

C205a – APPENDIX CHECKLIST: ENVIRONMENTAL AIR TESTING LABORATORIES

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The following pages present the criteria from the NELAC Environmental accreditation requirements Appendix D in a checklist format as they relate to air testing. The laboratory’s policies and procedures must meet these requirements. Quality system documentation and supporting records must be available for the assessor’s review.

Requirement	Reference	Compliance			Comments
		Y	N	NA	
D.5 AIR TESTING					
These standards shall apply to samples that are submitted to a laboratory for the purpose of analysis. They do not apply to field activities such as source air emission measurements or the use of continuous analysis devices.					
D.5.1 Negative and Positive Controls					
a) Negative Controls					
1) Method Blanks – Shall be performed at a frequency of at least one (1) per batch of twenty (20) environmental samples or less per sample preparation method. The results of the method blank analysis shall be used to evaluate the contribution of the laboratory provided sampling media and analytical sample preparation procedures to the amount of analyte found in each sample. If the method blank result is greater than the detection limit and contributes greater than 10% of the total amount of analyte found in the sample, the source of the contamination must be investigated and measures taken to eliminate the source of contamination. If contamination is found,					

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		Y	N	NA	
the data shall be qualified in the report.					
2) Collection Efficiency- Sampling trains consisting of one or more multi-section sorbent tube, that are received intact by the laboratory, shall be separated into “front” and “back” sections if required by the client. Each section shall be processed and analyzed separately and the analytical results reported separately.					
b) Positive Controls					
1) Laboratory Control Sample (LCS) – Shall be analyzed at a rate of at least one (1) per batch of twenty (20) or fewer samples per sample preparation method for each analyte. If a spiking solution is not available, a calibration solution whose concentration approximates that of the samples, shall be including in each batch and with each lot of media. If a calibration solution must be used for the LCS, the client will be notified prior to the start of analysis. The concentration of the LCS shall be relevant to the intended use of the data and either at a regulatory limit or below it.					
c) Surrogates - Shall be used as required by the test method or if requested by the client.					
d) Matrix spike – Shall be used as required by the test method or if requested by the client					
D.5.2 Analytical Variability/Reproducibility					

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		Y	N	NA	
Matrix Spike Duplicates (MSDs) or Laboratory Duplicates – Shall be analyzed at a minimum of 1 in 20 samples per sample batch. The laboratory shall document their procedure to select the use of appropriate types of spikes and duplicates. The selected samples(s) shall be rotated among client samples so that various matrix problems may be noted and/or addressed. Poor performance in the spikes and duplicates may indicate a problem with the sample composition and shall be reported to the client.					
D.5.3 Method Evaluation					
In order to ensure the accuracy of the reported result, the following procedures shall be in place:					
a) Demonstration of Capability – (Sections 5.6.2 and 5.10.2.1) shall be performed prior to the analysis of any samples and with a significant change in instrument type, personnel, matrix, or test method.					
b) Calibration – Calibration protocols specified in Section 5.5.5.2 shall be followed.					
c) Proficiency Test Samples – The results of such analyses (5.4.1.5k or 5.5.9.1) shall be used by the laboratory to evaluate the ability of the laboratory to produce accurate data.					
D.5.4 Limit of Detection					
The requirements of D.1.2.1 shall apply.					
D.5.5 Data Reduction					

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		Y	N	NA	
The procedures for data reduction, such as use of linear regression, shall be documented.					
D.5.6 Quality of Standards and Reagents					
a) The source of standards shall comply with Section 5.5.6.2.2.2.					
b) The purity of each analyte standard and each reagent shall be documented by the laboratory through certificates of analyses from the manufacturer/vendor, manufacturer/vendor specifications, and/or independent analysis.					
c) In methods where the purity of reagents is not specified, analytical reagent grade or higher quality, if available, shall be used.					
D.5.7 Selectivity					
The laboratory shall develop and document acceptance criteria for test method selectivity such as absolute and relative retention times, wavelength assignments, mass spectral library quality of match, and mass spectral tuning.					
D.5.8 Constant and Consistent Test Conditions					
a) The laboratory shall assure that the test instruments consistently operate within the specifications required of the application for which the equipment is used.					
b) The laboratory shall document that all sampling					

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		Y	N	NA	
equipment, containers and media used or supplied by the laboratory meet required test method criteria.					
c) If supplied or used by the laboratory, procedures for field equipment decontamination shall be developed and their use documented.					
d) The laboratory shall have a documented program for the calibration and verification of sampling equipment such as pumps, meter boxes, critical orifices, flow measurement devices and continuous analyzers, if these equipment are used or supplied by the laboratory.					