change elements | The following elements must be included within Reporting Header (inspire Id, reporting authority and change element) | Yes | Error | | System requirement |
| 4 | For aqd:AQD_ReportingHeader, if aqd:change='true', the following information must also be provided: aqd:AQD_ReportingHeader/aqd:changeDescription and aqd:AQD_ReportingHeader/aqd:content | For aqd:AQD_ReportingHeader, if aqd:change='true', the following information must also be provided: aqd:AQD_ReportingHeader/aqd:changeDescription and aqd:AQD_ReportingHeader/aqd:content | Yes | Error | | System requirement |
| 5 | For aqd:AQD_ReportingHeader, if aqd:change='false', element aqd:content IS NOT expected. | For aqd:AQD_ReportingHeader, if aqd:change='false', element aqd:content IS NOT expected. | Yes | Error | | System requirement |

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|--------|--|--|---------------|---------------------------------------|------------------------------|--------------------------------|
| XML | XML validation to confirm that it is both well-formed and also "valid" in that it follows a defined structure. A well-formed document follows the basic syntactic rules of XML, which are the same for all XML documents. A valid document also respects the rules dictated by XML schema (http://dd.eionet.europa.eu/schemas/id2011850eu-1.0/view) | XML validation | Yes | Error | Integrated into one qa check | System requirement |
| NS | Check prefix and namespaces of the gml:featureCollection according to expected root elements (More information at http://www.eionet.europa.eu/aqportal/datamodel) | Prefix/namespaces check | Yes | Error | Integrated into one qa check | System requirement |
| B0 | Check if delivery if this is a new delivery or updated delivery (via reporting year) | Checks if this delivery is new or an update (on same reporting year) | Yes | Warning (if update), Error (if empty) | Improved in v5.0 | Information |
| B1 | Compile & feedback upon the total number of AQ zone feature types included in the delivery | Number of zones reported | Yes | Info | Improved in v5.0 | Information |
| B2 | Compile & feedback upon the total number of new records for AQ zones included in the delivery against previous delivery | Number of new zones compared to previous report | Yes | Error (if ALL localId are new) | Improved in v5.0 | System requirement |
| B3 | Compile & feedback upon the total number of existing records for AQ zones included in the delivery against previous delivery | Number of existing zones compared to previous report | Yes | Info | Improved in v5.0 | System requirement |
| B4 | Compile & feedback upon all reported zones. Feedback report shall include the gml:id attribute, am:inspireId, am:name/gn:GeographicalName/gn:spelling/gn:text & aqd:zoneCode elements as available. | List reported zones | Yes | Info | Updated in 4.0 | Information |
| B5 | Compile & feedback upon the total number of modification to existing for AQ zone feature types included in the delivery, including ./aqd:predecessor information Report if the object xlinked via aqd:predecessor is not found within the current or previous deliveries (aqd:AQD_Zone) | | | Not implemented | Improved in v5.0 | IPR requirement (Annex II-B-8) |
| B6a | The number of zones designated with coordinates via the ./am:geometry element | Number of zones that provides coordinates inside the xml via geometry element | Yes | Info | used to be B3 | Information |
| B6b | The number of zones designated with coordinates via the ./aqd:LAU element and the ./aqd:shapefileLink element | Number of zones that provides coordinates via Local Administrative Units (LAU) element and external shapefile link | Yes | Info | used to be B4 | Information |
| B7 | List of unique combinations of aqd:aqdZoneType, aqd:pollutantCode and aqd:protectionTarget | Number of unique combinations of zone types, pollutants and protection target | | Info | | Information |
| B8 | Check and count expected combinations of Pollutant and ProtectionTarget Sulphur dioxide (1) + health Sulphur dioxide (1) + vegetation Ozone (7) + health Ozone (7) + vegetation Nitrogen dioxide (8) + health Nitrogen oxides (9) + vegetation Particulate matter < 10 µm (5) + health Particulate matter < 2.5 µm (6001) + health Carbon monoxide (10) + health Benzene (20) + health Lead in PM10 (5012) + health Arsenic in PM10 (5018) + health Cadmium in PM10 (5014) + health Nickel in PM10 (5015) + health Benzo(a)pyrene in PM10 (5029) + health | Check and count expected combinations of Pollutant and ProtectionTarget | Yes | Error | New | SYSTEM & INSPIRE requirement |
| B9 | All gml:id attributes, am:inspireId and aqd:inspireId elements shall have unique content | Internal XML and INSPIRE identifiers must be unique (gml:id, base:localId) | Yes | Error | | SYSTEM & INSPIRE requirement |
| B10 | ./am:inspireId/base:Identifier/base:namespace List base:namespace and count the number of base:localId assigned to each base:namespace. | List unique namespaces used and count number of elements | Yes | Info | FINE | INSPIRE requirement |
| B10.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespaces/view) | Check namespace is registered | Yes | Error | NEW | System requirement |
| B11 | ./am:name attribute xsi:nil="false" | | | Not implemented | | |
| B12 | ./am:name/gn:GeographicalName attribute xmlns:gn="urn:x-inspire:specification:gmlas:GeographicalNames:3.0" | | | Not implemented | | |
| B13 | /aqd:AQD_Zone/am:name/gn:GeographicalName/gn:language value shall be the language of the name, given as a three letters code, in accordance with either ISO 639-3 or ISO 639-5. | The geographical language code must correspond to either the ISO 639-3 or ISO 639-5. | | Warning | | INSPIRE requirement |
| B14 | | | | | | |
| B15 | | | | | | |
| B16 | | | | | | |
| B17 | | | | | | |
| B18 | ./am:name/gn:GeographicalName/gn:spelling/gn:SpellingOfName/gn:text shall return a string | The geographical language text must be a string | Yes | Error | Implemented v5.0 | IPR requirement (Annex II-B-4) |
| B19 | ./am:name/gn:GeographicalName/gn:spelling/gn:SpellingOfName/gn:script attribute xsi:nil="true" nilReason="unknown" | | | Not implemented | | INSPIRE requirement |
| B20 | /am:geometry/gml:Polygon, ./am:geometry/gml:Point, ./am:geometry/gml:MultiPoint, ./am:geometry/gml:MultiSurface, ./am:geometry/gml:Grid, ./am:geometry/gml:RectifiedGrid the srsName attribute shall be a recognisable URN. The following 3 srsNames are expected urn:ogc:def:crs:EPSG::3035 or urn:ogc:def:crs:EPSG::4258 or urn:ogc:def:crs:EPSG::4326 | The coordinate reference system for the zones must be defined with a correct uniform resource name | Yes | Error | Implemented v5.0 | IPR requirement (Annex II-B-6) |

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| B21 | <code>/am:geometry/gml:Polygon, /am:geometry/gml:Point, /am:geometry/gml:MultiPoint, /am:geometry/gml:MultiSurface, /am:geometry/gml:Grid, /am:geometry/gml:RectifiedGrid, /am:geometry/gml:Polygon/gml:exterior/gml:LinearRing/gml:posList</code> the srsDimension attribute shall resolve to "2" to allow the x & y-coordinate of the feature of interest | The dimension attribute must be given the value "2" | | Warning | Need implementing | IPR requirement (Annex II-B-6) |
| B22 | <code>/am:geometry/gml:Polygon/gml:exterior/gml:LinearRing/gml:posList</code> the count attribute shall resolve to the sum of y & x;coordinate doublets. | The count attribute must be equal to the Y and X coordinate doublets | Yes | Error | ERROR due to Technical reasons (can't process if gml post not correctly formulate) | IPR requirement (Annex II-B-6) |
| B23 | Check that the coordinates lists in <code>/am:geometry/gml:Polygon/gml:exterior/gml:LinearRing/gml:posList</code> are presented in lat / long (y,axis / x,axis) notation. | The coordinates must be ordered as latitude (y-axis) ,longitude (x-axis) | Yes | Error | Exception: France | IPR requirement (Annex II-B-6) |
| B24 | <code>/am:zoneType</code> value shall resolve to http://inspire.ec.europa.eu/codelist/ZoneTypeCode/airQualityManagementZone (working URL) | Zone type must conform to http://inspire.ec.europa.eu/codelist/ZoneTypeCode/airQualityManagementZone | | Warning | Updated 4.0 | INSPIRE requirement |
| B25 | <code>/am:designationPeriod/gml:TimePeriod/gml:beginPosition</code> shall be less than <code>/am:designationPeriod/gml:TimePeriod/gml:endPosition</code> . | Start time must be less than end time | Yes | Error | | IPR requirement (Annex II-B-7) |
| B26 | <code>/am:designationPeriod/gml:TimePeriod/gml:endPosition</code> equal to <code>indeterminatePosition="unknown"</code> shall indicate the zone is operational. | If end time is 'unknown,' then the zone is active | | Not implemented | | IPR requirement (Annex II-B-7) |
| B27 | <code>/am:designationPeriod/gml:TimePeriod/gml:endPosition</code> with valid content (historical content) shall indicate that the zone is no longer operational. | If end time is displayed, the zone is no longer active | | Not implemented | | IPR requirement (Annex II-B-7) |
| B28 | <code>/am:beginLifespanVersion</code> shall be a valid historical date for the start of the version of the zone in extended ISO format. If an <code>am:endLifespanVersion</code> exists its value shall be greater than the <code>am:beginLifespanVersion</code> | End date must be greater than start date, if end date exists | Yes | Error | | INSPIRE requirement |
| B29 | <code>/am:beginLifespanVersion</code> shall be LESS THAN OR EQUAL TO <code>/am:designationPeriod/gml:TimePeriod/gml:endPosition</code> <code>/am:beginLifespanVersion</code> shall be GREATER THAN OR EQUAL TO <code>/am:designationPeriod/gml:TimePeriod/gml:beginPosition</code> | Start date shall be less, or equal to | Yes | Not implemented | | |
| B30 | <code>/am:environmentalDomain</code> shall be a citation via href xlink attribute of http://inspire.ec.europa.eu/codelist/MediaValue/[code] (currently resolves to 404 error) | Environmental Domain must conform to http://inspire.ec.europa.eu/codelist/MediaValue/[code] | | Warning | | INSPIRE requirement |
| B31 | <code>/am:legalBasis/base2:LegislationCitation/base2:name</code> value shall be "2011/850/EC" | Legislation citation name must be "2011/850/EC" | | Warning | | INSPIRE requirement |
| B32 | <code>/am:legalBasis/base2:LegislationCitation/base2:date</code> value shall be "2011;12;12" | Legislation citation date must be "2011-12-12" | | Warning | | INSPIRE requirement |
| B33 | <code>/am:legalBasis/base2:LegislationCitation/base2:link</code> value shall be " http://rod.eionet.europa.eu/instruments/650 " | Legislation citation line must be " http://rod.eionet.europa.eu/instruments/650 " | | Warning | | INSPIRE requirement |
| B34 | <code>/am:legalBasis/base2:LegislationCitation/base2:level</code> shall be a citation via href xlink attribute of http://inspire.ec.europa.eu/codelist/LegislationLevelValue/[code] | Base level must conform to http://inspire.ec.europa.eu/codelist/LegislationLevelValue/[code] | | Warning | | INSPIRE requirement |
| B35 | <code>/aqd:zoneCode</code> shall be a unique code for the zone within the <code>/am:inspireId/base:Identifier/base:namespace</code> . <code>/aqd:zoneCode</code> . The value may equal the value at <code>/am:inspireId/base:Identifier/base:localId</code> | Zone code must be unique. The value may equal the LocalId | Yes | Error | | IPR requirement (Annex II-B-3) |
| B36 | <code>/aqd:residentPopulation</code> shall be an integer value GREATER THAN 0 (zero) | Population must be a value higher than zero | Yes | Error | Updated in v4.0.2 | IPR requirement (Annex II-B-9) |
| B37 | <code>/aqd:residentPopulationYear/gml:TimeInstant/gml:timePosition</code> shall cite the year in which the resident population was estimated in yyyy format | Year in which the resident population was estimated must have the format yyyy | | Warning | | IPR requirement (Annex II-B-10) |
| B38 | <code>/aqd:area</code> the value will be a decimal number GREATER THAN 0 (zero) | The Area value must be a decimal number, greater than zero. | Yes | Error | | NOT required |

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| B39a | <p>The allowed content combination within ./aqd:pollutants/aqd:Pollutant/aqd:pollutantCode AND ./aqd:pollutants/aqd:Pollutant/aqd:protectionTarget shall be constrained to</p> <p>Sulphur dioxide (air) + health http://dd.eionet.europa.eu/vocabulary/aq/pollutant/1 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/H</p> <p>Sulphur dioxide (air) + vegetation http://dd.eionet.europa.eu/vocabulary/aq/pollutant/1 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/V</p> <p>Ozone (air) + health http://dd.eionet.europa.eu/vocabulary/aq/pollutant/7 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/H</p> <p>Ozone (air) + vegetation http://dd.eionet.europa.eu/vocabulary/aq/pollutant/7 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/V</p> <p>Nitrogen dioxide Nitrogen dioxide (air) + health http://dd.eionet.europa.eu/vocabulary/aq/pollutant/8 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/H</p> <p>Nitrogen oxides (air) + eco http://dd.eionet.europa.eu/vocabulary/aq/pollutant/9 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/V</p> <p>Particulate matter < 10 µm (aerosol) + health</p> | Check for correct Pollutant/ProtectionTarget combination | AQ | Warning | New implementation | |
| B39b | <p>Count number of occurrences across XML and list it as below (it can not be 0)</p> <p>Sulphur dioxide (1) + health Sulphur dioxide (1) + vegetation Ozone (7) + health Ozone (7) + vegetation Nitrogen dioxide (8) + health Nitrogen oxides (9) + vegetation Particulate matter < 10 µm (5) + health Particulate matter < 2.5 µm (6001) + health Carbon monoxide (10) + health Benzene (20) + health Lead in PM10 (5012) + health Arsenic in PM10 (5018) + health Cadmium in PM10 (5014) + health Nickel in PM10 (5015) + health Benzo(a)pyrene in PM10 (5029) + health One exception: Nitrogen oxides (9) + vegetation can be 0 for Gibraltar</p> | Check if at least one of the expected Pollutant/ProtectionTarget combination(s) is provided in the delivery | Yes | Error | New implementation | |
| B39c | Check if any combination in B39a is repeated within individual AQD:Zone . An error is returned if repeated. | Check and list if any individual zone with any duplicated Pollutant/ProtectionTarget combination | Yes | Error | New implementation | System requirement |
| B40 | <p>IF aqd:reportingPeriod included in the ReportingHeader is equal or greater than year 2015, ./aqd:timeExtensionExemption must resolve to http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/none</p> <p>Only 1 entry is allowed.</p> <p>Else ./aqd:timeExtensionExemption attribute must resolve to one of concept within http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/...</p> <p>Multiple entries are allowed.</p> | ExtensionExemption accepted prior to 2015 deliveries | | Warning | Updated | IPR requirement (Annex II-B-13) |
| B41 | <p>Where ./aqd:timeExtensionExemption resolves to http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/NO2_1h_OR http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/NO2 annual at least one combination within ./aqd:pollutants which includes ./aqd:pollutants/aqd:Pollutant/aqd:pollutantCode AND ./aqd:pollutants/aqd:Pollutant/aqd:protectionTarget shall be constrained to Nitro gen dioxide Nitrogen dioxide (air) + health http://dd.eionet.europa.eu/vocabulary/aq/pollutant/8 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/H</p> | Where AQTimeExemption is either NO2-1h, or NO2-annual, then NO2 and Protection Target Health must be present | Yes | Error | | Content check according to Article 22 of Directive 2008/50/EC |

