



QUALITY MANAGEMENT BRANCH

STANDARD OPERATING PROCEDURES

FOR

AIR QUALITY DATA ACTION REQUEST

Quality Assurance Section SOP AO

Revision 0

MONITORING AND LABORATORY DIVISION

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California Environmental Protection Agency

# AIR RESOURCES BOARD

## Approval of Standard Operating Procedures (SOP)

Title: Air Quality Data Action Request

SOP: Quality Assurance Section, Revision 0

Section: Quality Assurance Section

Branch: Quality Management Branch

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### LIST OF ACRONYMS

<b>AIS</b>	Audit Information System
<b>APCD</b>	Air Pollution Control District
<b>AQDA</b>	Air Quality Data Action
<b>AQMD</b>	Air Quality Management District
<b>AQPSD</b>	Air Quality Planning and Science Division
<b>AQS</b>	Air Quality System
<b>ARB</b>	Air Resources Board
<b>CAN</b>	Corrective Action Notification
<b>CFR</b>	Code of Federal Regulations
<b>MLD</b>	Monitoring and Laboratory Division
<b>MO</b>	Monitoring Organization
<b>NIST</b>	National Institute of Standards and Technology
<b>PQAO</b>	Primary Quality Assurance Organization
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>QAS</b>	Quality Assurance Section
<b>QMB</b>	Quality Management Branch
<b>QMS</b>	Quality Management Section
<b>SOP</b>	Standard Operating Procedure
<b>U.S. EPA</b>	United States Environmental Protection Agency

### LIST OF REFERENCES

Air Resources Board Control and Warning Limits
Air Resources Board Corrective Action Process
Title 40 of the Code of Federal Regulations, Part 50 and 58
U.S. Environmental Protection Agency's Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, Ambient Air Quality Monitoring Program
U.S. Environmental Protection Agency's Quality Assurance Handbook for Air Pollution Measurement, Volume IV, Meteorological Systems
U.S. Environmental Protection Agency's Guidance Document Method 2.12, Monitoring PM in 2.5 Ambient Air Using Designated Reference or Class I Equivalent Methods
U.S. Environmental Protection Agency's, Technology Transfer Network (TTN) Air Quality System (AQS)

## 1.0 AIR QUALITY DATA ACTION

The Quality Assurance Section (QAS) within the Quality Management Branch (QMB) is responsible for initiating, issuing, tracking, finalizing and storing the Air Quality Data Action (AQDA) Request. This includes confirming completion of the action stated in the AQDA.

The AQDA process is a corrective action requirement which provides a follow-up mechanism/procedure when there is a failure of parameter at an ambient air monitoring station or mass analysis laboratory resulting mainly from a performance evaluation or audit. The AQDA process is a vital component to ensure that ambient air data collected throughout the State meets or exceeds the defined data quality and program objectives. AQDAs serve to alert stakeholders that ambient data is in question. All AQDAs must be investigated and resolved to bring the station into compliance.

Four main actions are performed through the AQDA process. The first is to identify and document a parameter failure of an analyzer or sampler. Second is to identify the problem and resolution to the failure along with preventing re-occurrence. Thirdly, is to determine the impact on data collected and over what time period and lastly QMB confirms that AQS was updated appropriately.

An AQDA Request form is generated when the operation of an air monitoring parameter does not meet the federal critical or Air Resources Board (ARB) control limits criteria. This criteria is derived from various sources:

