3.10 AIR QUALITY

The ROI is located in an area of the intermountain west, which tends to be dominated meteorologically by recurring high and low pressure systems. Summer is often marked by stationary high pressure systems that develop over the region. These systems augment clear-sky conditions but also can result in large-scale stagnation of underlying air when light wind conditions persist. Winter weather conditions are influenced predominantly by transient storm systems. Precipitation in the vicinity of the ROI is limited because the Sierra Nevada Mountain Range located approximately 50 miles to the west, acts as a barrier. This barrier results in precipitation in the mountains rather than in the lowlands to the east. Precipitation in the region occurs mostly from December through March. Winter precipitation is typically rain and snow from large-scale weather systems. Summer precipitation is rain, which is often the result of localized activity caused by solar heating, rising air, and associated thunderstorms. This unique climate affects the dispersion of emissions from the project area.

The arid nature of the local climate makes the ROI prone to sudden dust storms on windy days. Dust storms are produced by the interaction of strong winds (which can be as small as little funnels or as large as fast-moving regional air masses), fine-grained surface material, and scanty vegetation, conditions which are widespread in Nevada but that vary greatly from year to year. These dust storms can cause substantial decreases in air quality, to the point of severely reducing visibility. Levels of particulate matter in the air are elevated during and following dust storms.

Nevada is mandated to identify geographic areas that do not meet federal and state air quality standards. The state uses air quality data gathered by monitoring networks to determine the areas within the state not attaining standards. Areas that violate federal or state standards are referred to as "nonattainment areas" for the relevant pollutants. One ozone and particulate matter 10 microns or smaller (PM_{10}) monitoring station exists in Churchill County at Fallon (NDEP 2003). The air quality standards for these pollutants are being met.