DEQ Air Monitoring Plan Protocol

Protocol for developing an air monitoring sampling and analysis plan under Cleaner Air Oregon

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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

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State of Oregon
Department of Environmental Quality

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.

Executive Summary

DEQ's Air Monitoring Plan Protocol provides specifications and procedures for conducting ambient monitoring at facilities regulated by DEQ's Cleaner Air Oregon permitting program under OAR 340 division 245. The template includes requirements for preparing monitoring plans that include standard operating and quality assurance procedures to ensure that ambient monitoring will provide accurate and reliable data.

Air monitoring is voluntary for facilities that choose monitor air toxics concentrations around their property.

1. Air Monitoring Plan

Prepare an Air Monitoring Plan in accordance with this template and submit it to DEQ for approval. The Plan must be approved before ambient monitoring can begin.

2. Project Management

2.1. Provide a list of who will be working on the project, with their title and contact information.

2.2. Provide details on who will be overseeing the project to provide the quality assurance and project manager information. The quality assurance officer should be separate from the project management group, and is typically a separate consultant or a separate division of a consulting firm.

3. Ambient Monitoring

3.1. Provide the problem definition/background with a discussion of why the monitoring is needed. This section is meant to give the purpose for the monitoring which is useful for determining what monitoring needs to be done, where the monitors are to be located, and the sampling duration and frequency.

3.2. Project/Task Description – provide an overview of what the monitoring project will entail. This should include the number of monitors, the parameters monitored, and the time frame for monitoring. Include who will do the field sampling and what analytical laboratory will be used.

3.3. Quality Objectives and Criteria - list what methods will be followed and whether there will be duplicates, field blanks, lab blanks, or any other quality assurance. List any lab accreditation.

3.4. Documentation and Records - list the chain of custody steps, and who will maintain and store the sample and analysis field and lab documentation. This includes field sheets, audit sheets, chain of custody forms, and other supporting documentation.

4. Data Generation and Acquisition

4.1. Schedule – Provide the sampling schedule: duration, frequency, and time of year. This usually would be every day (365 samples), every third day (120 samples) for batch processes and an every third day (120 samples) or sixth day sampling (60 samples) schedule for non-batch processes.

4.1.1. List the sampler types and brands. All sampling should include at least wind speed and wind direction parameters to help determine the source and receptors of any air toxics. A plan for collecting these parameters will need to be provided in the Air Monitoring Plan if there aren't any nearby meteorological sensors.

4.1.2. Sampling Locations. List the number of sites in latitude and longitude and provide a map of the sampling site and the facility.

Site Identifier	Site Name	Lat/Long	Sampler Method	Number and frequency of Sampling

4.2. Provide the sampling methods, including sample handling and custody storage requirements. The sampling methodology should include reference to a standard operating procedure for the samplers and lab analyzers. The handling requirements should include temperature storage requirements, holding times, and who will be in custody of the samples through analysis.

Sampling Method	Sample Preservation	Holding Time

4.3. Provide the analytical parameters, methods, and quality control. This includes a list of what pollution parameters will be analyzed, what analysis method will be used, and what lab quality controls will be used. Method detection limits should be checked to make sure they are adequate for comparison to the relevant Risk-Based Concentrations in OAR 340-245-8050 Table 5.

Sample Type	Analytical Parameters	Reference Method

4.4. Provide daily production data, including any excess emissions or upset conditions during the monitoring period that may affect the ambient air toxics concentrations monitored, including conditions outside the property boundary that may affect ambient air (i.e., forest fires, house fires, train derailments, etc.).

4.5. Provide details on how the data will be managed. State who will maintain hard copies of the analytical reports, including all analytical QC measurements.

5. Data Validation and Usability

Describe the data review, verification, and validation of the analytical data (the process used to determine if the sample is valid). Voided or qualified data must be flagged in the final report along with the reason for the data downgrade. These qualifiers will be transferred to any electronic database or any final report.

6. Data Assessment

6.1. Describe how to determine and account for the ambient concentration of each air toxics monitored that results from all causes other than the source under consideration, including natural and unknown causes.

6.2. Describe how to account for ambient concentrations air toxics that are not being monitored.

6.3. Designate what data analysis will be done and by whom. Describe what type of final report will be produced and how it will be presented. Wind speed and wind direction data should be used to show the pollutant sources and receptors.

6.4. Submit the final report to DEQ within 60 calendar days of completing all monitoring plan requirements under OAR 340 division 245.

7. References

List any references used.