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| B42 | Where ./aqd:timeExtensionExemption resolves to http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/PM10-24h OR http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/PM10-annual at least one combination within ./aqd:pollutants which includes ./aqd:pollutants/aqd:Pollutant/aqd:pollutantCode AND ./aqd:pollutants/aqd:Pollutant/aqd:protectionTarget shall be constrained to Particulate matter < 10 µm (aerosol) + health http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/H | Where AQTimeExemption is either PM10-24h, or PM10-annual, then PM10 and Protection Target Health must be present. | Yes | Error | | Content check according to Article 22 of Directive 2008/50/EC |
| B43 | Where ./aqd:timeExtensionExemption resolves to http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/C6H6-annual at least one combination within ./aqd:pollutants which includes ./aqd:pollutants/aqd:Pollutant/aqd:pollutantCode AND ./aqd:pollutants/aqd:Pollutant/aqd:protectionTarget shall be constrained to Benzene (air) + health http://dd.eionet.europa.eu/vocabulary/aq/pollutant/20 http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/H | Where AQTimeExemption is C6H6-annual, then C6H6 and Protection Target Health must be present. | Yes | Error | | Content check according to Article 22 of Directive 2008/50/EC |
| B44 | Where ./aqd:LAU has been used the list of the administrative these shall be checked to ensure they relate to the MS. This must be provided if ./aqd:shapefileLink is not provided or am:geometry does not contain geometry. The value shall be a valid code from the following codelist: http://dd.eionet.europa.eu/vocabulary/common/nuts/ http://dd.eionet.europa.eu/vocabulary/lau1/ http://dd.eionet.europa.eu/vocabulary/lau2/ NUTS, LAU1 or LAU2 codes must belong to the country reporting data. Country ISO code at cdr.eionet.europa.eu/ZZ/eu/aqd/b/... shall be the same as the codelist: http://dd.eionet.europa.eu/vocabulary/common/nuts/ZZ[concept] http://dd.eionet.europa.eu/vocabulary/lau1/zz/[concept] http://dd.eionet.europa.eu/vocabulary/lau2/zz/[concept] (exception of gb which has lau and nut codeas as uk) | | Skipped | Not implemented | | Not implemented |
| B45 | ./am:geometry shall not be a href xlink. If geometry is provided via shapefile, please use element aqd:shapefileLink | Geometry should not be a hyperlink. If provided via shapefile, element aqd:shapefileLink need to be used | | Warning | | |
| B46 | Where ./aqd:shapefileLink has been used this should return a link to a valid and existing link in cdr (e.g. http://cdr.eionet.europa.eu/es/eu/aqd/b/envurng9g/ES_Zones_2014.shp) | Where a link is provided, it should refer to an existing and valid shape file in the same folder in the CDR as the XML is uploaded | Yes | Error | This is required for correctly processing geometries | IPR requirement(Annex II-B-6) |
| B47 | ./aqd:aqdZoneType attribute must resolve to one of concept within http://dd.eionet.europa.eu/vocabulary/aq/zonetype/[concept] Currently, these are: http://dd.eionet.europa.eu/vocabulary/aq/zonetype/noagg or http://dd.eionet.europa.eu/vocabulary/aq/zonetype/agg | Zone type must be either Agglomeration or Non-agglomeration | | Error | | |

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|--------|---|--|--|---------------------------------------|---|--|
| XML | XML validation to confirm that it is both well-formed and also "valid" in that it follows a defined structure. A well-formed document follows the basic syntactic rules of XML, which are the same for all XML documents. A valid document also respects the rules dictated by XML schema (http://dd.eionet.europa.eu/schemaset/id2011850eu-1.0/view) | XML validation | Yes | Error | Integrated into one qa check | System requirement |
| NS | Check prefix and namespaces of the gml:featureCollection according to expected root elements (More information at http://www.eionet.europa.eu/aqportal/datamodel) | Prefix/namespaces check | Yes | Error | Integrated into one qa check | System requirement |
| C0 | Check if delivery if this is a new delivery or updated delivery (via reporting year) | Checks if this delivery is new or an update (on same reporting year) | Yes | Warning (if update), Error (if empty) | New | Information |
| C1 | Compile & feedback upon the total number of AQ Assessment Regime feature types in | Number of Assessment Regimes reported | | Error if empty | Improved in v5.0 | INFORMATION |
| C2 | Compile & feedback upon the total number of new records for AQ Assessment Regime feature types included in the delivery. ERROR will be returned if XML is a new delivery and localId are not new compared to previous deliveries. | Number of new Assessment Regimes compared to previous report. ERROR will be returned if XML is a new delivery and localId are not new compared to previous deliveries | Error, new delivery but re-using localId from previous | Error | Improved in v5.0 | |
| C3 | Compile & feedback upon the total number of modifications to previously reported AQ Assessment Regime feature types included in the delivery ERROR will be returned if XML is an update and ALL localId (100%) are different to previous delivery (for the same YEAR). | Number of existing Assessment Regimes compared to previous report. ERROR will be returned if XML is an update and ALL localId (100%) are NEW to previous delivery (for the same YEAR). | Error, updated delivery but all localId are new | Error | Error, updated delivery but all localId are new | |
| C4 | All gml:id attributes shall have unique content within the document or namespace | gml:id must be unique within the XML document | Yes | Error | XML would also fail validation | XML requirement |
| C5 | ./aqd:inspireId/base:Identifier/base:localId shall be an unique code for the assessment | Local Id shall be unique for the assessment regime. | Yes | Error | | INSPIRE/system requirement |
| C6 | ./aqd:inspireId/base:Identifier/base:namespace List base:namespace and count the number | List unique namespaces used and count number of elements | Yes | Info | Updated in 4.0 | INSPIRE/system requirement |
| C6.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | NEW | System requirement |
| C7 | Each of the number of /aqd:AQD_AssessmentRegime records shall contain 1 ./aqd:ass | Each Assessment Regime shall have one Environmental Objective element | Yes | Error | aqd:AQD_AssessmentRegime/aqd:assessmentThreshold [Cardinality 0..* to 0..1] | IPR/system requirement |
| C8 | ./aqd:pollutant xlink:href attribute may resolve to one of http://dd.eionet.europa.eu/vocabulary/aq/pollutant/1 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/7 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/8 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/9 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/6001 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/10 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/20 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5012 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5014 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5015 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5018 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5029 | Assessment regimes must be reported all expected pollutants | Yes | Error | | IPR requirement (Annex II-C-4) |
| C9 | Count on unique pollutants when Assessment regime(s)'s aqd:objectiveType xlink:href | Count number of Assessment Regimes for pollutants with Monitoring Objective | | Info | Updated in 4.0 Further update in 4.0.2 | IPR requirement (Annex II-C-4) |
| C10 | Check that EnvironmentalObjective (ObjectiveType+ReportingMetric+ProtectionTarget) corresponds | Check valid combination of pollutant/EnvironmentalObjective (Objective/ProtectionTarget/ReportingMetric). Error if unexpected combination | Yes | Error | Updated in v5.0 to use EnvObjective vocabulary | IPR requirement (Annex II-C-4 + Annex II-C-5) |
| C11 | | | | | inc C10 | Content check |
| C12 | | | | | inc C10 | Content check |
| C13 | | | | | inc C10 | Content check |
| C14 | | | | | inc C10 | Content check |
| C15 | | | | | inc C10 | Content check |
| C16 | | | | | inc C10 | Content check |
| C17 | | | | | inc C10 | Content check |
| C18 | | | | | inc C10 | Content check |
| C19 | | | | | inc C10 | Content check |
| C20 | Provide any missing combination of Pollutant/EnvironmentalObjective according to vocabulary http://dd.eionet.europa.eu/vocabulary/aq/environmentalobjective/ (Exceptions: when ObjectiveType = .../MO + .../LVMOT + .../LVmaxMOT & those combinations when "Exceedance threshold" within the vocabulary is populated) | Check and list any missing combination of pollutant/EnvironmentalObjective. Error if combination missing | Yes | Error | Updated | IPR requirement (Annex II-C-4 + Annex II-C-5) + correct content check vs AQD/IPR |

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| C21 | Assess correctness of /aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:exceedanceAttainment depending on combination aqd:pollutant + aqd:objectiveType + aqd:reportingMetric + aqd:protectionTarget against vocabulary http://dd.eionet.europa.eu/vocabulary/aq/environmentalobjective/ | Check Assessment Threshold Classification according to the allowed combination | Yes | Warning | Updated in v4.0.2 | IPR requirement (Annex II-C-6) + correct content check vs AQD/IPR |
| C22 | /aqd:pollutant xlink:href attribute may resolve to one of codes in the vocabulary | Pollutant must be a registered under vocabulary | | | Included in C21 | |
| C23a | /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:assessmentType xlink:href at | The assesement type shall be either "Fixed Measurement," "modelling," "Indicative Measurement" or "Objective Estimation." | Yes | Error | Updated | IPR requirement (Annex II-C-9) |
| C23b | /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:assessmentTypeDescription resolve to a text description of Assessment Type | A textual description of assessment type is expected | | Warning | New in v4.0.2 Needs to be implemented | IPR requirement (Annex II-C-9) https://taskman.eionet.europa.eu/issues/72746 |
| C24 | The assessment methods referenced by /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:modelAssessmentMetadata xlink:href attribute shall resolve to a traversable link to an assessment method /aqd:AQD_Model reported under cdr.eionet.europa.eu/ZZ/eu/aqd/d/... (The href is made using "namespace"/"localId") | When providing a link to model or objective estimation(s), a valid link must be provided | Yes (crosscheck) | Error | Implemented in xref checks | IPR requirement (Annex II-C-11) |
| C25 | The assessment methods referenced by /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMetadata xlink:href attribute shall resolve to a traversable link to an assessment method /aqd:AQD_SamplingPoint reported under cdr.eionet.europa.eu/ZZ/eu/aqd/d/... (The href is made using "namespace"/"localId") | When providing a link to fix or indicative measurement(s), a valid link must be provided | Yes (crosscheck) | Error | Implemented in xref checks | IPR requirement (Annex II-C-12) |
| C26 | The assessment methods referenced by /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:modelAssessmentMetadata or /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMetadata xlink:href attribute shall contain one element /aqd:AQD_Model/ef:observingCapability/ef:ObservingCapability/ef:observingTime/gml:TimePeriod/gml:endPosition or /aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:observingTime/gml:TimePeriod/gml:endPosition that is operational within the aqd:reportingPeriod included in the ReportingHead | Any assessment method used under Assessment must be operational within the Reporting Period | Yes (crosscheck) | Warning | IMPORTANT – UPDATED in 4.0 | Crosscheck to ensure Method operational within Reporting Year |
| C27 | The number of unique zones cited by /aqd:AQD_AssessmentRegime shall be EQUAL to the number of unique zones in /aqd:AQD_Zone for the same ReportingYear | The number of zones must be the same as cited in the AssessmentRegime (for the same Reporting Year) | Yes (crosscheck) | Warning | Improved in cdr (swaped with C29) and reporting year added | IPR requirement (Annex II-C-3) |
| C28 | The lifecycle information of /aqd:zone xlink:href shall be current, /aqd:AQD_Zone/am:designationPeriod/gml:TimePeriod/gml:endPosition shall be greater than the begin position of the aqd:reportingPeriod included in the ReportingHeader If endPosition is indeterminate (i.e. <gml:endPosition indeterminatePosition="unknown"/>) /aqd:AQD_Zone/am:designationPeriod/gml:TimePeriod/gml:beginPosition shall NOT be greater than the begin position of the aqd:reportingPeriod included in the ReportingHeader | The zone linked to each Assessment Regime must be operational within the Reporting Period | Yes | Error | | Crosscheck to ensure Zone operational within Reporting Year |
| C29 | aqd:zone xlink:href attribute shall resolve to a traversable link to an AQ zone in /aqd:AQD_Zone reported under cdr.eionet.europa.eu/ZZ/eu/aqd/b/... The /aqd:pollutant and /aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget within the Assessment Regime shall equal one combination /aqd:AQD_Zone/aqd:pollutants/aqd:Pollutant/aqd:pollutantCode and /aqd:AQD_Zone/aqd:pollutants/aqd:Pollutant/aqd:protectionTarget within the linked zone aqd:AQD_Zone/aqd:pollutantsException : Where /aqd:pollutant resolves to http://dd.eionet.europa.eu/vocabulary/aq/pollutant/6001 /aqd:zone xlink:href attribute MAY resolve to <aqd:zone nilReason="inapplicable"/> | Pollutant, Assessment Threshold and Environmental Objective shall equal one combination, except where where Particulate Matter 2.5, which is not applicable. | Yes (crosscheck) | Warning | Improved in cdr (swaped with C27) | Crosscheck to ensure Method operational within Reporting Year |
| C30 | | | | | | |