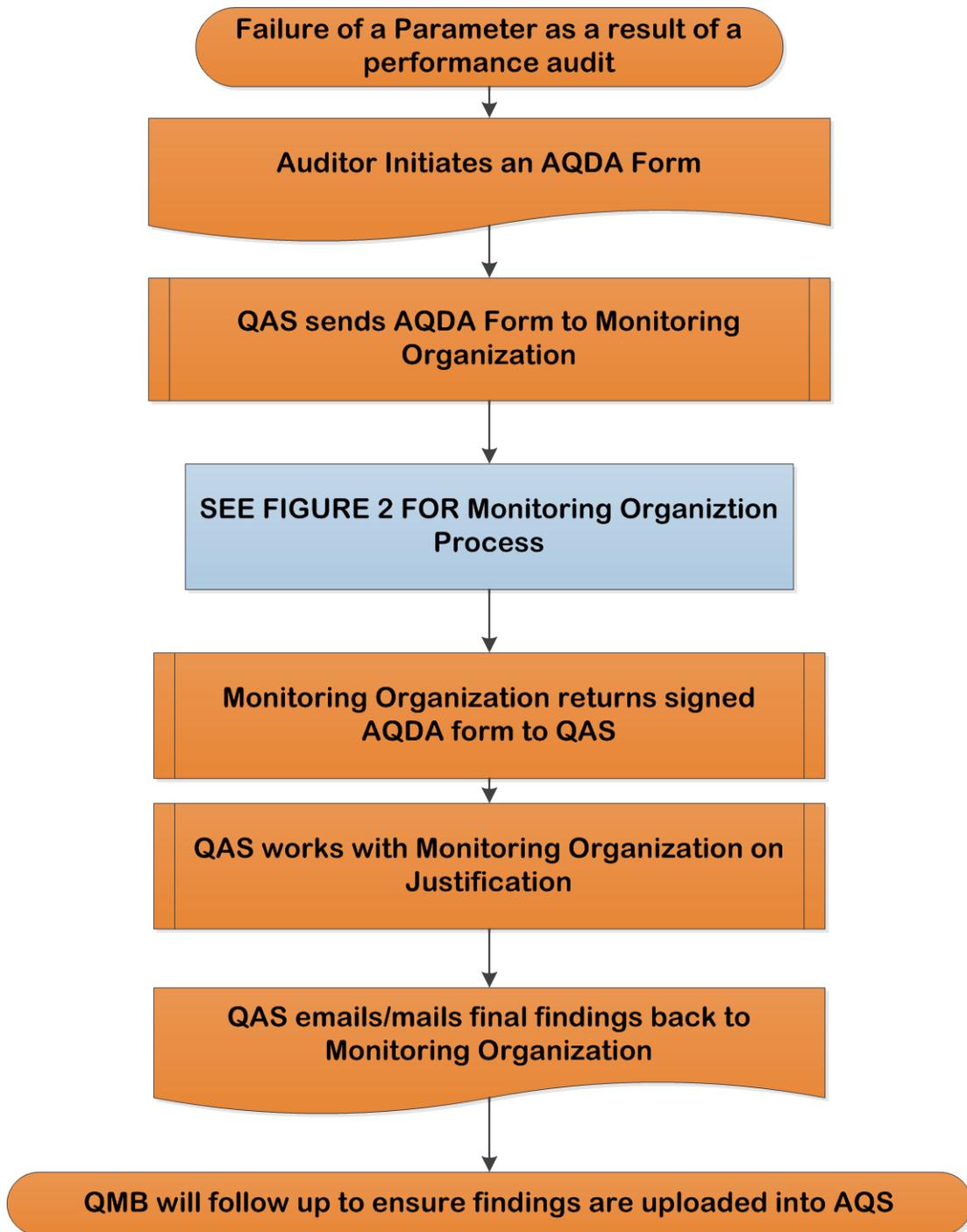
- Title 40 of the Code of Federal Regulations, Part 50 and 58
- U.S. Environmental Protection Agency's Quality Assurance Handbook for Air Pollution Measurements Systems, Volume II, Ambient Air Quality Monitoring Program
- U.S. Environmental Protection Agency's Quality Assurance Handbook for Air Pollution Measurements, Volume IV, Meteorological Systems
- U.S. Environmental Protection Agency's Guidance Document Method 2.12, Monitoring PM in 2.5 Ambient Air Using Designated Reference or Class I Equivalent Methods
- ARB's Warning and Control Limits (<http://www.arb.ca.gov/aaqm/qa/qa-audits/audit-criteria.pdf>)

While a station operator is informed immediately of a failure requiring an AQDA the formal initiation of the AQDA begins when the auditor returns back to the office.

