Ambient Air Quality Analysis Fact Sheet

The EPA developed national standards for six air pollutants, referred to as "criteria air pollutants". These national standards are called national ambient air quality standards (NAAQS). The six criteria pollutants are Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO_2), Ozone (O_3), Particulate Matter (PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2).

ORCAA's Rule 6.1.4(a)(3) requires a demonstration that emissions resulting from the project will not cause or contribute to a violation of any Ambient Air Quality Standard (AAQS).

How Do I Demonstrate that My Project Will Not Cause or Contribute to a Violation of an AAQS?

1. Identify the air pollutants that will be released and calculate the potential to emit (PTE) for each criteria pollutant.
2. Using an approved screening model such as AERSCREEN, model the impacts of the proposed emission increases and compare modeled impacts to the significance levels in ORCAA's Rule 6.1.4 (Table 6.1.b). If the impacts are less than the insignificant impact thresholds, it can be concluded that the proposed source will not contribute to a violation of an AAQS. The application should include all modeling input and output files.
3. If impacts are above the insignificant impact thresholds, then compare total impacts (i.e., project emissions + background) to the applicable AAQS for all pollutants requiring review. Background concentrations for PM_{10}, $PM_{2.5}$, NO_2, CO and SO_2 can be obtained from the Northwest International Air Quality Environmental Science and Technology Consortium (NW AIRQUEST) online database. Additional sources on-site or nearby may need to be included in this analysis if they are not included in the background concentrations (i.e., a newly constructed neighboring source). Advanced dispersion modeling (AERMOD) may also be used to make this demonstration. In these cases, we strongly encourage applicants to submit a modeling protocol to ORCAA prior to modeling the project.

Note: Applicants commonly hire a consultant to perform any necessary modeling.

Additional Resources

- Ecology Guidance:
- EPA's Support Center for Regulatory Atmospheric Modeling (SCRAM): **Air Quality Dispersion Modeling**
- A list of nonattainment and maintenance areas in Washington State can be found here.