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| C31 | <p>COUNT number zone-pollutant-target combination to match those in dataset B for the same reporting Year ./aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget + ./aqd:pollutant + ./aqd:zone combinations shall reconcile to corresponding information within /aqd:AQD_Zone/aqd:pollutants/aqd:Pollutant/aqd:protectionTarget , /aqd:AQD_Zone/aqd:pollutants/aqd:Pollutant/aqd:pollutantCode + /aqd:AQD_Zone/am:inspireId/base:Identifier/base:localId</p> <p>Sulphur dioxide (1) + health B vs C Sulphur dioxide (1) + vegetation B vs C Ozone (7) + health B vs C Ozone (7) + vegetation B vs C Nitrogen dioxide (8) + health B vs C Nitrogen oxides (9) + vegetation B vs C Particulate matter < 10 µm (5) + health B vs C Particulate matter < 2.5 µm (6001) + health B vs C Carbon monoxide (10) + health B vs C Benzene (20) + health B vs C Lead in PM10 (5012) + health B vs C Arsenic in PM10 (5018) + health B vs C Cadmium in PM10 (5014) + health B vs C Nickel in PM10 (5015) + health B vs C Benzo(a)pyrene in PM10 (5029) + health B vs C</p> | COUNT number zone-pollutant-target combination to match those in dataset B for the same reporting Year | Yes (crosscheck) | Error | Updated in 4.0.2 if any C is greater than B = ERROR (RED) IF all B = C then OK if any C is smaller than B = WARNING | |
| C32 | <p>./aqd:assessmentMethods/aqd:AssessmentMethods/aqd:assessmentType shall be compared with the ./aqd:AQD_SamplingPoint/aqd:assessmentType for assessment method cited by ./aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMetadata xlink:href attribute and/or /aqd:AQD_Model/aqd:assessmentType for assessment method cited by ./aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMetadata xlink:href attribute</p> <p>The following combinations are allowed: Within AssessmentRegime Within SamplingPoint or Model Status fixed fixed OK indicative indicative/fixed OK model model OK objective objective OK fixed indicative/model/objective WRONG indicative fixed/model/objective WRONG model fixed/indicative/objective WRONG objective fixed/indicative/model OK</p> | Check Assessment Type of Assessment Methods compared to assessmentType within Assessment Regime | Yes | Warning | Updated in 4.0 Needs updating see modifications in green | Cross-check coherence between C & D |
| C33 | <p>The lifecycle information of ./aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMetadata xlink:href shall be current, /AQD_SamplingPoint/ef:operationActivityPeriod/gml:endPosition shall be operational within the aqd:reportingPeriod included in the ReportingHeader</p> | If the Assessment Metadata lifecycle information is current, then the Operational Activity End Time shall be within ReportingPeriod | Yes | Warning | Important update, very similar to C26 (missing AQD_Model) Not included in taskman | Crosscheck to ensure Method operational within Reporting Year |
| C34 | | | | | | |
| C35 | <p>./aqd:AQD_SamplingPoint/aqd:usedAQD or ./aqd:AQD_Model/aqd:used shall EQUAL "true" for all ./aqd:assessmentMethods/aqd:AssessmentMethods/aqd:[samplingPoint or model]AssessmentMetadata xlink:href citations</p> | If a sampling point or a model is used in any Assessment Regime, it has to be described as TRUE for AQ Directive use | Yes | Warning | | Cross-check coherence between C & D |

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| C36 | <p>Where /aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget xlink:href attribute resolves to http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/V the AQD_Station linked to shall resolve the following attribute /aqd:AQD_Station/aqd:areaClassification xlink:href to http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural</p> <p>Please note that /aqd:AQD_AssessmentRegime does not link directly to /aqd:AQD_Station (The link is done via aqd:AQD_SamplingPoint): aqd:AQD_AssessmentRegime /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMethod attribute xlinks to aqd:AQD_SamplingPoint. aqd:AQD_SamplingPoint links to aqd:AQD_SamplingPoint via aqd:AQD_SamplingPoint/ef:broader resulting in aqd:AQD_AssessmentRegime /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMethod / aqd:AQD_SamplingPoint/ef:broader/aqd:AQD_Station/aqd:areaClassification</p> | | | Not implemented | Updated | Cross-check coherence between C & D |
| C37 | There shall be only 1 record per MS where /aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget xlink:href attribute resolves to http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/V the AQD_Station linked to shall resolve the following attribute /aqd:AQD_Station/aqd:areaClassification xlink:href to http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural | Where the assessment threshold is Average Exposure Indicator, there can be only 1 record. | | Warning | | |
| C38 | Where /aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget xlink:href attribute resolves to http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/V the AQD_Station linked to shall resolve the following attribute /aqd:AQD_Station/aqd:areaClassification xlink:href to http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural | The cited stations under the Assessment Regime for the Average Exposure Indicator should be classified as Background. | Yes | Warning | Updated in 4.0 | INFORMATION, warns if any AEI station is not background |
| C39 | | | | Not implemented | Updated | |
| C40 | The total number of /aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMethod attribute xlinks to aqd:AQD_SamplingPoint . | All Assessment Regimes should be linked to at least one Assessment Method (either SamplingPoint or Model/ObjectiveEstimation) | | Warning | Updated in 4.0 THIS CHECKS NEEDS REVIEWING | IPR requirement (Annex II-C-11) |
| C41 | gml:timePosition MUST be provided and must be equal or greater than (aqd:reportingFrequency) | The year of the latest Classification report must be within the last 5 years according to AQ Directive | | Warning | New in 4.0.2 https://taskman.eionet.europa.eu/issues/73395 | IPR requirement (Annex II-C-7) |
| C42 | Free text shall be provided including at least 1 valid URL | A valid url should be provided linking to the latest Classification Report | | Warning | New in 4.0.2 https://taskman.eionet.europa.eu/issues/73396 | IPR requirement (Annex II-C-8) |

| Checks | Original | User friendly text | Crucial check | QA blocker as implemented in CDR | Status/Note | Review in 2016 |
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| XML | XML validation to confirm that it is both well-formed and also "valid" in that it follows a defined structure. A well-formed document follows the basic syntactic rules of XML, which are the same for all XML documents. A valid document also respects the rules dictated by XML schema (http://dd.eionet.europa.eu/schemaset/id2011850eu-1.0/view) | XML validation | Yes | Error | Integrated into one qa check | System requirement |
| NS | Check prefix and namespaces of the gml:featureCollection according to expected root elements (More information at http://www.eionet.europa.eu/aqportal/datamodel) | Prefix/namespaces check | Yes | Error | Integrated into one qa check | System requirement |
| D0 | Check if delivery if this is a new delivery or updated delivery (via reporting year) | Checks if this delivery is new or an update (on same reporting year) | Yes | Warning (if update), Error (if empty) | New | Information |
| D1 | Compile & feedback upon the total number of each environmental monitoring feature types included in the delivery | Total number of individual element reported within this XML Document for assessment methods. Error will be returned if any of the expected elements are missing. | Yes | Error | Improved in v5.0 | Information |
| D2 | Compile and feedback upon the total number of new records for each environmental monitoring feature types included in the delivery | Total number of new records for each feature type included in the delivery. Error will be returned if all LocalIds are new. | Yes | Error | Improved in v5.0 | System requirement |
| D3 | Compile and feedback upon the total number of updated environmental monitoring feature types included in the delivery | Total number of updated records for each feature type included in the delivery. Error will be returned if all LocalIds are new. | Yes | Error | Improved in v5.0 | System requirement |
| D4 | Compile & feedback a list of the unique identifier information for each new record or modification to an environmental monitoring feature type. Feedback report shall include the gml:id attribute, ef:inspireId, aq:inspireId, ef:name and/or ompr:name elements as available. | Full list of reported Environmental Monitoring Features within this XML Document | Yes | Info (Error if empty) | Improved in v5.0 | |
| D5 | All gml:id attributes, ef:inspireId and aq:inspireId elements shall have unique content | Id elements must have unique content | Yes | Error | Improved in v5.0 | System & INSPIRE requirement |
| D6 | aqd:AQD_Network/ef:inspireId/base:Identifier/base:localId shall be a unique code for AQD_network and unique within the namespace. | LocalId must be a unique code for the AQD_network. | Yes | Error | | IPR requirement (Annex II-D-ii-3) |
| D7 | Count the number of unique AQD_Network (via localId) submitted within base:namespace. | List unique namespaces used and count number of Networks used. | Yes | Error | | INSPIRE requirement |
| D7.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | NEW | System requirement |
| D8 | The content of aqd:AQD_Network/ef:mediaMonitored shall resolve to any concept in http://inspire.ec.europa.eu/codelist/MediaValue/ | Must conform to a recognised media value. These are: Air, Biota, Landscape, Sediment, Soil/Ground, Waste and Water. | | Warning | Updated | |
| D9 | The content of aqd:AQD_Network/ef:organisationLevel shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/organisationallevel/ | Must conform to a recognised Organisation Level. These are: International, Local, LocalAuthority, Municipality, National and Regional. | | Warning | Updated in 4.0 | INSPIRE requirement |
| D10 | The content of aqd:AQD_Network/aqd:networkType shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/networktype/ | If provide, must conform to a recognised network type in the vocabulary. | | Warning | | |
| D11 | aqd:AQD_Network/aqd:operationActivityPeriod/gml:TimePeriod/gml:beginPosition shall be less than gml:endPosition | Start time must be before End time. | Yes | Error | | IPR requirement (Annex II-D-ii-36) |
| D12 | ./ef:name shall return a string | Network name must be provided | Yes | Warning | Warning, The provision of Network name is MANDATORY. QA to be implemented | IPR requirement (Annex II-D-ii-35) |
| D13 | Information on responsible authority for the network management must be provided | Information on responsible authority for the network management must be provided | | Not implemented | Not a priority | IPR requirement (Annex II-D-ii-36) |
| D14 | The content of /aqd:AQD_Network/aqd:aggregationTimeZone attribute shall resolve to a valid code in http://dd.eionet.europa.eu/vocabulary/aq/timezone/ | Must conform to a recognised Time Zone as vocabulary . These are UTC (+01 to +06) and (-01 to -06) | Yes | Error | | |
| D15 | aqd:AQD_Station/ef:inspireId/base:Identifier/base:localId shall be a unique code within namespace | Station ID must be a unique code. | Yes | Error | | IPR requirement (Annex II-D-ii-1) |
| D16 | Count the number of unique AQD_Station (via localId) submitted within base:namespace. | List unique namespaces used and count number of Stations used. | Yes | Error | | |
| D16.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | NEW | System requirement |
| D17 | ./ef:name shall return a string | Station name must be provided | Yes | Error | Error, the provision of Station name is MANDATORY. | IPR requirement (Annex II-D-ii-6) |
| D18 | ./ef:belongsTo shall resolve to a traversable local of global URI to ../AQD_Network | Station must belong to a network | | Error | Updated | System requirement |
| D19 | The content of /aqd:AQD_Station/ef:mediaMonitored shall resolve to any concept in http://inspire.ec.europa.eu/codelist/MediaValue/ | Must conform to a recognised media value. These are: Air, Biota, Landscape, Sediment, Soil/Ground, Waste and Water. | | Warning | | |
| D20 | The srsName attribute within ./ef:geometry/gml:Point shall be a recognisable URN. The following 3 srsNames are expected urn:ogc:def:crs:EPSG::3035 or urn:ogc:def:crs:EPSG::4258 or urn:ogc:def:crs:EPSG::4326 | The coordinate reference system for the stations must be defined with a correct uniform resource name | Yes | Error | Added new srsName | INSPIRE requiremnt |
| D21 | ./ef:geometry/gml:Point/gml:pos srsDimension attribute shall resolve to "2" to allow the coordinate of the station. ORDER of 2 coordinates MUST BE Latitude & Longitude when providing the accepted srsNames | The Dimension attribute shall resolve to "2" and the order must be Latitude & Longitude | Yes | Error | Exception for FR | IPR requirement (Annex II-D-ii-26) |
| D22 | ./ef:geometry/gml:Point shall resolve to within the geographic boundary or bounding box of the MS. | | | Not implemented | | |

