

## **Scope**

This is a six level classification series, including three rank and file, two supervisory and one managerial level. The classes in this series are used to perform a wide variety of consultative, analytical and research oriented assignments in energy related topics. This includes but is not limited to energy conservation practices, power and fuel production and storage, energy system planning and management, transportation fuels and technologies, and financing and contracting of energy and fuel projects including alternative resources. The range of assignments to be performed by this series includes: program evaluation and planning; policy review and formulation; environmental impact assessment; emergency energy planning; forecasting; development and assessment of energy efficiency programs and standards; facility planning and siting. Incumbents may perform generic and applied energy research and development, technology demonstration and deployment and market facilitation in the areas of: renewable energy sources such as solar, geothermal, biomass and wind; energy storage; environmental effects of the use of different types of energy resources and conversion techniques; resource recovery and alternate fuel sources for non-renewable energy sources; alternate and renewable transportation fuels and technologies; and, energy conversion and transmission technologies.

Incumbents in this series are typically assigned to work on a broad range of energy and policy problems that may be interdisciplinary in nature. Incumbents may be assigned to work as representatives in sensitive intergovernmental negotiations. Incumbents may be assigned to develop, interpret, implement and enforce regulations and policies. They conduct and/or review analytical studies and surveys; recommend actions and alternatives on a broad spectrum of energy-related problems; provide education and outreach related to programs, regulations and policies; review and analyze proposed legislation and advise on the impact or potential impact of legislation; participate on or lead a team or task force; coordinate the efforts of representatives of various governmental agencies; work as coordinators and/or contract managers.

## **Factors Affecting Position Allocations**

The scope of responsibility assigned, the complexity of work, the independence of action, program responsibilities, impact of decisions on departmental programs, degree to which consultation by the specialist is sought after and accepted; decision-making responsibilities and the demonstrable effect of same on major programs, and the degree of supervision exercised.

## **Energy Scientist Series Specification**

- R10     Energy Scientist (Ranges A&B)
- R10     Senior Energy Scientist (Ranges A&B)
- R10     Principal Energy Scientist
- S10     Supervising Energy Scientist

S10 Energy Program Supervisor

M10 Energy Program Manager

### **Definition of Levels**

#### ***Energy Scientist (Ranges A&B – See ARXXX on Page 8 & 9)***

Range A. This is the entry and first working level of the series. Incumbents perform analytical work on one or more aspects in a broad range of energy areas as a background for advancement in the field of energy. Under close supervision, incumbents perform work of average difficulty in a wide variety of consultative and analytical energy assignments.

Range B. This is an intermediate level in the series. Under general supervision incumbents perform varied, technical and analytical work.

#### ***Senior Energy Scientist (Ranges A&B – See ARXXX2 on Page 9)***

Range A. This is the journey level. Incumbents independently perform a variety of responsible professional scientific work. Incumbents perform assigned energy analysis, research, surveys, investigations, and studies; write final reports; prepare regulatory and compliance documents; enforce laws and regulations; prepare non-routine correspondence and answer non-routine questions from the public; and do other related work. Incumbents allocated to this level perform a variety of tasks. Incumbents may be assigned lead responsibility for a specific project.

Range B. This is the full journey level. Incumbents independently identify problems, develop courses of action, and conduct critical and/or sensitive scientific investigations and studies and may prepare guidance, policy, planning, or regulatory documents and legislative proposals on issues of importance to the employer, and do other related work. Provide consultative services to other departments and organizations. Incumbents may act as team leaders or coordinate the efforts of representatives of various governmental agencies on projects.

#### ***Principal Energy Scientist***

This is the expert level in one or more energy-related scientific disciplines. Incumbents work as a project lead on sensitive or controversial projects, or act as working team leader over a group of specialists. Work independently as a subject-matter expert to formulate and develop solutions to extremely difficult problems. Generally, incumbents in this capacity have strong leadership roles and are called upon to coordinate the efforts of other analysts or researchers to accomplish departmental objectives.

#### ***Supervising Energy Scientist (Sup)***

This is the first full supervisory level. Incumbents typically supervise a group of specialists and have major program responsibilities. Typically, as a full supervisor, incumbents report to a branch chief responsible for several energy-related programs and spend the majority of their time in supervisory activities as distinct from work level assignments.

***Energy Program Supervisor***

This is the second supervisory level of the series. Incumbents direct and have charge of critical and sensitive energy-related programs; carry authority and accountability for timely completion of program objectives and for submittal of satisfactory products; are responsible for operational planning and assigning of projects, budgeting for time and funds, reviewing and evaluating achievements, and preparing administrative reports; coordinate program activities with technical and administrative support sections and their activities; assist in formulating and administering policies; exercise discretion in the provision of oversight and coordination of projects or programs; evaluate program performance and achievements; plan for work force needs; represent their organization in compliance negotiations, policy implementation, program budgeting, and strategic planning; and do other related work. Incumbents may supervise a group of Supervising Energy Scientists and other professional and technical staff working on critical or sensitive energy-related projects.