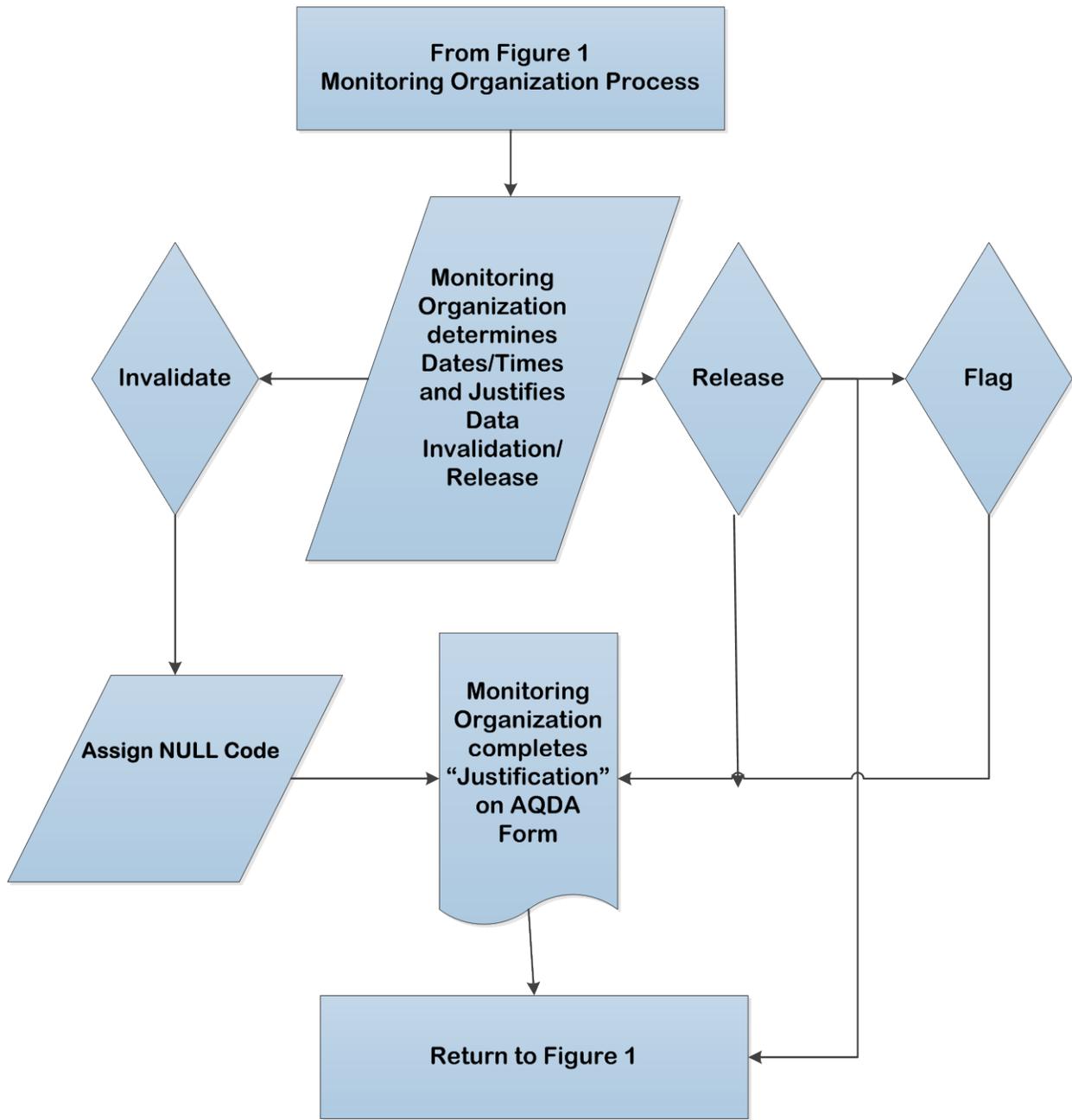
Failures not qualifying for an AQDA that may impact or potentially impact data quality are documented through the Corrective Action Notification (CAN) process. The CAN process can be found at the following link:

[http://www.arb.ca.gov/aaqm/qa/pqao/pqao\\_can.htm](http://www.arb.ca.gov/aaqm/qa/pqao/pqao_can.htm)

The AQDA process is presented below in Figures 1 and 2.



QUALITY ASSURANCE SECTION PROCESS  
Figure 1



MONITORING ORGANIZATION PROCESS

Figure 2

## **2.0 ISSUING THE AQDA**

A qualified and trained QA auditor will issue the AQDA. Training for new staff will be completed on the job. The QAS supervisor will determine when a trainee can issue an AQDA.

