8. Emission Inventory and Characterization

Purpose

Emission inventory and source characterization are necessary for the deterministic and receptor modeling. Receptor models need source characterization for the main sources of interest. This involves compiling a ratio of elements that uniquely identifies a source and can be monitored at the receptor sites. The emission inventory is used to supply input to the deterministic modeling. Emission inventory consists of quantifying the emission rates of substances of interest from all sources that may be reasonably expected to impact the study area. For Project MOHAVE, sulfur dioxide emissions are of the greatest interest. The SO_2 emissions from MPP will be modeled with the transport and chemical models described in section 10. The level of modeling of other sources is still being investigated. Project MOHAVE intends to include transport and first-order chemical modeling of other significant sources of SO_2, including the southern San Joaquin Valley, the Los Angeles Basin, other powerplants, and copper smelters within the domain of the meteorological modeling area. The source profiling will also detail the primary particle emissions in order to assess whether primary particles contribute significantly to extinction.

Review of Existing Data and Inventories

The emission inventory used in the SRP NGS study (Systems Applications International, 1991) will be reviewed. State air pollution agencies will be consulted about emission data, especially regarding any changes for the main sources of SO_2. The power output of the MPP will be used to determine the emissions from the MPP. The operational status of other large SO_2 sources will also be checked and emission rates adjusted if necessary before the modeling analysis.

MPP Stack Sampling

Stack sampling will be done to determine the composition and quantity of MPP emissions, which are needed for the receptor, hybrid and deterministic modeling analyses. This component of the study has not yet been planned. The study plan will be updated when details of the stack sampling are known.