

METEOROLOGIST II

This is professional meteorological work of a high degree of complexity in the review of air quality permit applications or in the modeling and evaluation of plans to attain existing air quality standards. Employees function in a central office in either the Permitting Section or the Planning Section within the Division of Air Quality. Employees in Permitting consult with permit applicants on the selection and use of appropriate mathematical dispersion models and other technical requirements of the permit process, review models and results submitted with permit applications, select and apply models to verify information submitted and recommend the acceptance or rejection of the permit modeling technique and results. Employees will also conduct dispersion modeling to determine facility compliance and establish permit conditions. Employees in Planning provide meteorological and photochemical modeling expertise in support of the State Implementation Plan (SIP) development for attaining existing air quality standards, monitor air pollution problems and report critical situations, make daily air quality forecasts year round, and review and adapt existing models for use in the State. Work assignments are generally of a higher level of complexity and are performed more independently than those recognized in the Meteorologist I class. More complex assignments are usually lacking in precedents on which to base decisions, are more critical, and are more technically complex as evidenced by a higher number of variables and inter-related considerations. Work is performed under the general supervision of an Environmental Program Supervisor or an Environmental Engineering Supervisor and may include other duties as assigned.

I. DIFFICULTY OF WORK:

Variety and Scope - Work involves the technical review of mathematical dispersion models selected and applied by other meteorologists; the selection, modification and application of models to determine the effects of increased emissions on air quality; the provision of technical assistance and consultation to a variety of individuals and corporations; and the selection, modification and application of meteorological and photochemical models to determine the effects of varying levels of emissions on air quality or to forecast the expected pollution levels across the state. Employees are generally responsible for the more unique assignments. Employees are often responsible for directing lower level meteorologists on more complex projects and providing training as required.

Intricacy - Employees handle all technical problems in their respective work areas. Models require detailed, accurate information such as hourly meteorological conditions, topography, source emission parameters and a variety of other factors in order to estimate the environmental impact of sources. In addition to assuring the accuracy of input, employees must select the appropriate model and model options, decide upon the appropriate input into the model which will best simulate dispersion in a given location or simulate air pollution across the state, input the data into the computer in the correct format and, finally, accurately interpret the results.

Subject, Matter Complexity - Employees must have a thorough knowledge of the meteorological concepts and theories as applied to the analysis of local and regional dispersion of air-borne particulates or as applied to the analysis of air quality conditions. Employees must maintain state of the art knowledge of mathematical dispersion models or meteorological/photochemical models and their applications. Employees must also have a thorough knowledge of federal and state air quality regulations as applied to the application of models in the permitting process. Depending on the assignment, employees may have to have an understanding of air chemistry.

Guidelines - Permit guidelines are fairly specific in regard to modeling requirements. The extensive use of models for determining dispersion or photochemistry is rapidly developing and changing; therefore, few guidelines exist to aid employees in the selection, modification and application of models and their interpretation. Employees have significant input into recommending new or revised modeling systems. Employees review and comment on national modeling guidelines.

II. RESPONSIBILITY:

Nature of Instructions - As supervisors are not knowledgeable of meteorology, instructions are general in nature indicating only the project to be undertaken and timeframes where appropriate. Employees determine strategy for approaching a project and undertake the project independently.

Nature of Review- Individual or group projects receive limited technical review but are routinely reviewed for general reasonableness, technical soundness and thoroughness.

Scope of Decisions - Decisions could impact the owners, operators and employees of an individual manufacturing plant or an industry as a whole. In addition, decisions could impact members of the general public living in the vicinity of a plant requesting a permit or in or near a region with violations of existing air quality standards. In some cases decisions could result in the establishment of new precedents, impacting more widespread areas and affecting the public on a more regional or statewide basis.

Consequence of Decisions - Decisions could result in the disapproval of a permit to build or expand a plant. This, in turn would have an impact on the local economy as well as the sponsors or owners of the plant. Incorrect assessment of photochemical modeling could result in unneeded control measures that could impact a local economy or could result in lack of control measures needed to meet existing air quality standards. Incorrect assessment could potentially adversely impact the general quality of life, visibility of natural vistas, and plant and animal life on a statewide basis.

III. INTERPERSONAL COMMUNICATIONS:

Scope of Contacts - Employees have contacts with industry officials, Federal, State, and local governmental officials, meteorologists and engineers, and the general public.

Nature and Purpose - Employees explain the permitting process or air quality status to industry officials and other meteorologists, advise them on the proper models to select and their correct application, and inform them of problems with their analysis. Employees also consult with other governmental meteorologists on available and new models, their strong and weak points and their potential adaptability for use in the state. Employees consult with engineers on inputs to the models. Employees make presentations of technical information to explain potential environmental impacts for new or expanding industries or air quality status to local governmental officials and members of the general public.

VI. OTHER WORK DEMAND:

Hazards - Work is primarily performed in an office setting; however, occasional visits to industrial sites may be necessary to complete a work project.

Work Conditions - Work is primarily performed in an office setting; however, occasional visits to industrial sites may be necessary to complete a work project.

V. RECRUITMENT STANDARDS:

Knowledge, Skills, and Abilities

Thorough knowledge of the theoretical and practical application of meteorology.

Thorough knowledge of the types and uses of mathematical dispersion models or meteorological and photochemical models.

Thorough knowledge of the federal, state and local laws, regulations, and standards relating to the abatement and control of air pollution.

Thorough knowledge of industrial processes and the characteristics of their effluents.

Ability to select, modify, adopt, and run mathematical dispersion models or meteorological and photochemical models to specific applications and to interpret their results.

Ability to express ideas and concepts clearly in oral and written form.

Ability to handle with tact, consistency and sound judgment the diversity of public contacts demanded in consultative services and enforcement.

Minimum Education and Experience

Bachelor's degree in meteorology from an appropriately accredited institution and three years of experience as a meteorologist; or an equivalent combination of education and experience.

Special Note

This is a generalized representation of positions in this class and is not intended to identify essential functions per ADA. Examples of work are primarily essential functions of the majority of positions in this class but may not be applicable to all positions.