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| D23 | List the total number aqd:AQD_Station invalid operational activity periods ./ef:operationActivityPeriod/ef:OperationActivityPeriod/ef:activityTime/gml:TimePeriod/gml:beginPosition shall be less than gml:endPosition. | Check if the operational period for the station is correct | Yes | Error | | IPR requirement (Annex II-D-ii-7) |
| D24 | List the total number of aqd:AQD_Station which are operational ./ef:operationActivityPeriod/ef:OperationActivityPeriod/ef:activityTime/gml:TimePeriod/gml:endPosition which are unclosed (null) or have an indeterminatePosition="unknown" attribute | Total number of operational Stations | | Info (Warning if empty) | | |
| D25 | ./ef:operationActivityPeriod/ef:OperationActivityPeriod/ef:activityTime/gml:TimePeriod/gml:endPosition with valid content (historical content) shall indicate that the environmental monitoring feature type is no longer operational. | | | Not implemented | | |
| D26 | AQD_Station/aqd:EUSationCode shall be a unique code for the station starting with ISO2-country code | Station code must be unique, starting with ISO2-country code | Yes, key | Error | | IPR requirement (Annex II-D-ii-2) |
| D27 | The content of aqd:AQD_Station/aqd:meteoParams shall resolve to any concept in http://vocab.nerc.ac.uk/collection/P07/current/ , http://vocab.nerc.ac.uk/collection/I01/current/ , http://dd.eionet.europa.eu/vocabulary/aq/meteoparameter/ | Station Meteorological Parameters must conform to the standard "Climate and Forecast Standard" Subset of GRIB or the Meteo parameter list eionet data dictionary | | Warning | Not required; odd elment if we really need to collect met data | |
| D28 | The content of aqd:AQD_Station/aqd:areaClassification shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/ | Must conform to a recognised Station Classification from the eionet data dictionary. These are: Rural, Rural-Nearcity, Rural-Regional, Rural-Remote, Suburban, Urban | Yes | Error | | IPR requirement (Annex II-D-ii-28) |
| D29 | The content of aqd:AQD_Station/aqd:dispersionLocal shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/dispersionlocal/ | Must use a recognised Local description from the eionet data dictionary. These are: Canyon, Detached, Elevated and Open. | | Warning | | |
| D30 | The content of aqd:AQD_Station/aqd:dispersionRegional shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/dispersionregional/ | Must use a recognised Regional descriptor: Alpine, Base, Basin-Hilly, Coast-Mount, Coast-Plane, Hilly, Mount, Mount-Slope, Plane, Valley-Hilly and Valley-Mount. | | Warning | | |
| D31 | AQD_SamplingPoint/ef:inspireId/base:Identifier/base:localId not unique codes: | Sampling Point local Id must be unique | Yes | Error | | IPR requirement (Annex II-D-ii-1) |
| D32 | Count the number of unique AQD_SamplingPoint (via localId) submitted within base:namespace. | List unique namespaces used and count number of SamplingPoint used. | Yes | Error | | INSPIRE & system requirement |
| D32.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | NEW | System requirement |
| D33 | The content of aqd:AQD_SamplingPoint/ef:mediaMonitored shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/inspire/MediaValue/ | Must conform to the code 'air' in the Media codelist in the Inspire registry | | Warning | | |
| D34 | aqd:AQD_SamplingPoint/am:geometry/gml:Point the srsName attribute shall be a recognisable URN . The following 2 srsNames are expected urn:ogc:def:crs:EPSG::3035 or urn:ogc:def:crs:EPSG::4258 or urn:ogc:def:crs:EPSG::4326 | The coordinate reference system for the zones must be defined with a correct uniform resource name | Yes | Error | Add new srsName | Not required under IPR. However this is rather important |
| D35 | The srsDimension attribute within ./ef:geometry/gml:Point/gml:pos shall resolve to "2" to allow the x.y-coordinate of the station ORDER of 2 coordinates MUST BE Latitude & Longitud when providing the accepted srsNames (see D34) | The Dimension attribute shall resolve to "2" and the order must be Latitude & Longitude | Yes | Error | Needs reviewing to ensure it chcs Lat-Long | Not required under IPR. However this is rather important |
| D36 | ./ef:geometry/gml:Point/gml:pos shall resolve to within the approximate geographic location of the AQD_Station cited by .aqd:AQD_SamplingPoint ef:broader | The sampling point location shall resolve within the approximate location of the AQD_Station | Yes | Warning | Quality check | |
| D37 | ./ef:observingCapability/ef:ObservingCapability/ef:observingTime/gml:TimePeriod/gml:beginPosition shall be equal to or less than ./ef:operationalActivityPeriod/ef:OperationalActivityPeriod/ef:activityTime/gml:TimePeriod /gml:endPosition gml:TimePeriod within the multiple ef:observingCapability MUST NOT overlap which each other | Check if the operational period for the station is invalid or overlaps | Yes | Error | Quality check | |
| D38 | ./ef:observingCapability/ef:ObservingCapability/ef:processType shall resolve to http://inspire.ec.europa.eu/codelist/ProcessTypeValue/process (currently resolves to 404 error) | | | Not implemented | | INSPIRE requirement |
| D39 | ./ef:observingCapability/ef:ObservingCapability/ef:resultNature element shall resolve to http://inspire.ec.europa.eu/codelist/ResultNatureValue/primary (currently resolves to 404 error) | | | Not implemented | | INSPIRE requirement |
| D40 | The content of ./ef:observedProperty shall resolve to a valid code within http://dd.eionet.europa.eu/vocabulary/aq/pollutant/ and within a unique SamplingPoint, multiple ef:observedProperty may be found. These MUST always resolve to the same code | Pollutant must be a registered under vocabulary and each SamplingPoint must be defined for a unique pollutant under all measurement configurations | Yes | Error | Updated as not working | INSPIRE requirement |

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| D41 | Cross-check with AQD_Sample (./ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest/@xlink shall resolve to a traversable local of global URI to an ../AQD_Sample) | Links between SamplingPoint and Sample shall be traceable and valid | YES, key check | Error | Updated 4.0 Works if all in one XML | System requirement |
| D42 | Cross-check with AQD_SamplingPointProcess (./ef:observingCapability/ef:ObservingCapability/ef:procedure/@xlink shall resolve to a traversable local of global URI to ../AQD_SamplingPointProcess) | Links between SamplingPoint and SamplingPointProcess shall be traceable and valid | YES, key check | Error | Updated 4.0 Works if all in one XML | System requirement |
| D43 | Cross-check with AQD_Station (./ef:broader/@xlink shall resolve to a traversable local of global URI to ../AQD_Station) | Links between SamplingPoint and Station shall be traceable and valid | YES, key check | Error | Updated 4.0 | System requirement Works if all in one XML |
| D44 | Cross-check with AQD_Network (aqd:AQD_SamplingPoint/ef:belongsTo shall resolve to a traversable local of global URI to ../AQD_Network) | Links between Station and Network shall be traceable and valid | YES, key check | Error | Updated 4.0 Works if all in one XML | System requirement |
| D44b | Cross-check with AQD_Network (aqd:AQD_Station/ef:belongsTo shall resolve to a traversable local of global URI to ../AQD_Network) | Links between SamplingPoint and Network shall be traceable and valid | | | removed | |
| D45 | Total number aqd:AQD_SamplingPoint/ef:operationActivityPeriod/ef:OperationActivityPeriod/ef:activityTime/gml:TimePeriod/ invalid operational activity periods | Invalid or overlapping operational activity periods | Yes | Error | | |
| D46 | Total number of AQD_SamplingPoints which are operational | Number of operational sampling points: | Yes | Info | | |
| D47 | ./ef:operationActivityPeriod/ef:OperationActivityPeriod/ef:activityTime/gml:TimePeriod/gml:endPosition with valid content (historical content) shall indicate that the environmental monitoring feature type is no longer operational. | | | Not implemented | | |
| D48 | ./aqd:assessmentType shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/ via xlink:href | Check that Assessment Type conforms to: Fixed, Indicative, Model or Objective | | Implemented via Check xlink references | | |
| D49 | ./aqd:mainEmissionSources shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/emissionsource/ via xlink:href | Check that main emission source conforms to registered vocabulary | | Implemented via Check xlink references | | IPR requirement (Annex II-D-ii-23) |
| D50 | Total number/aqd:stationClassification which resolve to http://dd.eionet.europa.eu/vocabulary/aq/stationclassification/ via xlink:href | Check that Classifications conforms to: Background, Industrial or Traffic | Yes | Error | | IPR requirement (Annex II-D-ii-22) |
| D51 | Number of invalid 3 elements aqd:AQD_SamplingPoint/aqd:environmentalObjective/aqd:EnvironmentalObjective/ combinations: | Number of invalid 3 elements in Sampling Point and Environmental Objective combinations: | | Warning | | Not required under IPR |
| D52 | | | | | | |
| D53 | Number of invalid aqd:AQD_SamplingPoint/aqd:zone xlinks: | Check if there are any invalid link from SamplingPoint to zone(s) | Yes | Error | | IPR requirement (Annex II-D-ii-22) |
| D54 | aqd:AQD_SamplingPointProcess/ompr:inspireId/base:Identifier/base:localId not unique codes: | Local Id for Sampling Point Process must be unique | Yes | Error | | |
| D55 | Count the number of unique AQD_SamplingPointProcess (via localId) submitted within base:namespace | List unique namespaces used and count number of SamplingPointProcess(es) used. | Yes | Info | | |
| D55.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | NEW | System requirement |
| D56 | ./aqd:measurementType shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/measurementtype/[concept] | Must conform to a recognised Measurement Type from the eionet data dictionary. These are: Active, Automatic, Passive, Remote and Unknown. | Yes | Error | | IPR requirement (Annex II-D-ii-8) |
| D57 | If ./aqd:measurementType resolves to ./measurementtype/automatic or ./measurementtype/remote, aqd:measurementMethod shall be included and resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/measurementmethod/ AND /aqd:samplingMethod and ./aqd:analyticalTechnique SHALL NOT BE PROVIDED | If Measurement Type is Automatic or Remote and conforms to any of the recognised measurement methods in the eionet data dictionary, then Sampling Method and Technique shall not be provided. | Yes | Warning | Content check requirement | IPR requirement (Annex II-D-ii-8+9) |
| D58 | If ./aqd:measurementType resolves to http://dd.eionet.europa.eu/vocabulary/aq/measurementtype/active or http://dd.eionet.europa.eu/vocabulary/aq/measurementtype/passive /aqd:samplingMethod & ./aqd:analyticalTechnique shall be included AND /aqd:measurementMethod SHALL NOT BE PROVIDED | If Measurement Type is Active or Passive then Sampling Method and Analytical Technique must be provided. Measurement method shall not be provided. | Yes | Warning | Content check requirement | IPR requirement (Annex II-D-ii-8+9+10) |
| D59 | The content of /aqd:AQD_SamplingPointProcess/aqd:analyticalTechnique shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/analyticaltechnique/ | Analytical Technique must use any of the analytical technique recognised methods in the eionet data dictionary. | Yes | Error | | IPR requirement (Annex II-D-ii-8+10) |
| D60a | The content of ./aqd:AQD_SamplingPointProcess/aqd:measurementType shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/measurementtype/ | Sampling Process and Measurement Type must use any of the measurement equipment in the eionet data dictionary. | Yes | Error | | IPR requirement (Annex II-D-ii-8+10) |
| D60b | The content of ./aqd:AQD_SamplingPointProcess/aqd:samplingEquipment/aqd:SamplingEquipment/aqd:equipment shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/aq/samplingequipment/ | Sampling Process and Equipment must use any of the sampling equipment in the eionet data dictionary. | Yes | Error | | IPR requirement (Annex II-D-ii-8+10) |

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| D61 | If /aqd:AQD_SamplingPointProcess/aqd:measurementMethod/aqd:MeasurementMethod/aqd:otherMeasurementMethod, /aqd:AQD_SamplingPointProcess/aqd:measurementEquipment/aqd:MeasurementEquipment/aqd:otherEquipment, /aqd:AQD_SamplingPointProcess/aqd:samplingMethod/aqd:SamplingMethod/aqd:otherSamplingMethod, /aqd:AQD_SamplingPointProcess/aqd:SamplingEquipment/aqd:SamplingEquipment/aqd:otherEquipment or /aqd:AQD_SamplingPointProcess/aqd:analyticalTechnique/aqd:AnalyticalTechnique/aqd:otherAnalyticalTechnique populated must give a warning to contact helpdesk to add new vocabulary | Please contact IPR helpdesk in order to add new vocabulary for either MeasurementMethods/MeasurementEquipment/SamplingMethod/SamplingEquipment/AnalyticalTechnique | | Warning | Content check requirement | |
| D62 | ./ompr:processParameter/ompr:ProcessParameter/ompr:name must correspond to a valid code under http://dd.eionet.europa.eu/vocabulary/aq/processparameter/ | SamplingPointProcess parameters shall conform with registered vocabulary | | Warning | | |
| D63 | Where ./aqd:detectionLimit is resolved uom link resolving to any concept in http://dd.eionet.europa.eu/vocabulary/uom/concentration/ shall be provided | If Detection Limit is specified, then a link to a concentration value from the eionet data dictionary must be provided. | Yes | Error | | IPR requirement (Annex II-D-ii-11) |
| D64 | | | | | | |
| D65 | ./aqd:unit shall resolve to http://dd.eionet.europa.eu/vocabulary/uom/time/ | Time unit for process duration and cadence shall conform with registered vocabulary | | Error | | IPR requirement (Annex II-D-ii-14+15) |
| D66 | ./aqd:numUnits shall contain an integer value | | | Not implemented | | IPR requirement (Annex II-D-ii-14+15) |
| D67a | Where ../AQD_SamplingPoint/aqd:usedAQD is "true", ./aqd:equivalenceDemonstration/aqd:EquivalenceDemonstration/aqd:equivalenceDemonstrated must resolve to http://dd.eionet.europa.eu/vocabulary/aq/equivalencedemonstrated/ | Sampling Process (used for compliance) was reported without or incorrect information on Equivalence demonstration. | Yes | Turn to Warning | Implemented in 4.0 | IPR requirement (Annex II-D-ii-12) |
| D67b | ./aqd:equivalenceDemonstration/aqd:EquivalenceDemonstration/aqd:equivalenceDemonstrated should resolve to http://dd.eionet.europa.eu/vocabulary/aq/equivalencedemonstrated/ for all SamplingPointProcess | Sampling Process was reported without or incorrect information on Equivalence demonstration. | Yes | Warning | Implemented in 4.0 | IPR requirement (Annex II-D-ii-12) |
| D68 | SamplingPointProcess(es) declared as an equivalent method" i.e. http://dd.eionet.europa.eu/vocabulary/aq/equivalencedemonstrated/yes but /aqd:demonstrationReport not provided. | Sampling Process was declared as an equivalent method but the Demonstration Report was not provided. | Yes | Warning | Implemented in 4.0 | IPR requirement (Annex II-D-ii-13) |
| D69 | SamplingPointProcess(es) is missing mandatory document on Traceability and Uncertainty Estimation via aqd:AQD_SamplingPointProcess/aqd:dataQuality/aqd:DataQuality/aqd:documentation OR ./aqd:qaReport | Sampling Process is missing mandatory document on Traceability and Uncertainty Estimation or QA report | Yes | Warning | Implemented in 4.0 MERGE D69 and D70 in one | IPR requirement (Annex II-D-ii-43+44) |
| D70 | | | | | | |
| D71 | aqd:AQD_Sample/ompr:inspireId/base:Identifier/base:localId not unique codes: | Local Id for Sample must be unique | Yes | Error | | INSPIRE requirement |
| D72 | Count the number of unique AQD_Sample (via localId) submitted within base:namespace | List unique namespaces used and count number of Sample(s) used. | Yes | Error | | INSPIRE requirement |
| D72.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | NEW | INSPIRE requirement |
| D73 | ./sams:shape/gml:Point the srsName attribute shall be a recognisable URN . The following 3 srsNames are expected urn:ogc:def:crs:EPSG::3035 or urn:ogc:def:crs:EPSG::4258 or urn:ogc:def:crs:EPSG::4326 | The coordinate reference system for the zones must be defined with a correct uniform resource name | Yes | Error | | INSPIRE/System requirement |
| D74 | ./sams:shape/gml:Point, the srsDimension attribute shall resolve to "2" to allow the coordinate of the feature of interest | The srsDimension attribute must be '2'. | Yes | Error | | |
| D75 | ./sams:shape/gml:Point/gml:pos shall resolve to within the approximate geographic location of the sampling point referencing the ../AQD_Sample record via ../aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest | The Sample should be located near the SamplingPoint | | Warning | | |
| D76 | ./aqd:buildingDistance shall contain a numerical value, WHERE ../aqd:AQD_SamplingPoint/aqd:relevantEmissions/aqd:RelevantEmissions/aqd:stationClassification = http://dd.eionet.europa.eu/vocabulary/aq/stationclassification/traffic AND ../aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest is xlinked to this./aqd:AQD_Sample via /aqd:inspireId/base:Identifier/base:localId | Distance to building should be provided if SamplingPoint is classified as Traffic | | Warning | | IPR requirement (Annex II-D-ii-20) |