***Energy Program Manager***

This is the full management level. Incumbents have full management responsibility for the most complex and sensitive program issues having statewide impact; act as the State's expert on energy conservation practices, power and fuel production, energy management, or financing and contracting of energy and fuel projects including alternative resources; establish policy and priorities; and provide strong leadership and direction toward the accomplishment of major program issues.

**All Levels:**

Education: Possession of a bachelor's or advanced degree with a major in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline. (Admission to a master's or doctoral degree program in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline shall be considered to meet these education qualifications.)

**Energy Scientist**

Education as indicated above. (Registration as a senior in a recognized institution will admit applicants to the examination, but they must produce evidence of a degree before they can be considered eligible for appointment.)

## **Senior Energy Scientist**

### PATTERN I

Experience: Two years of experience in the California state civil service performing the duties of an Energy Scientist, Range B or equivalent, OR

### PATTERN II

Experience: Three years of increasingly responsible professional experience in the energy science field, two years of which have included responsibility at a level equivalent to an Energy Scientist, Range B, in the California state civil service. Possession of a master's degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline may be substituted for one year of the required general experience; possession of a doctorate in the above-named disciplines may be substituted for two years of the general experience.

## **Principal Energy Scientist**

### PATTERN I

Experience: Two years of experience in the California state civil service performing the duties of a Senior Energy Scientist, Range B, or equivalent, OR

### PATTERN II

Experience: Five years of increasingly responsible experience in an energy science field, two years of which have included responsibility at a level equivalent to a Senior Energy Scientist, Range B, in the California state civil service. Possession of a master's degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline may be substituted for one year of the required general experience; possession of a doctorate in the above-named disciplines may be substituted for two years of the general experience.

## **Supervising Energy Scientist**

### PATTERN I

Experience: One year of experience in the California state civil service performing duties of a Senior Energy Scientist, Range B or equivalent OR

**PATTERN II**

**Experience:** Four years of increasingly responsible experience in the energy science field, one year of which have included responsibility at a level equivalent to a Senior Energy Scientist, Range B and at least one year of which must have been in an administrative or supervisory position in full charge of staff. Possession of a master's degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science or a closely related scientific discipline may be substituted for one year of the required experience; possession of a doctorate in the above-named disciplines may be substituted for the required experience.

**Energy Program Supervisor**

**PATTERN I**

**Experience:** Two years of experience in the California state civil service performing duties of a Senior Energy Scientist, Range B, or equivalent OR

**PATTERN II**

**Experience:** One year of experience in the California state civil service performing the duties of a Supervising Energy Scientist or a Principal Energy Scientist, or equivalent OR

**PATTERN III**

**Experience:** Six years of increasingly responsible professional experience as a scientist in energy analysis, research, management, planning, regulation, or investigation, two years of which have included responsibility in the development or implementation of energy policies, programs, plans, or research projects; or conducting an energy monitoring and surveillance, enforcement, or energy management program; at least one year of which must have been in an administrative or supervisory position in full charge of staff; or in the direction of the work of a multidisciplinary energy investigatory or regulatory staff, at a level equivalent to that of an Senior Energy Scientist, Range B, or Principal Energy Scientist in the California state service,  
AND

Bachelor's degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or closely related scientific discipline.

**PATTERN IV**

Experience: Four years of increasingly responsible professional experience as a scientist in energy analysis, research, management, planning, regulation, or investigation, two years of which have included responsibility in the development or implementation of energy policies, programs, plans, or research projects; or conducting an energy monitoring and surveillance, enforcement, or energy management program; at least one year of which must have been in an administrative or supervisory position in full charge of staff; or in the direction of the work of a multi-disciplinary energy investigatory or regulatory staff, at a level equivalent to that of an Senior Energy Scientist, Range B, in the California state service, AND

Master's Degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline.

### **Energy Program Manager**

#### **PATTERN I**

Experience: Two years of experience in the California state civil service performing the duties of Principal Energy Scientist or an Energy Program Supervisor or equivalent.

#### **PATTERN II**

Experience: Six years of increasingly responsible professional experience as a scientist in energy analysis, research, management, planning, regulation, or investigation, two years of which have included responsibility in the development or implementation of energy policies, programs, plans, or research projects; or conducting an energy monitoring and surveillance, enforcement, or energy management program; or in the direction of the work of a multi-disciplinary energy investigatory or regulatory staff, at a level equivalent to that of an Energy Program Supervisor in the California state service, AND

Master's Degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline.

#### **PATTERN III**

Experience: Four years of broad, extensive, and increasingly responsible experience as a scientist in energy analysis, management, research, planning, regulation, investigation, or enforcement, at least two years of which must have been in an administrative or supervisory position in full charge of a staff responsible for the development or implementation of energy policies, programs, plans, or research projects; or conducting or managing a critical and/or sensitive environmental monitoring and surveillance or environmental management program; or in management of the work of a large multidisciplinary energy investigatory or regulatory

staff at a level equivalent to an Energy Program Supervisor in the California state civil service,  
AND

Doctorate in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline.

