

gas fuel at several institutional boilers, and the application of the Federal Standards of Performance for New Stationary Sources promulgated by the Environmental Protection Agency should provide sufficient emission reductions necessary for the attainment and maintenance of air quality for suspended particulate matter below the national secondary ambient air quality standards in both Region No. 130 and Region No. 172 in the State of North Dakota.

3.3 CONTROL STRATEGY: SULFUR OXIDES

The two air quality control regions in North Dakota, Region No. 130 and Region No. 172, have both been classified Priority III with respect to sulfur oxides. The basis for these classifications was estimated air quality determined by the Area and Point Models. Air quality data for sulfation obtained during calendar year 1970 at two sampling sites in Region No. 130 and nine sampling sites in Region No. 172 and air quality data for sulfur dioxide from a 24-hour bubbler obtained during calendar year 1971 at one sampling site in Region No. 130 confirm the estimated air quality. The measured sulfation and sulfur dioxide data indicate the existing air quality for sulfur dioxide to be well below the national secondary ambient air quality standards. The estimated and measured data showing existing air quality with respect to sulfur dioxide are presented in Table 4.

Region No. 130

Estimated sulfur dioxide emissions from point sources and area sources in Region No. 130 for calendar year 1970 are presented in summary form in Table 6. Table 6 also presents allowable emissions for calendar year 1970 which result if existing regulations are applied and also presents estimated emissions achieved for 1975. The emissions achieved for 1975 were determined by applying the economic growth factors discussed in Section 3.1 to the 1970 allowable emissions. The emissions are shown for Cass County, North Dakota; Clay County, Minnesota, the cities of Fargo-West Fargo, North Dakota; and Region No. 130 as a whole.

The application of the North Dakota regulations restricting sulfur dioxide emissions from fuel burning installations (Regulation No. 23-25, R23-25-06, Section 6.100) and restricting open burning (Regulation No. 23-25, R23-25-04) to the existing 1970 emissions result in a 0.3 percent reduction of sulfur dioxide emissions in Cass County and a 0.1 percent reduction in the cities of Fargo-West Fargo. The application of similar Minnesota regulations results in a 0.6 percent reduction of sulfur dioxide emissions in Clay County. The overall reduction of sulfur dioxide emissions for Region No. 130 as a whole is 0.4 percent. The small reduction in sulfur dioxide emissions is due to the low sulfur content of the solid, and liquid fuels used in Region No. 130.

The emissions achieved in 1975 show a 93.3 percent reduction in the cities of Fargo-West Fargo and a 76.4 percent reduction in Cass County from the existing 1970 emissions. These large reductions are due to the closing down of a lignite coal-fired steam-electric power plant located in the City of Fargo and the converting from lignite coal

to natural gas fuel at several institutional boilers also located in Fargo which offset economic growth. The emissions achieved in 1975 in Clay County show a growth of 3.7 percent over the existing 1970 emissions. The overall emissions achieved in 1975 for Region No. 130 as a whole show a 31.1 percent reduction from the existing 1970 emissions.

Region No. 172

Estimated sulfur dioxide emissions from point sources and area sources in Region No. 172 for calendar year 1970 are presented in summary form in Table 7 for the whole region and for the cities of Bismarck-Mandan (including nearby sources). Sulfur dioxide emission data for each county in Region No. 172 is attached in Appendix E. Table 7 also presents allowable emissions for 1970 and emissions achieved in 1975 for Region No. 172 as a whole and for the cities of Bismarck-Mandan (including nearby sources).

The application of the North Dakota regulations restricting sulfur dioxide emissions from fuel burning installations and restricting open burning to the existing 1970 emissions result in a 3.8 percent reduction of sulfur dioxide emissions in Region No. 172 as a whole and a 14.4 percent reduction in the cities of Bismarck-Mandan.

The emissions achieved in 1975 show a zero percent reduction in Region No. 172 as a whole and a 6.5 percent reduction in the cities of Bismarck-Mandan from the existing 1970 reductions. The zero percent reduction includes the closing of two older lignite coal fuel steam electric power plants in Region No. 172.

Summary

The application of North Dakota regulations restricting sulfur dioxide emissions and open burning, the closing of several lignite coal fuel steam electric power plants, the converting from lignite coal to natural gas fuel at several institutional boilers, and the application of the Federal Standards of Performance for New Stationary Sources promulgated by the Environmental Protection Agency should provide sufficient emission reductions necessary for the maintenance of air quality for sulfur oxides below the national secondary ambient air quality standards in both Region No. 130 and Region No. 172 in the State of North Dakota.

~~3.4 CONTROL STRATEGY: CARBON MONOXIDE, HYDROCARBONS, PHOTOCHEMICAL OXIDANTS, AND NITROGEN DIOXIDE~~

~~The two air quality control regions in North Dakota, Region No. 130 and Region No. 172, have both been classified Priority III with respect to carbon monoxide, photochemical oxidants, and nitrogen dioxide. The basis for these classifications was that there were no urban areas in either air quality control region whose 1970 "urban place" population, as defined by the U.S. Bureau of Census, exceeded 200,000.~~

~~The existing air quality for carbon monoxide, hydrocarbons, photochemical oxidants, and nitrogen dioxide is estimated to be less than~~