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| D77 | ./aqd:kerbDistance shall contain a numerical value, WHERE ../aqd:AQD_SamplingPoint/aqd:relevantEmissions/aqd:RelevantEmissions/aqd:stationClassification is EQUAL to http://dd.eionet.europa.eu/vocabulary/aq/stationclassification/traffic AND ../aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest is xlinked to this./aqd:AQD_Sample via ./aqd:inspireId/base:Identifier/base:localId | Distance to kerbside should be provided if SamplingPoint is classified as Traffic | | Warning | IMPLEMENT | IPR requirement (Annex II-D-ii-21) |
| D78 | ./aqd:inletHeight shall contain a numerical value, uom within it shall resolve to http://dd.eionet.europa.eu/vocabulary/uom/length/m | Inlet Height must be in meters. | Yes | Warning | Implemented in 4.0 | IPR requirement (Annex II-D-ii-19) |
| D79 | sam:sampledFeature shall resolve to a traversable local of global URI to an ../AQD_RepresentativeArea or a nilReason must be provided like <sam:sampledFeature nilReason="unknown"/> | | | Not implemented | NEW | CHECK XSD doc |
| D80 | ./aqd:inspireId/base:Identifier/base:localId shall be an unique code for AQD_RepresentativeArea and unique within namespace | | | Not implemented | | INSPIRE requirement |
| D81 | ./aqd:inspireId/base:Identifier/base:namespace shall be a unique namespace identifier for the data source (within an annual e-Reporting cycle). The namespace value will be owned by the data provider of the spatial object | | | Not implemented | | INSPIRE requirement |
| D81.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | | | Not implemented | | INSPIRE requirement |
| D82 | ./sam:sampledFeature shall resolve to http://sweet.jpl.nasa.gov/2.2/realm.owl#Atmosphere | | | Not implemented | | INSPIRE requirement |
| D83 | The srsName attribute within ./sams:shape/gml:Point shall be a recognisable URN. The following 3 srsNames are expected urn:ogc:def:crs:EPSG::3035 or urn:ogc:def:crs:EPSG::4258 or urn:ogc:def:crs:EPSG::4326 Alternatives, like http://www.opengis.net/gml/srs/epsg.xml#4258 or EPSG:4258 should be flagged as error | | | Not implemented | | INSPIRE/System requirement |
| D84 | ./sams:shape/gml:Polygon/gml:exterior/gml:LinearRing/gml:posList shall resolve to within the approximate geographic location of the sampling point referencing the | | | Not implemented | | CHECK XSD doc |
| D85 | ./sams:shape/gml:Polygon/gml:exterior/gml:LinearRing/gml:posList srsDimension attribute shall resolve to "2" to allow the x & y-coordinate of the feature of interest. ORDER of 2 coordinates MUST BE Latitude & Longitud when providing the accepted srsNames (see D81) | | | Not implemented | | CHECK XSD doc |
| D86 | ./sams:shape/gml:Polygon/gml:exterior/gml:LinearRing/gml:posList count attribute shall resolve to the sum of x-y coordinate doublets. ORDER of 2 coordinates doublets MUST BE Latitude & Longitud when providing the accepted srsNames (see D81) | | | Not implemented | | |
| D87 | ./sams:shape/gml:Polygon/gml:exterior/gml:LinearRing/gml:posList shall resolve to the approximate geographic location of the sampling point referencing the | | | Not implemented | | CHECK XSD doc |
| D88 | | | | | | |
| D89 | | | | | | |
| D90 | | | | | | |
| D91 | Each aqd:AQD_Sample reported within the XML shall be xlinked (at least once) via aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest@xlink | All reported Sample(s) shall be used within at least one SamplingPoint | Yes | Turn to Warning | Completeness check | |
| D92 | Each aqd:AQD_SamplingPointProcess reported within the XML shall be xlinked (at least once) via ./aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:procedure@xlink | All reported SamplingPointProcess(es) shall be used within at least one SamplingPoint | Yes | Turn to Warning | Completeness check | |
| D93 | Each aqd:AQD_Station reported within the XML shall be xlinked (at least once) via aqd:AQD_SamplingPoint/ef:broader@xlink | All reported Station(s) shall be used within at least one SamplingPoint | Yes | Turn to Warning | Completeness check | |

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| D94 | Each aqd:AQD_Netwok reported within the XML shall be xlinkd (at least once) via /aqd:AQD_SamplingPoint/ef:belongsTo@xlink or /aqd:AQD_Station/ef:belongsTo@xlink | All reported Networks shall be used within at least one SamplingPoint or one Station | Yes | Turn to Warning | Completeness check | |
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| Checks | Original | User friendly text | Crucial check | QA blocker as implemented in CDR | Status/Note | Review in 2016 | Specific element checked |
|--------|---|---|---------------|----------------------------------|------------------------------|--------------------|--|
| XML | XML validation to confirm that it is both well-formed and also "valid" in that it follows a defined structure. A well-formed document follows the basic syntactic rules of XML, which are the same for all XML documents. A valid document also respects the rules dictated by XML schema (http://dd.eionet.europa.eu/schemaset/id2011850eu-1.0/view) | XML validation | Yes | Error | Integrated into one qa check | System requirement | |
| NS | Check prefix and namespaces of the gml:featureCollection according to expected root elements (More information at http://www.eionet.europa.eu/aqportal/datamodel) | Prefix/namespaces check | Yes | Error | Integrated into one qa check | System requirement | |
| M0 | Check if delivery if this is a new delivery or updated delivery (via reporting year) | Checks if this delivery is new or an update (on same reporting year) | Yes | Warning (if update) | New | Information | |
| M1 | Compile & feedback upon the total number of each environmental monitoring feature types included in the delivery | Total number of individual element reported within this XML Document for assessment methods (models/objective estimation) | Yes | Error | Improved in v5.0 | | /aqd:AQD_Model /aqd:AQD_ModelProcess /aqd:AQD_ModelArea |
| M2 | Compile & feedback upon the total number of new records for each environmental monitoring feature types included in the delivery | Total number of new records for each feature type included in the delivery. Warning will be returned if all LocalIds are new. | Yes | Warning | Improved in v5.0 | | /aqd:AQD_Model /aqd:AQD_ModelProcess /aqd:AQD_ModelArea |
| M3 | Compile & feedback upon the total number of modification to existing for each environmental monitoring feature types included in the delivery | Total number of updated records for each feature type included in the delivery. Warning will be returned if all LocalIds are new. | Yes | Warning | Improved in v5.0 | | /aqd:AQD_Model /aqd:AQD_ModelProcess /aqd:AQD_ModelArea |
| M4 | Compile & feedback a list of the unique identifier information for each new record or modification to an environmental monitoring feature type. Feedback report shall include the gml:id attribute, ef:inspireId, aqd:inspireId, ef:name and/or ompr:name elements as available. | Full list of reported Environmental Monitoring Features within this XML Document | Yes | Info | Improved in v5.0 | | /aqd:AQD_Model /aqd:AQD_ModelProcess /aqd:AQD_ModelArea |
| M5 | All gml:id attributes, ef:inspireId and aqd:inspireId elements shall have unique content | Id elements must have unique content | Yes | Error | Improved in v5.0 | | /aqd:AQD_Model /aqd:AQD_ModelProcess /aqd:AQD_ModelArea |
| M6 | ./ef:inspireId/base:Identifier/base:localId shall be an unique code for AQD_Model and unique within the namespace. It is recommended to start with "MOD" and may include ISO2-country code (e.g.: MOD-ES0001) | ./ef:inspireId/base:Identifier/base:localId shall be an unique code for AQD_Model and unique within the namespace. It is recommended to start with "MOD" and may include ISO2-country code (e.g.: MOD-ES0001) | Yes | Error | updated in 4.0 | | /aqd:AQD_Model/ef:inspireId/base:Identifier /base:localId |
| M7 | Count the number of unique AQD_Model (via localId) submitted within base:namespace. | List unique namespaces used and count number of Models used. | Yes | Error | updated in 4.0 | | /aqd:AQD_Model/ef:inspireId/base:Identifier/ base:namespace |
| M7.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | | | |
| M8 | ./ef:name shall return a string | Model name must be provided | Yes | Error | updated in 4.0 | | /aqd:AQD_Model/ef:name |
| M9 | The content of /ef:additionalDescription shall provide brief description for the model / objective estimation method | The content of /ef:additionalDescription shall provide brief description for the model / objective estimation method | | Not implemented | updated in 4.0 | | /aqd:AQD_Model/ef:additionalDescription |
| M10 | The content of aqd:AQD_SamplingPoint/ef:mediaMonitored shall resolve to any concept in http://dd.eionet.europa.eu/vocabulary/inspire/MediaValue/ | Must conform to the code 'air' in the Mediaodelist in the Inspire registry | | Warning | updated in 4.0 | | /aqd:AQD_Model/ef:mediaMonitored |
| M11 | ./ef:geometry shall contain a valid geometric property type, typically gml:Point, gml:MultiPoint, gml:Grid, gml:RectifiedGrid, gml:Polygon | ./ef:geometry shall contain a valid geometric property type, typically gml:Point, gml:MultiPoint, gml:Grid, gml:RectifiedGrid, gml:Polygon | | Not implemented | updated in 4.0 | | /aqd:AQD_Model/ef:geometry |
| M12 | | | | Removed | updated in 4.0 | | |
| M13 | | | | Removed | updated in 4.0 | | |
| M14 | | | | Removed | updated in 4.0 | | |
| M15 | ./ef:observingCapability/ef:ObservingCapability/ef:observingTime/gml:TimePeriod/gml:beginPosition shall be equal to or less than ./ef:operationalActivityPeriod/ef:OperationalActivityPeriod/ef:activityTime/gml:TimePeriod /gml:endPosition - gml:TimePeriod within the multiple ef:observingCapability MUST NOT overlap which each other | Check if the operational period for the model is invalid or overlaps | Yes | Error | updated in 4.0 | | /aqd:AQD_Model/ef:ObservingCapability/ef:observingTime/gml:TimePeriod |
| M16 | ./ef:observingCapability/ef:ObservingCapability/ef:processType shall resolve to "INSPIRE_OM_Process" via an XLINK: http://inspire.ec.europa.eu/codelist/ProcessTypeValue/process (currently resolves to 404 error) | ef:processType must conform to codelist in the Inspire registry | | Not implemented | updated in 4.0 | | /aqd:AQD_Model/ef:observingCapability/ef:ObservingCapability/ef:processType |
| M17 | ./ef:observingCapability/ef:ObservingCapability/ef:resultNature element shall resolve to http://inspire.ec.europa.eu/codelist/ResultNatureValue/simulated (currently resolves to 404 error) | ef:resultNature must conform to codelist in the Inspire registry | | Not implemented | updated in 4.0 | | /aqd:AQD_Model/ef:observingCapability/ef:ObservingCapability/ef:resultNature |