### **Knowledge and Abilities**

#### *All Levels:*

Knowledge of: Energy resource development; energy efficiency and conservation; principles of physical sciences and engineering involved in energy production, transmission, utilization and conservation; principles of statistical and econometric analysis; principles of program evaluation and planning, and energy policy analysis and formulation; broad knowledge of Federal, State, local government, utilities and private entities involved in energy research and regulation; general provisions of Federal and State laws and regulations applicable to the state's energy programs; recent research and development projects in the fields of renewable and non-renewable energy sources; principles and procedures of environmental impact assessment, and energy supply planning and demand forecasting.

Ability to: Reason logically and creatively and utilize a variety of analytical and research techniques to resolve complex energy conservation and development problems; develop and evaluate alternatives; analyze energy data and present ideas and information effectively both orally and in writing; gain and maintain the confidence and cooperation of those contacted during the course of work; analyze situations accurately and take effective action.

#### *Senior Energy Scientist*

Knowledge of: In addition to the above, specific knowledge of California and Federal energy and environmental regulatory and resource management laws, regulations, plans, programs, and policies relating to a program area; resource management practices and techniques; and project management.

Ability to: In addition to the above, develop scientific methodologies, research projects, criteria, procedures, guidelines, reference materials, planning and regulatory documents, and other innovative solutions for critical or sensitive energy-related problems; provide technical or project management support for time sensitive or high-priority projects; develop techniques for handling and analyzing a large variety of detailed data; effectively communicate the results and implications of studies to non-specialists; provide leadership in accomplishing basic functions and objectives in assigned programs; coordinate the work of others; participate on or lead a team or task force; coordinate the efforts of representatives of various governmental agencies; manage contracts; develop effective working relationships with internal and external stakeholders; testify as a subject matter expert before governing bodies.

#### *Principal Energy Scientist*

Knowledge of: In addition to the above, in-depth expertise in one or more specific program areas, technologies, and analytical and research methodologies.

Ability to: In addition to the above, act as the state's highest-level technical subject matter expert in one or more specific program areas.

*Supervising Energy Scientist*

Knowledge of: In addition to the Senior Energy Scientist described above, energy-related priorities of legislative and administrative branches of California and Federal government; energy -related solutions and initiatives being pursued by other states, local agencies, and the Federal government; performance management strategies; techniques for dispute resolution; principles and techniques of personnel management and supervision; budgeting and other administrative functions; training procedures; State and departmental Equal Employment Opportunity policies and objectives.

Ability to: In addition to the Senior Energy Scientist described above, manage, lead, or administer program resources; make decisions regarding program milestones; provide a forum for the resolution of conflicts or disputes; develop innovative solutions to difficult energy-related problems; evaluate program performance and achievements; train personnel; effectively supervise subordinate staff; effectively carry out the State and department's Equal Employment Opportunity policies.

*Energy Program Supervisor*

*Energy Program Manager*

Knowledge of: In addition to the knowledge required by the Supervising Energy Scientist described above, energy-related solutions and initiatives being pursued by other states, local agencies, and the Federal government; and performance management strategies.

Ability to: In addition to the abilities required by the Supervising Energy Scientist described above, plan, direct and coordinate the work of a multidisciplinary staff; make decisions regarding program milestones; provide a forum for the resolution of conflicts or disputes among implementing agencies; develop innovative solutions to difficult energy-related management problems; and evaluate program performance and achievements; appear at public hearings; and effectively contribute to the department's Equal Employment Opportunity program objectives.

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**Alternate Range Criteria XXX – Energy Scientist**

These criteria will be used to allocate incumbents to Alternate Range A or B, of the Energy Scientist classification.

Range A. This range shall apply to incumbents who do not meet the criteria for Range B.



Range B. This range shall apply to incumbents who have satisfactorily completed either (1) one year in California State service as an Energy Scientist, Range A; or (2) one year of professional energy-related science experience outside of California state service equivalent to an Energy Scientist Range A. (Possession of a master's degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline may be substituted for one year of the required general experience.)

When the requirements for the particular criteria are met for movement to Range B and upon recommendation of the appointing power, the employee shall receive a rate in the new range equivalent to that provided for movement to a class with a higher salary range under the provisions of California Department of Human Resources Rule 599.676.

**Alternate Range Criteria XXX2 – Senior Energy Scientist**

These criteria will be used to allocate incumbents to Alternate Range A or B, of the Senior Energy Scientist classification.

Range A. This range shall apply to incumbents who do not meet the criteria for Range B.

Range B. This range shall apply to incumbents who have satisfactorily completed either (1) one year in California State service as a Senior Energy Scientist, Range A; or (2) three years of professional energy-related science experience outside of California state service equivalent to the Senior Energy Scientist, Range B. (Possession of a master's degree in biology, physics, economics, mathematics, statistics, environmental studies, chemistry, engineering, energy science, or a closely related scientific discipline may be substituted for one year of the required general experience; possession of a doctorate in the above-named disciplines may be substituted for two years of the general experience.)

When the requirements for the particular criteria are met for movement to Range B and upon recommendation of the appointing power, the employee shall receive a rate in the new range equivalent to that provided for movement to a class with a higher salary range under the provisions of California Department of Human Resources Rule 599.676. ARXXX (Energy Scientist)