Completing an AQDA request form begins with accessing the QAS Audit Information System (AIS). AIS is the database for generating and storing performance audit reports, CAN's, and the AQDA Requests.

The AQDA Request consists of two sections. The first section in AIS or upper portion is filled out by the QAS auditor initiating the AQDA. Refer to Figure 3 for entry of information in the fields of the first section. For this SOP each field is identified by a number. Corresponding instructions for each field are identified below each figure.

After the AQDA is initiated, it is converted to pdf and saved electronically into the auditor's incoming folder located on the "w" drive. Hard copies using the AQDA tracking form (S:Cabinet\FormsandWorksheets) are distributed for peer, manager, and branch review prior to being sent out to the Monitoring Organization (MO) responsible for the operation of the monitoring station.

This AQDA form is transmitted with a cover letter or a memo if it is an ARB monitoring site. The template for the cover/memo letter can be found in s:cabinet\templates\TemplateAQDA.

**AQDA detail for AIS Test Site . Click on the site number to view information about that site.**

ARB Site Number	AIRS Site Number	<b>1</b>	Site Name	<b>2</b>	Audit Date	<b>3</b>	AQDA Number
<a href="#">33333</a>	N/A	AIS Test Site	-- Select an Audit Date --				8312
<b>4</b>	AQDA Date	<b>5</b>	Agency : Code	<b>6</b>	Contact Person	<b>7</b>	Auditor
	04 16 2015 <a href="#">Set Date</a>		-- Select an Agency Name : Code --				Laura Niles
<b>8</b>	Pollutant	POC	Qual Code	Review Person	Estimated Start Date	Estimated End Date	
	Pollutant			Pheng Lee	00 00 0000 <a href="#">Set Date</a>	00 00 0000 <a href="#">Set Date</a>	
	<b>11</b> Reason For Action			<b>12</b>	<b>13</b>		
	<b>14</b>						

AQDA ISSUING PROCESS  
 FIGURE 3

1. **Site Name:** Select from drop down-down menu. (**ARB Site Number** and **AIRS Site Number** will be automatically generated)
2. **Audit Date:** Select from drop-down menu.
3. **AQDA Number:** Is automatically generated.
4. **AQDA Date:** Input date that AQDA will be sent to MO.
5. **Agency Code:** Select MO from drop-down menu.
6. **Contact Person:** Either operator or designated person from the MO.
7. **Auditor:** Enter the name of the auditor.
8. **Pollutant:** Select the affected pollutant from the drop-down menu.
9. **POC:** Parameter Occurrence Code can be obtained from site dossier.

10. **Qual Code:** Refer to U.S. EPA's Air Quality System Qualifier Codes.  
<http://www.epa.gov/ttn/airs/airsaqs/manuals/codedescs.htm>
11. **Review person:** Enter ARB's Air Quality Science Planning Division liaison.
12. **Estimated Start Date:** Enter the earliest date that data may be in question.
13. **Estimated End Date:** Enter 45 days from the "AQDA Date" in block 4.
14. **Reason For Action:** Enter the description of the parameter that failed or was inoperative. Include the identification number, date of the audit and applicable citation from either QA Volume II, Code of Federal Regulations, or ARB control limits criteria.
15. When the AQDA is complete, select "submit changes" to save your AQDA form (See Figure 4, for steps 15 and 16)
16. Select "Get AQDA" form and create a .pdf file. Complete a transmittal cover letter using the template in S:\Cabinet\TEMPLATES - AQDAs and Letters, and use the AQDA tracking form located on the S:\cabinet\Foms and Worksheets\AQDA tracking form. The naming convention for saving the .pdf should be AQDA#\_AQDA\_Site Name\_Parameter\_Your Name\_Monthday'year Save to your incoming folder on the "w" drive.

### 3.0 THE AQDA JUSTIFICATION PROCESS

The bottom portion of the AQDA form is completed by the monitoring organization. The monitoring organization must provide defensible grounds when retaining or invalidating data. These can include log book entries, calibration sheets, etc. The AQDA data reviewer may follow up with additional information that may be required for defensibility and to resolve this issue. The QAS staff person assigned will complete the bottom portion of the AQDA in AIS as outlined in Figure 4.