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| M18 | <p><code>/ef:observingCapability/ef:ObservingCapability/ef:observedProperty</code> shall resolve to a valid code within http://dd.eionet.europa.eu/vocabulary/aq/pollutant/ Within a unique AQD_Model, multiple <code>ef:observedProperty</code> may be found. These MUST always resolve to the same code</p> | <p><code>/ef:observingCapability/ef:ObservingCapability/ef:observedProperty</code> shall resolve to a valid code within http://dd.eionet.europa.eu/vocabulary/aq/pollutant/ Within a unique AQD_Model, multiple <code>ef:observedProperty</code> may be found. These MUST always resolve to the same code</p> | Yes | Error | updated in 4.0 | | <code>/aqd:AQD_Model/ef:observingCapability/ef:ObservingCapability/ef:observedProperty</code> |
| M19 | <p><code>/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest</code> shall resolve to a traversable link to a unique AQD_ModelArea ("<code>namespace/localId</code>" of the object)</p> | Links between Model and ModelArea shall be traceable and valid | Yes | Error | Improved and turn to Error | | <code>/aqd:AQD_Model/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest</code> |
| M20 | <p><code>/ef:observingCapability/ef:ObservingCapability/ef:procedure</code> shall resolve to a traversable local of global URI to <code>../aqd:AQD_ModelProcess</code></p> | Links between Model and ModelProcess shall be traceable and valid | Yes | Error | Implemented | | <code>/aqd:AQD_Model/ef:observingCapability/ef:ObservingCapability/ef:procedure</code> |
| M21 | <p><code>/ef:organisationLevel</code> attribute shall resolve to a valid code in http://dd.eionet.europa.eu/vocabulary/aq/reportinglevel/, (e.g. http://dd.eionet.europa.eu/vocabulary/aq/reportinglevel/national)</p> | <code>ef:organisationLevel</code> | YES. Key information. | Not implemented | updated in 4.0 | | <code>/aqd:AQD_Model/ef:organisationLevel</code> |
| M22 | | | | Empty | | | |
| M23 | <p>Number of invalid 3 elements <code>aqd:AQD_Model/aqd:environmentalObjective/aqd:EnvironmentalObjective/</code> combinations</p> | Number of invalid 3 elements in Model and Environmental Objective combinations: | | Warning | | | <code>/aqd:AQD_Model/aqd:environmentalObjective/aqd:EnvironmentalObjective/</code> dependant on <code>/aqd:AQD_Model/ef:observingCapability/ef:ObservingCapability/ef:observedProperty</code> |
| M24 | <p><code>/aqd:assessmentType</code> shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/via_xlink:href to either http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/model or http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/objective</p> | Check that Assessment Type conforms to either Model or Objective | Yes | Error | updated in 4.0 | | <code>/aqd:AQD_Model</code> |
| M25 | <p>If <code>/aqd:usedAQD</code> equals "true", the AQD_Model must be xlinked in at least at one <code>/aqd:AQD_AssessmentRegime/aqd:assessmentMethods/aqd:AssessmentMethods/aqd:modelAssessmentMetadata</code> (dataset C)</p> | | Yes | Removed | updated in 4.0 | | <code>/aqd:Model/aqd:usedAQD</code> |
| M26 | <p><code>/aqd:zone</code> shall resolve to a traversable local of global URI to <code>AQD_Zones</code> via <code>xlink:href</code></p> | Check if there are any invalid link from Model to zone(s) | Yes | Error | updated in 4.0 | | <code>/aqd:Model/aqd:zone</code> |
| M27 | <p><code>/ompr:inspireId/base:Identifier/base:localId</code> shall be a unique code for <code>SamplingPointProcess</code> and within the namespace</p> | ModelProcess localId must be unique within the namespace | Yes | Error | updated in 4.0 | | <code>/aqd:AQD_ModelProcess/ompr:inspireId/base:Identifier/base:localId</code> |
| M28 | <p><code>/ompr:inspireId/base:Identifier/base:namespace</code> shall be a unique namespace identifier for the data source (within an annual e-Reporting cycle). The namespace value will be owned by the data provider of the spatial object</p> | List unique namespaces used and count number of ModelProcess used. | Yes | Error | updated in 4.0 | | <code>/aqd:AQD_ModelProcess/ompr:inspireId/base:Identifier/base:namespace</code> |
| M28.1 | <p>Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view)</p> | Check namespace is registered | | Error | | | |
| M29 | <p><code>/ompr:documentation/base2:DocumentationCitation/base2:link</code> shall resolve to a traceable URL</p> | <code>/ompr:documentation/base2:DocumentationCitation/base2:link</code> shall resolve to a traceable URL | Yes | Error | updated in 4.0 | | <code>/aqd:AQD_ModelProcess/ompr:documentation</code> |
| M30 | <p><code>/ompr:name</code> shall resolve to provide a name for the model process configuration</p> | ModelProcess name should be provided | | Warning | updated in 4.0 | | <code>/aqd:AQD_ModelProcess/ompr:name</code> |
| M31 | <p><code>/ompr:type</code> shall resolve to a text description of the type of <code>ompr:processParameter/ompr:ProcessParameter/ompr:name</code></p> | <code>/ompr:type</code> shall resolve to a text description of the type of "process" or "parameter" | | Not implemented | updated in 4.0 | | <code>/aqd:AQD_ModelProcess/ompr:type</code> |
| M32 | <p><code>ompr:processParameter/ompr:ProcessParameter/ompr:name</code> shall resolve to a valid code within http://dd.eionet.europa.eu/vocabulary/aq/modelparameter/ &</p> | | | Not implemented | updated in 4.0 | | <code>/aqd:AQD_ModelProcess/ompr:processParameter</code> |
| M33 | <p>If the <code>aqd:AQD_Model/aqd:assessmentType</code> resolves to http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/model (please note that the link between AQD_Model and AQD_ModelProcess is mandatory)</p> | | | Not implemented | | | <code>/aqd:AQD_ModelProcess/ompr:processParameter</code> |
| M34 | <p><code>aqd:AQD_ModelProcess/aqd:description</code> shall provide a free text description of the model - e.g. GIS-based dispersion kernel approach for 1x1km background concentrations from area source emissions, calibrated with monitoring. The contribution from point sources is estimated using a separate dispersion model and then included in the total. A bi-linear interpolation of corrected rural measurement data has been used to map regional background NOx concentrations throughout the UK.</p> | A textual description of model process | | Warning | Implemented | | <code>/aqd:AQD_ModelProcess/aqd:description</code> |
| M35 | <p><code>/aqd:AQD_ModelProcess/aqd:temporalResolution/aqd:TimeReferences/aqd:unit</code> shall resolve to http://dd.eionet.europa.eu/vocabulary/uom/time/</p> | The unit of the temporal resolution should be provided and conform with vocabulary | | Warning | Implemented | | <code>/aqd:AQD_ModelProcess/aqd:temporalResolution/aqd:TimeReferences/aqd:unit</code> |

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|-------|---|---|-----|-----------------|----------------|--|---|
| M36 | ./aqd:numUnits shall contain an integer value | ./aqd:numUnits shall contain an integer value | | Not implemented | updated in 4.0 | | aqd:AQD_ModelProcess/aqd:temporalResolution/aqd:TimeReferences/aqd:numUnits |
| M37 | ./aqd:spatialResolution shall provide a free text description of the spatial resolution of the model - e.g. 1x1km background concentrations | ./aqd:spatialResolution shall provide a free text description of the spatial resolution of the model - e.g. 1x1km background concentrations | | Not implemented | updated in 4.0 | | /aqd:AQD_ModelProcess/aqd:spatialResolution |
| M38 | ./dataQualityDescription shall provide a description of the quality of the model data / objective estimation in relation to the DQOs | ./dataQualityDescription shall provide a description of the quality of the model data / objective estimation in relation to the DQOs | | Not implemented | updated in 4.0 | | /aqd:AQD_ModelProcess/dataQualityDescription |
| M39 | ./dataQualityReport shall provide a traceable URL (Note to data provider, the url should lead to a report describing the data quality equaluation process) | Check Data Quality Report is provided via a traceable URL | Yes | Error | updated in 4.0 | | /aqd:AQD_ModelProcess/dataQualityReport |
| M40 | ./aqd:inspireId/base:Identifier/base:localId shall be an unique code for AQD_Sample and unique within the namespace | ModelArea localId must be unique within the namespace | Yes | Error | updated in 4.0 | | /aqd:AQD_ModelArea/aqd:inspireId/base:Identifier/base:localId |
| M41 | ./aqd:inspireId/base:Identifier/base:namespace shall be a unique namespace identifier for the data source (within an annual e-Reporting cycle). The namespace value will be owned by the data provider of the spatial object and will be registered in the INSPIRE External Object Identifier Namespaces Register | List unique namespaces used and count number of ModelArea used. | Yes | Error | updated in 4.0 | | /aqd:AQD_ModelArea/aqd:inspireId/base:Identifier/base:namespace |
| M41.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabulary/aq/namespace/view) | Check namespace is registered | Yes | Error | | | /aqd:AQD_ModelArea/aqd:inspireId/base:Identifier/base:namespace |
| M42 | Check on ./sam:sampledFeature to be skipped. This element is not relevant and might contain xlink to http://sweet.jpl.nasa.gov/2.2/realm.owl or <code><sam:sampledFeature nilReason="inapplicable" xsi:nil="true"/></code> | | No | Not implemented | updated in 4.0 | | /aqd:AQD_ModelArea/sam:sampledFeature |
| M43 | ./sams:shape/gml:Polygon, ./sams:shape/gml:Point, ./sams:shape/gml:MultiPoint, ./sams:shape/gml:MultiSurface, ./sams:shape/gml:Grid, ./sams:shape/gml:RectifiedGrid the srsName attribute shall be a recognisable URN. The following 3 srsNames are expected urn:ogc:def:crs:EPSG::3035 or urn:ogc:def:crs:EPSG::4258 or urn:ogc:def:crs:EPSG::4326 | The coordinate reference system for the ModelArea must be defined with a correct uniform resource name | Yes | Error | updated in 4.0 | | /aqd:AQD_ModelArea/sams:shape |
| M44 | ./sams:shape shall contain a valid geometric property type, typically gml:Point, gml:MultiPoint, gml:MultiSurface, gml:Grid, gml:RectifiedGrid, gml:Polygon | ./sams:shape shall contain a valid geometric property type, typically gml:Point, gml:MultiPoint, gml:MultiSurface, gml:Grid, gml:RectifiedGrid, gml:Polygon | | Not implemented | updated in 4.0 | | /aqd:AQD_ModelArea/sams:shape |
| M45 | .../gml:posList the count attribute shall resolve to the sum of y & x;coordinate doublets. | The count attribute must be equal to the Y and X coordinate doublets | | Error | | | /aqd:AQD_RepresentativeArea/sams:shape/ |
| M46 | Check that the coordinates lists in .../gml:posList ar presented in lat / long (y;axis / x;axis) notation. | The coordinates must be ordered as latitude (y-axis) ,longitude (x-axis) | | Error | | | /aqd:AQD_RepresentativeArea/sams:shape/ |

| Checks | Original | User friendly text | Crucial check | QA blocker as implemented in CDR | Status/Note | Review in 2016 |
|--------|--|--|---------------|----------------------------------|------------------------------|--------------------------------|
| XML | XML validation to confirm that it is both well-formed and also "valid" in that it follows a defined structure. A well-formed document follows the basic syntactic rules of XML, which are the same for all XML documents. A valid document also respects the rules dictated by XML schema (http://dd.eionet.europa.eu/schemaset/id2011850eu-1.0/view) | XML validation | Yes | Error | Integrated into one qa check | System requirement |
| NS | Check prefix and namespaces of the gml:featureCollection according to expected root elements (More information at http://www.eionet.europa.eu/aqportal/datamodel) | Prefix/namespaces check | Yes | Error | Integrated into one qa check | System requirement |
| E0 | Check if delivery if this is a new delivery or updated delivery (via reporting year) | Checks if this delivery is new or an update (on same reporting year) | Yes | Warning (if update) | New | |
| E01 | Compile & feedback upon the total number of observations included in the delivery | Total number Observations within this XML Document | Yes | Info, error if empty | New | |
| E1 | /om:OM_Observation gml:id attribute shall be unique code for the group of observations enclosed by /OM_Observation within the delivery. Please note that the om:OM_Observation do not have INSPIRE ID like all other elements with namespace & localId | GML identifier for om:OM_Observation attribute shall be unique code | | Error | Implemented as QA in v5.0 | |
| E2 | ./om:phenomenonTime/gml:TimePeriod/gml:beginPosition shall be LESS THAN ./om:phenomenonTime/gml:TimePeriod/gml:endPosition. | Start time must be less than end time (phenomenonTime) | | Error | Implemented as QA in v5.0 | |
| E3 | ./om:resultTime/gml:TimeInstant/gml:timePosition shall be GREATER THAN ./om:phenomenonTime/gml:TimePeriod/gml:endPosition | The resultTime must be after the phenomenonTime | | Error | Implemented as QA in v5.0 | |
| E4 | All om:OM_Observation/ must provide a valid /om:procedure xlink (can not be empty) & ./om:procedure xlink:href attribute shall resolve to a traversable link process configuration in Data flow D: /aqd:AQD_SamplingPointProcess/ompr:inspireId/base:Identifier/base:localId | Observation must link to a valid AQD_SamplingPointProcess in dataflow D (via om:procedure) | | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-7) |
| E5 | A valid delivery MUST provide an om:parameter with om:name xlink:href to http://dd.eionet.europa.eu/vocabulary/aq/processparameter/SamplingPoint | Observation must provide a link to SamplingPoint | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-) |
| E6 | If ./om:parameter/om:NamedValue/om:name xlink:href resolves to http://dd.eionet.europa.eu/vocabulary/aq/processparameter/SamplingPoint /om:parameter/om:NamedValue/om:value xlink:href attribute shall resolve to a traversable link to a unique AQD_SamplingPoint ("namespace/localId" of the object) | Observation must link to a valid AQD_SamplingPoint in dataflow D (via om:parameter/...) | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-7) |
| E7 | A valid delivery should provide an om:parameter with om:name xlink:href to http://dd.eionet.europa.eu/vocabulary/aq/processparameter/AssessmentType | Observation should provide link to Assessment Type | Yes | Warning | Implemented as QA in v5.0 | IPR requirement (Annex II-E-6) |
| E8 | If ./om:parameter/om:NamedValue/om:name links to http://dd.eionet.europa.eu/vocabulary/aq/processparameter/AssessmentType /om:parameter/om:NamedValue/om:value xlink:href attribute shall resolve to valid code for http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/ | Observation must provide a correct link to AssessmentType vocabulary | | Warning | Implemented as QA in v5.0 | |
| E9 | OM observations shall contain several om:parameters to further define the observations. ./om:parameter/om:NamedValue/om:name xlink:href attribute shall resolve to a traversable link to http://dd.eionet.europa.eu/vocabulary/aq/processparameter/ | All observation paramater should link to be registered under vocabulary | | Warning | Implemented as QA in v5.0 | |
| E10 | ./om:parameter/om:NamedValue/om:name xlink:href attribute shall resolve to a traversable link to http://dd.eionet.europa.eu/vocabulary/aq/processparameter/ | Pollutant must be a registered under vocabulary | Yes | Error | Implemented as QA in v5.0 | |
| E11 | The pollutant xlinked via /om:observedProperty must match the pollutant code declared via /aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:observedProperty (See E6 on linkages between the Observations & the SamplingPoint) | The pollutant for the observation must match the pollutant of the SamplingPoint | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-7) |

