

Revised in its entirety: 6. Air Quality Surveillance

6.1 INTRODUCTION

This chapter of the Implementation Plan consists of provisions which meet the U.S. Environmental Protection Agency (EPA) regulations for monitoring ambient air quality. These regulations are contained in 40 CFR Part 58. The effective date of this Chapter is January 1, 1980.

The network will measure ambient levels of criteria pollutants or those pollutants for which National ambient air quality standards have been established by EPA. Additionally, monitoring will be conducted to measure levels of pollutants for which a North Dakota ambient air quality standard has been established.

The data from the network will be used for determining the status of compliance with the National and State ambient air quality standards, for growth planning, to determine impact of pollution sources on air quality, to report to the public the status of North Dakota's air quality and other purposes which the Department deems necessary.

6.2 AMBIENT AIR QUALITY MONITORING NETWORK DESIGN

The process of the network design was performed as required by Appendix D to 40 CFR Part 58. The network of monitoring stations is designed to meet a minimum of four (4) basic monitoring objectives. These objectives are:

1. To determine highest concentration expected to occur in the area covered by the network.
2. To determine representative concentrations in areas of high population density.
3. To determine the impact on ambient pollution levels of significant sources of source categories.
4. To determine general background concentration levels.

Each monitoring site is also defined for its spatial scale of representativeness. This is necessary to insure the measurements of pollutants and subsequent data is not used to evaluate air pollution problems that occur outside of the area of influence associated with the specific monitoring stations. The spatial scales of representativeness are:

1. Microscale - up to 100 meters
2. Middle scale - 100 meters to 0.5 kilometers
3. Neighborhood scale - 0.5 to 4.0 kilometers
4. Urban scale - 4 to 50 kilometers
5. Regional scale - 50 kilometers and above

6.3 AMBIENT AIR QUALITY MONITORING NETWORK DESCRIPTION

A description of the monitoring network is on file for public inspection between the hours of 8:00 a.m. and 5:00 p.m., Monday thru Friday, excluding legal holidays, at the office of the Division of Environmental Engineering, North Dakota State Department of Health in Bismarck.

The network description will include the following for each station in the air quality monitoring network:

1. The SAROAD site identification form for existing stations.
2. The proposed locations for stations that are scheduled to be established.
3. The identity of the monitoring method or analyzer used.
4. The identity of any necessary method of sample analysis.
5. The operating schedule.
6. The monitoring objective.
7. The spatial scale of representativeness.

Also on file for public inspection will be a schedule for:

1. Locating, placing into operation and filing of the SAROAD site identification forms for any station which is not operating or located correctly on the effective date of this chapter.
2. Implementing quality assurance procedures for any station for which those procedures are not implemented by the effective date of this chapter.
3. The resiting of each station not sited according to the siting parameters of Appendix E to 40 CFR Part 58 on the effective date of this chapter.

6.4 STATION DESIGNATIONS

Each station in the air quality monitoring network provided for by this chapter and described in the network description will be termed a state and local air monitoring station (SLAMS). Any other station operated by the State of North Dakota which is not necessary for inclusion in the SLAMS network will be termed a special purpose monitoring station (SPM).

The national air monitoring stations (NAMS) are a subset of the SLAMS network and are subject to a national data reporting procedure.

6.5 AIR QUALITY MONITORING CRITERIA

All stations in the North Dakota SLAMS network will be operated in accordance with the criteria established by subpart B of 40 CFR Part 58. Each SLAMS will be sited in accordance with siting parameters contained in Appendix E to 40 CFR Part 58.

The ambient air quality monitoring methods used in SLAMS will be reference or equivalent methods as defined by EPA in 50.1 of 40 CFR Part 50 or will be a particulate sampler for which a site's specific relationship to a hi-volume sampler has been established at the site of the SLAMS.

The quality assurance procedures of Appendix A to 40 CFR Part 58 will be followed when operating the SLAMS network and processing air quality monitoring data.

6.6 EPISODE MONITORING

The concept of episode monitoring involves daily monitoring in order to detect when ambient air pollution levels reach concentrations corresponding to an air quality episode and consists of monitoring during episodes to maintain surveillance of the situation. The State will utilize its SLAMS network for declaring and monitoring air pollution episodes. When the data indicates that an episode as set forth in Chapter 33-15-11 of the North Dakota Air Pollution Control Regulations is eminent or in progress, the provisions of Chapter 33-15-11 will be enacted.

6.7 DATA REPORTING

As set forth in 40 CFR Part 58, all SLAMS data for the entire calendar year will be summarized and submitted to EPA by July 1 of the following year.