The screenshot shows the bottom portion of the AQDA form. It is divided into several sections:

- Resolution Dates and Times:** A table with four columns: Resolution Start Date (1A), Resolution Start Time (2A), Resolution End Date (3A), and Resolution End Time (4A). Each date field has a 'Set Date' link below it.
- Action Fields:** Below the date fields are fields for Null Code, Correction Factor, Ambient Data Action (with a dropdown menu labeled '-- Select an Amb Action --'), and Audit Data Action (with a dropdown menu labeled '-- Select an Audit Action --').
- Justification/Corrective Action Taken:** A large text area (5A) with a vertical scrollbar. It is divided into four columns by vertical lines, with callouts 6A, 7A, and 8A. A callout 9A is centered in the area.
- Signatures:** A section labeled 1B containing four signature fields: Signature One, Signature Two, Signature Three, and Signature Four. Each field includes a dropdown menu (e.g., '-Signature One-') and a 'Set Date' link.
- Buttons and Links:** At the bottom, there are two buttons: 'Submit Changes' (15) and 'Delete This AQDA'. Below these are three links: 'Get AQDA Form', 'Click to return to AQDA list', and 'Click to return to AQDA open menu' (16).

AQDA JUSTIFICATION PROCESS  
 Figure 4

For the “Justification Process” and this SOP, each field is identified by a number and a letter. Corresponding instructions for each field are identified below each figure. Fields 15 and 16 are the same steps as the “Issuing Process.”

- 1A. **Resolution Start Date:** Select the actual start date that data is in question (stated by monitoring organization)
- 2A. **Resolution Start Time:** Select the start time using the drop-down menu as stated by the monitoring organization.
- 3A. **Resolution End Date:** Select the actual end date for the data in question by the monitoring organization
- 4A. **Resolution End Time:** Select the end time using the drop-down menu as stated by the monitoring organization.
- 5A. **Null Code:** if data is invalidated or missing enter the appropriate null code:  
<http://www.epa.gov/ttn/airs/airsaqs/manuals/codedescs.htm>
- 6A. **Correction Factor:** For meteorological sensors, enter the correction factor provided by the monitoring organization. (Generally suggested by monitoring organization)
- 7A. **Ambient Data Action:** Select Invalidate, Flag or Release from drop-down menu. (Generally suggested by the monitoring organization)
- 8A. **Audit Data Action:** Select Invalidate, Flag or Release from drop-down menu. (Generally suggested by QMB)
- 9A. **Justification/Corrective Action Taken:** Work with affected monitoring agency for a resolution to the issue. Summarize the monitoring organizations justification.
- 1B. **Signature One:** Select original reviewers (issued) from the drop-down menu and the date the initial original copy was signed.
15. When the AQDA is complete, select “**submit changes**” to save your AQDA form.
16. Select “**Get AQDA**” form and create a .pdf file. Complete a transmittal cover letter, and use the AQDA tracking form located on the S:\cabinet\Foms and Worksheets\AQDA tracking form. The naming convention for saving the .pdf should be AQDA#\_AQDA\_Site Name\_Parameter\_Your Name\_Monthday'year Save to your incoming folder on the “w” drive.

After the “final” is sent out using the QAS AQDA tracking form, a hard copy of the mailed AQDA is returned to QAS. The assigned QAS staff will save it to the S:\cabinet\AQDA\Year. After it is saved in the cabinet, the hard copy will be routed to the AQDA reviewer for final filing. The AQDA reviewer will “uncheck” the “Not Resolved” column in AIS.

#### **4.0 AQDA DATA FOLLOW UP IN AQS**

When data must be invalidated, flagged or corrected, QMB staff will generate an AMP 350 report 45 days after the end of the quarter of the data range affected by the AQDA. Where ARB is not the direct submitter to AQS, the AQS submitter for that MO is responsible for the impacted data. The AQDA data resolutions will be compared to the AMP350 report for accuracy. If a discrepancy is noted or no action was taken by the monitoring organization, QMB will follow up to ensure AQS is properly updated.

#### **5.0 RECORDS RETENTION**

This should complete the AQDA process. A filing system has been established using archive boxes. All evidence, correspondence and routing slips should be placed in folder with AQDA number, site name and parameter, and then filed in the archive box.

Records are retained in QAS for a period of 5 years in accordance with ARB's record retention policy. All documents can be disposed of after five years accordance with ARB's policy.