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| E12 | All om:OM_Observation/ must provide a valid /om:featureOfInterest xlink (can not be empty)& /om:featureOfInterest xlink:href attribute shall resolve to a traversable link to /aqd:AQD_Sample/ompr:inspireId/base:Identifier/base:localId | Observation must link to a valid AQD_Sample in dataflow D (via om:featureOfInterest) | | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-7) |
| E13 | The temporal envelopes of /om:phenomenonTime/gml:TimePeriod/gml:beginPosition shall reconcile with /aqd:AQD_SamplingPoint/ef:operationalActivityPeriod/ef:OperationalActivityPeriod associated with the citations via /om:parameter/om:value xlink:href attribute AND /aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:observingTime/gml:TimePeriod/ associated with /aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:procedure the citations via /om:procedure xlink:href attribute | | Yes | Not implemented | | |
| E14 | /om:result/swe:DataArray/swe:elementCount/swe:Count/swe:value shall resolve to the count of observations in /om:result/swe:DataArray/swe:values | | | Not implemented | | |
| E15 | IF /om:result/swe:DataArray/swe:elementType/swe:DataRecord/swe:fieldName="startTime" attribute THEN swe:Time definition= http://www.opengis.net/def/property/OGC/0/SamplingTime swe:uom xlink:href= http://www.opengis.net/def/uom/ISO-8601/0/Gregorian | Check valid definition for startTime | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-8) |
| E16 | IF /om:result/swe:DataArray/swe:elementType/swe:DataRecord/swe:fieldName="endTime" attribute THEN swe:Time definition= http://www.opengis.net/def/property/OGC/0/SamplingTime swe:uom xlink:href= http://www.opengis.net/def/uom/ISO-8601/0/Gregorian | Check valid definition for endTime | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-8) |
| E17 | IF /om:result/swe:DataArray/swe:elementType/swe:DataRecord/swe:fieldName="validity" attribute THEN swe:Category definition is defined by http://dd.eionet.europa.eu/vocabulary/aq/observationvalidity | Check valid definition for observation validity | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-12) |
| E18 | IF /om:result/swe:DataArray/swe:elementType/swe:DataRecord/swe:fieldName="verification" attribute THEN swe:Category definition is defined by http://dd.eionet.europa.eu/vocabulary/aq/observationverification | Check valid definition for observation verification | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-13) |
| E19 | IF /om:result/swe:DataArray/swe:elementType/swe:DataRecord/swe:fieldName="Value" attribute THEN swe:Quantity definition is defined by http://dd.eionet.europa.eu/vocabulary/aq/primaryObservation/[code] & the swe:uom resolves to an xlink to http://dd.eionet.europa.eu/vocabulary/uom/concentration/[code] | Check valid definition for the observation values (primaryObservation code& concentration) | Yes | Error | Implemented as QA in v5.0 | IPR requirement (Annex II-E-5) |
| E19b | Check if the unit of measure reporting via (swe:uom) corresponds to the recommended unit of measure in vocabulary http://dd.eionet.europa.eu/vocabulary/uom/concentration/[code] depending on pollutant reported via /om:observedProperty | Check if data is provided using the recommended unit according to vocabulary | | Warning | Implemented as QA in v5.0 | |
| E20 | A fifth element might be included. IF /om:result/swe:DataArray/swe:elementType/swe:DataRecord/swe:fieldName="DataCapture" attribute THEN swe:Category definition is defined by http://dd.eionet.europa.eu/vocabulary/aq/primaryObservation/dc& the swe:uom resolves to an xlink to http://dd.eionet.europa.eu/vocabulary/uom/statistics/percentage | Check valid definition for the data coverage element (if provided) | Yes | Error | Implemented as QA in v5.0 | |
| E21 | /om:result/swe:DataArray/swe:encoding/swe:TextEncoding shall resolve to decimalSeparator="." tokenSeparator="," blockSeparator="@@" | Check valid TextEncoding (decimalSeparator="." tokenSeparator="," blockSeparator="@@") | | Warning | Implemented as QA in v5.0 | System requirement |
| E22 | If the observations are defined as primaryObservations via the <swe:fieldName="Value">, the difference between the StartTime and EndTime of the observations must be in accordance to the primaryObservation provided | If the observations are defined as primaryObservations via the <swe:fieldName="Value">, the difference between the StartTime and EndTime of the observations must be in accordance to the primaryObservation provided | Yes | Not implemented | E.g. If swe:Quantity definition equals " http://dd.eionet.europa.eu/vocabulary/aq/primaryObservation/hour " | |

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| E23 | The results element declared as swe:field name="Validity" must only use the codes (flags) provided via http://dd.eionet.europa.eu/vocabulary/aaq/observationvalidity | Check all validity codes within swe:values correspon to vocabulary (.../aaq/observationvalidity) | Yes | Not implemented | | |
| E24 | The results element declared as swe:field name="Verification" must only use the codes (flags) provided via http://dd.eionet.europa.eu/vocabulary/aaq/observationverification/ | Check all verificaiton codes within swe:values correspon to vocabulary (.../aaq/observationverification) | Yes | Not implemented | | |
| E25 | The temporal envelopes of the swe:values (reported via starTime and EndTime) shall reconcile with ./om:phenomenonTime/gml:TimePeriod/gml:beginPosition | The temporal envelopes of the swe:values (reported via starTime and EndTime) shall reconcile with ./om:phenomenonTime/gml:TimePeriod/gml:beginPosition | | Not implemented | | |
| E26 | <p>Check valid "constellation":</p> <p>The combination of SamplingPoint, SamplingPointProcess, Sample and Pollutant must be valid compared to latest Assessment Methods (D) reported</p> <p>/om:parameter/om:NamedValue/om:value xlink:href attribute when</p> <p>/om:parameter/om:NamedValue/om:name xlink:href resolves to http://dd.eionet.europa.eu/vocabulary/aaq/processparameter/SamplingPoint</p> <p>+</p> <p>/om:procedure xlink:href attribute</p> <p>+</p> <p>/om:featureOfInterest xlink:href attribute</p> <p>+</p> <p>om:observedProperty xlink:href attribute</p> <p>must be found in latest metadata (D) as</p> <p>/aqd:AQD_SamplingPoint/ef:inspireId/base:localId (note xlink above include "namespace")</p> <p>+</p> <p>/aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:procedure</p> <p>+</p> <p>/aqd:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest</p> <p>+</p> <p>/aad:AQD_SamplingPoint/ef:observingCapability/ef:ObservingCapability/ef:featureOfInterest</p> | The combination of SamplingPoint, SamplingPointProcess, Sample and Pollutant must be valid compared to latest Assessment Methods (D) reported | Yes | Error | Implemented as QA in v5.0 | System requirement |

| Checks | Original | User friendly text | Crucial check | QA blocker as implemented in CDR | Status/Note | Review in 2016 |
|--------|--|--|---------------|--------------------------------------|------------------------------|--------------------------------|
| XML | XML validation to confirm that it is both well-formed and also "valid" in that it follows a defined structure. A well-formed document follows the basic syntactic rules of XML, which are the same for all XML documents. A valid document also respects the rules dictated by XML schema (http://dd.eionet.europa.eu/schemaset/id2011850eu-1.0/view) | XML validation | Yes | Error | Integrated into one qa check | System requirement |
| NS | Check prefix and namespaces of the gml:featureCollection according to expected root elements (More information at http://www.eionet.europa.eu/aqportal/datamodel) | Prefix/namespaces check | Yes | Error | Integrated into one qa check | System requirement |
| G0 | Check if delivery if this is a new delivery or updated delivery (via reporting year) | Checks if this delivery is new or an update (on same reporting year) | | Warning (if update) | Improved in v5.0 | |
| G1 | Compile & feedback upon the total number of attainment records included in the delivery. | Number of Attainments reported | Yes | Error | Improved in v5.0 | |
| G2 | Compile & feedback upon the total number of new attainment records included in the delivery. ERROR will be returned if XML is a new delivery and localId are not new compared to previous deliveries. | Number of new Attainments compared to previous report. ERROR will be returned if XML is a new delivery and localId are not new compared to previous deliveries | Yes | Error | Improved in v5.0 | |
| G3 | Compile & feedback upon the total number of updated attainment records included in the delivery. ERROR will be returned if XML is an update and ALL localId (100%) are different to previous delivery (for the same YEAR). | Number of existing Attainment compared to previous report. ERROR will be returned if XML is an update and ALL localId (100%) are different to previous delivery (for the same YEAR). | Yes | Error | Improved in v5.0 | |
| G4 | Compile & feedback a list of the unique identifier information for all attainment records | List of unique identifier information for all attainment records. Error, if no attainments | Yes | Error, if no attainments | Improved in 4.0 | |
| G5 | Compile & feedback a list of the exceedances situations when aqd:exceedanceDescription | List number of final exceedances (TRUE) | Yes | Warning if no attainment TRUE | Improved in v5.0 | |
| G6 | Compile & feedback a list of attainment records that have been assessed against the o | Check and provide a list of those attainment records with a time extension | Yes | Error | | |
| G7 | All gml:id attributes, ef:inspireId and aqd:inspireId elements shall have unique content | All gml ID attributes shall have unique code | Yes | Error | | |
| G8 | ./aqd:inspireId/base:Identifier/base:localId must be unique code for the attainment re | Local Id must be unique for the attainment records | Yes | Error | | |
| G9 | ./aqd:inspireId/base:Identifier/base:namespace List base:namespace and count the nu | List unique namespaces used and count number of elements | Yes | Error | Improved in 4.0 | |
| G9.1 | Check that namespace is registered in vocabulary (http://dd.eionet.europa.eu/vocabul) | Check namespace is registered | Yes | Error | NEW | System requirement |
| G10 | The content of ./aqd:pollutant xlink:href attribute shall resolve to one of http://dd.eionet.europa.eu/vocabulary/aq/pollutant/1 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/7 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/8 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/9 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/6001 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/10 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/20 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5012 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5014 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5015 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5018 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5029 | The Attainment Pollutant must be one of the following: SO2, O3, NO2, NOX, PM10, PM2.5, CO, Pb in PM10, Cd in PM10, Ni in PM10, As in PM10, BaP in PM10 | Yes | Error | | IPR requirement (Annex II-G-6) |
| G11 | Element ./aqd:exceedanceDescriptionBase may only be used WHERE ./aqd:pollutant xlink:href attribute EQUALS http://dd.eionet.europa.eu/vocabulary/aq/pollutant/1 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/6001 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/10 | Exceedance Description Base is only expected for the following pollutants: SO2, PM10, PM2.5, CO | Yes | Error | | IPR requirement (Annex II-G-6) |
| G12 | Element ./aqd:exceedanceDescriptionAdjustment can only be used WHERE ./aqd:pollutant xlink:href attribute EQUALS http://dd.eionet.europa.eu/vocabulary/aq/pollutant/1 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/5 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/6001 http://dd.eionet.europa.eu/vocabulary/aq/pollutant/10 | Exceedance Description Adjustment is only expected for the following pollutants: SO2, PM10, PM2.5, CO | Yes | Error | | IPR requirement (Annex II-G-6) |

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| G13 | <p>/aqd:assessment xlink:href attribute shall resolve to a valid assessment regime within /aqd:AQD_AssessmentRegime</p> <p>AND</p> <p>/aqd:AQD_AssessmentRegime/aqd:pollutant, aqd:AQD_AssessmentRegime/aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:objectiveType EQUAL to aqd:AQD_Attainment/aqd:pollutant</p> <p>aqd:AQD_Attainment/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:objectiveType</p> | Attainment should link to a valid assessment regime with matching Pollutant and Objective Type | Yes | Error; UPDATE | | IPR requirement (Annex II-G-7) |
| G13b | <p>/aqd:assessment xlink:href attribute shall resolve to a valid assessment regime within /aqd:AQD_AssessmentRegime</p> <p>AND</p> <p>/aqd:AQD_AssessmentRegime/aqd:pollutant, aqd:AQD_AssessmentRegime/aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget EQUAL to aqd:AQD_Attainment/aqd:pollutant</p> <p>aqd:AQD_Attainment/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget</p> | Attainment must link to a valid assessment regime with matching Pollutant and Protection Target | Yes | Error | | |
| G13c | <p>aqd:AQD_Attainment/aqd:pollutant</p> <p>aqd:AQD_Attainment/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:objectiveType</p> <p>aqd:AQD_Attainment/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:reportingMetric</p> <p>aqd:AQD_Attainment/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget</p> <p>should correspond with</p> <p>aqd:AQD_AssessmentRegime/aqd:pollutant</p> <p>aqd:AQD_AssessmentRegime/aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:objectiveType</p> <p>aqd:AQD_AssessmentRegime/aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:reportingMetric</p> <p>aqd:AQD_AssessmentRegime/aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget</p> | Attainment should link to a valid assessment regime with matching Pollutant/Objective Type/ReportingMetric/ProtectionTarget/ | Yes | Error | | |
| G14 | <p>COUNT number zone-pollutant-target combination to match those in dataset B and dataset C for the same reporting Year & compare it with Attainment.</p> <p>aqd:AQD_Attainment/aqd:pollutant xlink + aqd:AQD_Attainment/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget + aqd:AQD_Attainment/aqd:zone</p> <p>.aqd:assessmentThreshold/aqd:AssessmentThreshold/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:protectionTarget</p> <p>+ ./aqd:pollutant</p> <p>+ /aqd:zone</p> <p>combinations shall reconcile to corresponding information within /aqd:AQD_Zone/aqd:pollutants/aqd:Pollutant/aqd:protectionTarget , /aqd:AQD_Zone/aqd:pollutants/aqd:Pollutant/aqd:pollutantCode + /aqd:AQD_Zone/am:inspireId/base:Identifier/base:localId</p> | COUNT number zone-pollutant-target combination to match those in dataset B and dataset C for the same reporting Year | Yes (crosscheck) | Error | Updated in this REVIEW | Important content check |
| G14b | For the same reporting year, all the /aqd:AQD_AssessmentRegime reported under dataflow C, must be xlinked once at /aqd:AQD_Attainment /aqd:assessment xlink:href attribute | All the /aqd:AQD_AssessmentRegime reported under latest dataflow C must be xlinked once at one Attainment (with exception of /MO) | Yes | Warning | | |
| G15 | The subject of ./aqd:zone xlink:href attribute shall resolve to a valid AQ zone with /aqd:zone | Must be a valid AQ Zone. | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-4) |
| G16 | The subject of the ./aqd:zone xlink:href attribute shall contain /aqd:AQD_Zone/am:designationPeriod/gml:TimePeriod/gml:endPosition that is unclosed | | Yes | Not implemented | | |
| G17 | The subject of the ./aqd: zone xlink:href attribute shall contain a /aqd:AQD_Zone/aqd:pollutant EQUAL to ./aqd:pollutan | Linked zones must contain same pollutant as the Attainment | Yes | Error | Improved in 4.0 | Content check vs Zones |

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| G18 | The subject of the ./aqd: zone xlink:href attribute shall contain a /aqd:AQD_Zone/aqd:timeExtensionExemption shall NOT EQUAL http://dd.eionet.europa.eu/vocabulary/aq/timeextensiontypes/none WHERE ./aqd:exceedanceDescription_Final/aqd:ExceedanceDescription/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:objectiveType xlink:href attribute EQUALS http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/LVmaxMOT | Any attainment for LVmaxMOT should link to a zone with a time extension | Yes | Error | | Content check |
| G19 | ./aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:objectiveType xlink:href attribute shall resolve to one of http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/LV http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/TV http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/LVMOT http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/LVmaxMOT http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/CL http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/LTO http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/ECO http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/INT http://dd.eionet.europa.eu/vocabulary/aq/objectivetype/ALT | Objective Type must use one of the following: TV LV CL LVMOT LVmaxMOT INT ALT LTO ECO | Yes | Error | Updated in 4.0 | Content check |
| G20 | The content of ./aqd:EnvironmentalObjective/aqd:reportingMetric shall resolve to a valid concept in http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/ that must be one of http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/3hAbove http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/aMean http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/wMean http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/hrsAbove http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/daysAbove http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/daysAbove-3yr http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/maxd8hrMean http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/AOT40c http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/AOT40c-5yr http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric/AEI | The Exceedance description must use an approved reporting metric, These are: Three consecutive hours in exceedance Annual mean / average Winter Mean Hours in exceedance in a calendar year Days in exceedance in a calendar year Days in exceedance averaged over 3 calendar years Accumulated Ozone Exposure Accumulated Ozone Exposure averaged over 5 years Average Exposure Indicator | Yes | Error | | Content check |
| G21 | If ./aqd:protectionTarget shall resolve to a register vocabulary under http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget/ | The protection target must use the approved vocabulary | Yes | Error | | Content check |
| G22 | Check that EnvironmentalObjective (ObjectiveType+ReportingMetric+ProtectionTarget) correspond to a valid combination in http://dd.eionet.europa.eu/vocabulary/aq/environmentalobjective/view | Check and list any invalid combination of pollutant & environmental objective | Yes | Error | Improved in v5.0 | Content check |
| G23 | | | | | inc G22 | Content check |
| G24 | | | | | inc G22 | Content check |
| G25 | | | | | inc G22 | Content check |
| G26 | | | | | inc G22 | Content check |
| G27 | | | | | inc G22 | Content check |
| G28 | | | | | inc G22 | Content check |
| G29 | | | | | inc G22 | Content check |
| G30 | | | | | inc G22 | Content check |
| G31 | | | | | inc G22 | Content check |
| G32 | | | | | inc G22 | Content check |
| G33 | | | | | inc G22 | Content check |
| G34 | All occurrences of the srsDimension attribute in ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:spatialExtent shall EQUAL "2" | | | Not implemented | | |
| G35 | All occurrences of the srsName attribute in ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:spatialExtent shall resolve to a valid spatial reference system URN or URI | | | Not implemented | | |
| G36 | ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:surfaceArea uom attribute shall resolve to http://dd.eionet.europa.eu/vocabulary/uom/area/km2 | | | Not implemented | | |
| G37 | ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:roadLength uom attribute shall be http://dd.eionet.europa.eu/vocabulary/uom/length/km | | | Not implemented | | |

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| G38 | The content of /aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:areaClassification xlink:href shall resolve to a areaClassification in http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-nearcity http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-regional http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-remote http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/urban http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/suburban | Classification type must be one of the following: rural rural-nearcity rural-regional rural-remote urban suburban | Yes | Error | | Content check |
| G39 | ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:areaClassification | The exceeding AQ_Model shall resolve to a traversable local of global URL. | Yes | Error | | Content check |
| G40 | The subject of ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:areaClassification | The exceeding AQ_Model must be included in the corresponding AssessmentRegime | Yes | Error | | Content check |
| G41 | ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:areaClassification | The exceeding SamplingPoint shall resolve to a traversable local of global URL. | Yes | Error | | Content check |
| G42 | The subject of ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:areaClassification | The exceeding SamplingPoint must be included in the corresponding AssessmentRegime | Yes | Error | | Content check |
| G43 | ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedanceExposure/aqd:ExceedanceExposure/aqd:referenceYear/gml:TimeInstant/gml:timePosition | shall specify a year in yyyy format. | | Not implemented | | |
| G44 | ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedance shall E | Baseline exceedance must be TRUE or FALSE (if provided) | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-8+9) |
| G45 | If ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedance is TRUE EITHER ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:numericalExceedance OR ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:numberExceedances must be provided AS an integer number | If baseline exceedance is TRUE numericalExceedance or numberExceedances must be provided | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-8+9) |
| G46 | If ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:exceedance is FALSE EITHER ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:numericalExceedance OR ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:numberExceedances must be provided AS an integer number | If baseline exceedance is FALSE the provision of numericalExceedance or numberExceedances is useful | Yes | Error | Implement | IPR requirement (Annex II-G-8+9) |
| G47 | ./aqd:exceedanceDescriptionBase/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:adjustmentType xlink:href attribute shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/noneApplied | Deduction is not allowed when providing Baseline Exceedance | Yes | Error | | Content check |
| G48 | All occurrences of the srsDimension attribute in /aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:spatialExtent shall EQUAL "2" | | | Not implemented | | |
| G49 | All occurrences of the srsName attribute in /aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:spatialExtent shall resolve to a valid spatial reference system URN or URI | | | Not implemented | | |
| G50 | /aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:surfaceArea uom attribute shall resolve to http://dd.eionet.europa.eu/vocabulary/uom/area/km2 | | | Not implemented | | |
| G51 | /aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:roadLength uom attribute shall be http://dd.eionet.europa.eu/vocabulary/uom/length/km | | | Not implemented | | |

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| G52 | The content of /aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:environmentalObjective/aqd:EnvironmentalObjective/aqd:areaClassification xlink:xref shall resolve to a areaClassification in http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-nearcity http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-regional http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-remote http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/urban http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/suburban | If provided unde Adjustment Exceedance, area classification must be one of the following: rural rural-nearcity rural-regional rural-remote urban suburban | Yes | Error | | |
| G53 | ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:modelUsed xlink:href attribute shall resolve to a model description in aqd:AQD_Model | The exceeding AQ_Model shall resolve to a traversable local of global URL. | Yes | Error | | Content check |
| G54 | The subject of ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:stationUsed xlink:href attribute shall resolve to a sampling point description in /aqd:AQD_SamplingPoint | The exceeding AQ_Model must be included in the corresponding AssessmentRegime | Yes | Error | | Content check |
| G55 | The subject of ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:stationUsed xlink:href attribute shall resolve to a sampling point description in /aqd:AQD_SamplingPoint | The exceeding SamplingPoint shall resolve to a traversable local of global URL. | Yes | Error | | Content check |
| G56 | The subject of ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:stationUsed xlink:href attribute shall resolve to a sampling point description in /aqd:AQD_SamplingPoint | The exceeding SamplingPoint must be included in the corresponding AssessmentRegime | Yes | Error | | Content check |
| G57 | ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceExposure/aqd:ExceedanceExposure/aqd:referenceYear/gml:TimeInstant/gml:timePosition shall specify a year in yyyy format. | | | Not implemented | | |
| G58 | ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceAdjustment/aqd:ExceedanceAdjustment/aqd:adjustmentType xlink:xref shall resolve to a adjustmentType in http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/nsCorrection http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/wssCorrection | Adjustment exceedance must be TRUE or FALSE | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-10+11) |
| G59 | ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceAdjustment/aqd:ExceedanceAdjustment/aqd:adjustmentType xlink:xref shall resolve to a adjustmentType in http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/nsCorrection http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/wssCorrection | If adjustment exceedance is TRUE numericalExceedance or numberExceedances must be provided | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-10+11) |
| G60 | ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:exceedanceAdjustment/aqd:ExceedanceAdjustment/aqd:adjustmentType xlink:xref shall resolve to a adjustmentType in http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/nsCorrection http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/wssCorrection | If adjustment exceedance is FALSE the provision of numericalExceedance or numberExceedances is useful | Yes | Warning | Improved in v5.0 | IPR requirement (Annex II-G-10+11) |
| G61 | The content of /aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:adjustmentType xlink:xref shall resolve to a adjustmentType in http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/nsCorrection http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/wssCorrection | The Adjustment Method type shall be 'Natural source correction' or 'Winter-sanding or -salting correction' | Yes | Error | | Content check |
| G62 | The content of /aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:adjustmentSource xlink:xref shall resolve to a adjustmentSource in http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/A1 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/A2 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/B http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/B1 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/B2 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/C1 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/C2 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/D1 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/D2 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/E1 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/E2 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/F1 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/F2 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/G1 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/G2 http://dd.eionet.europa.eu/vocabulary/aq/adjustmentsourcetype/H | The Adjustment Source Type must be one of the registered vocabulary. | Yes | Error | | Content check |

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| G63 | The content of ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:assessmentMethod/aqd:AssessmentMethods/aqd:assessmentType shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/fixed http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/model http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/indicative http://dd.eionet.europa.eu/vocabulary/aq/assessmenttype/objective | Assessment Type must be one of the following: fixed, model, indicative or objective estimation | Yes | Error | | Content check |
| G64 | When adjusting for NS/WSS correction, aqd:exceedanceDescriptionAdjustment must contain, at least, a link to the adjustment method used (via ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:assessmentMethod/aqd:AssessmentMethods/[aqd:modelAssessmentMetadata or samplingPointAssessmentMetadata] xlink:href | If adjusting for NS/WSS correction, a correct link must be provided to the adjustment method (either Model or SamplingPoint) | Yes | Error | | Content check |
| G65 | The subject of ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:assessmentMethod/aqd:AssessmentMethods/[aqd:modelAssessmentMetadata or samplingPointAssessmentMetadata] | If model(s) or samplingPoint(s) are used for adjusting for NS/WSS correction, a correct link must be provided | Yes | Removed | | Content check |
| G66 | The subject of ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:assessmentMethod/aqd:AssessmentMethods/[aqd:modelAssessmentMetadata or samplingPointAssessmentMetadata] | If the adjustment method(s) are Model(s), these must be found with the corresponding Assessment Regime (link to the Attainment) | Yes | Error | | Content check |
| G67 | The subject of ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:assessmentMethod/aqd:AssessmentMethods/[aqd:modelAssessmentMetadata or samplingPointAssessmentMetadata] | If the adjustment method(s) are SamplingPoint(s), these must be found with the corresponding Assessment Regime (link to the Attainment) | Yes | Error | | Content check |
| G68 | All occurrences of the srsDimension attribute in ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:spatialExtent shall EQUAL "2" | | | Not implemented | | |
| G69 | All occurrences of the srsName attribute in ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:spatialExtent shall resolve to a valid spatial reference system URN or URI | | | Not implemented | | |
| G70 | /aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:surfaceArea uom attribute shall resolve to http://dd.eionet.europa.eu/vocabulary/uom/area/km2 | Exceedance area uom attribute must be in Square kilometers. | Yes | Error | Updated in 4.0 | System check |
| G71 | /aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:roadLength uom attribute shall be http://dd.eionet.europa.eu/vocabulary/uom/length/km | Road Length attribute must be in kilometers. | Yes | Error | Updated in 4.0 | System check |
| G72 | The content of ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:areaClassification xlink:href shall resolve to a areaClassification in http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/ that must be one of Hide items http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-nearcity http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-regional http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/rural-remote http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/urban http://dd.eionet.europa.eu/vocabulary/aq/areaclassification/suburban | Area Classification must be one of the following: rural rural-nearcity rural-regional rural-remote urban suburban | Yes | Error | | Content check |
| G73 | ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:modelUsed xlink:href attribute shall resolve to a model description in /aqd:AQD_Model | The exceeding AQ_Model shall resolve to a traversable local of global URL. | Yes | Error | | Content check |
| G74 | The subject of ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:modelUsed xlink:href attribute shall resolve to a model description in /aqd:AQD_Model | The exceeding AQ_Model must be included in the corresponding AssessmentRegime | Yes | Error | | Content check |
| G75 | ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:stationUsed xlink:href attribute shall resolve to a sampling point description in /aqd:AQD_SamplingPoint | The exceeding SamplingPoint shall resolve to a traversable local of global URL. | Yes | Error | | Content check |
| G76 | The subject of ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:stationUsed xlink:href attribute shall be found in /aqd:AQD_AssessmentRegime/aqd:assessmentMethods/aqd:AssessmentMethods/aqd:samplingPointAssessmentMetadata xlink:href attribute for the AQD_AssessmentRegime record cited by ./aqd:assessment | The exceeding SamplingPoint must be included in the corresponding AssessmentRegime | Yes | Error | | Content check |

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| G77 | ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceExposure/aqd:ExceedanceExposure/aqd:referenceYear/gml:TimeInstant/gml:timePosition shall specify a year in yyyy format. | | | Not implemented | | |
| G78 | ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedance shall | Final Exceedance must be TRUE or FALSE | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-13) |
| G79 | ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:numericalExceedance | If Final exceedance is TRUE numericalExceedance or numberExceedances must be provided | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-13) |
| G80 | ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:numberExceedance | If Final exceedance is FALSE the provision of numericalExceedance or numberExceedances is useful | Yes | Error | Improved in v5.0 | IPR requirement (Annex II-G-13) |
| G81 | ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:adjustmentType xlink:href attribute shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/fullyCorrected | Exceedance Description Adjustment Method must be 'Fully corrected.' | Yes | Error | | Content check |
| G82 | WHERE ./aqd:exceedanceDescriptionAdjustment class DOES NOT exists in the AQD_Attainment record ./aqd:exceedanceDescriptionAdjustment/aqd:ExceedanceDescription/aqd:deductionAssessmentMethod/aqd:AdjustmentMethod/aqd:adjustmentType xlink:href attribute shall resolve to http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/noneApplied http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/noneApplicable http://dd.eionet.europa.eu/vocabulary/aq/adjustmenttype/fullyCorrected | | Yes | Not implemented | | |
| G83 | WHERE ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedance shall EQUAL "true" ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:spatialExtent OR ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:administrativeUnit shall be populated | | | Not implemented | | |
| G84 | WHERE ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedance shall EQUAL "true" ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:surfaceArea OR ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:roadLength shall be populated | If exceedance is TRUE, information on surface area or road length shall be provided | | Not implemented | | |
| G85 | WHERE ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedance shall EQUAL "true" ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:stationUsed OR ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceArea/aqd:ExceedanceArea/aqd:modelUsed shall be populated | If exceedance is TRUE, a link to the exceeding SamplingPoint(s) and/or Model(s) must be provided [at least one] | | Error | | |
| G86 | If, aqd:stationUsed and/or aqd:modelUsed are populated, these must be valid elements stationUsed must link To SamplingPoint via namespace/localid modelUsed must link to AQD_Model via namespace/ localid | If SamplingPoint(s) and/or Model(s) are provided, these must be valid | | Error | | |

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| G87 | <p>WHERE ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedance shall EQUAL "true" /aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceExposure/aqd:ExceedanceExposure/aqd:populationExposed shall be populated</p> | If exceedance is TRUE, information on population exposed must be provided | | Not implemented | | |
| G88 | <p>WHERE ./aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedance shall EQUAL "true" /aqd:exceedanceDescriptionFinal/aqd:ExceedanceDescription/aqd:exceedanceExposure/aqd:ExceedanceExposure/aqd:ecosystemAreaExposed shall be populated</p> | If exceedance is TRUE, information on area exposed must be provided | | Not implemented | | |