

Health Physicist Series

California State Personnel Board Specification

Series established October 17, 1978

Scope

This series specification describes ~~five~~three levels of professional classes which specialize in radiation protection activities and programs designed to protect the public and occupational workers from the harmful effects of ionizing radiation.

Health Physicist Series Specification - Class Titles and Codes

Schem Code	Class Code	Class
HX38	3781	Health Physicist
HX30		<u>Senior Health Physicist (Specialist)</u>
HX20	3802	Senior Health Physicist (Supervisory)
HX10	3801	Supervising Health Physicist

Definition of Series

Incumbents typically plan and conduct studies, inspections and investigations of public and worker health hazards in industrial, medical, dental, laboratory, and other settings involving the use of radioactive material or radiation machines; determine that programs proposed for licensure provide adequate assurance of safety for workers and the public; enforce compliance with licenses and with provisions of radiation control laws and regulations; evaluate and adapt instrumentation for the detection and measurement of radiation; apply methods and techniques of radiation detection measurement and dosimetry based on the specific physical and biological factors involved; review plans and specifications for installation using or producing ionizing radiation and advise on the design and modification of protective devices including materials and structure geometry; provide consultation and assistance to physicians, dentists and industrial, laboratory, and other professional and technical personnel; work with local health departments and other government agencies, hospitals, laboratories, industries, and other establishments to determine and obviate radiation health hazards; supervise decontamination procedures in case of radiological accidents; conduct training sessions; consult with technical and scientific staff of the Nuclear Regulatory Commission, the U.S. Department of Health and Welfare, Environmental Protection Agency, and others regarding radiological health; provide technical assistance and consultation in radiation detection, measurement and protection to State and local

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agency personnel and to medical, research, educational, and industrial radiation users; prepare and review technical reports and monographs; address lay and professional groups.

Entry Levels

Typical entry into this series is through the Health Physicist level. Entry from outside State service or from other series in State service may be at any level.

Factors Affecting Position Allocation

Level, variety, and complexity of work assignments; degree of supervision received and exercised; level of decision-making authority; independence and consequence of action; degree of administrative responsibility; and influence on program change and development.

Definition of Levels

Health Physicist, Range A

This is the trainee level in the series. Incumbents, under close supervision, learn and apply principals, practices, and techniques of health physics; assist with progressively more difficult and responsible tasks in licensing of facilities, compliance inspections, accident prevention, and staff work in support of these activities; prepare for advancement by on-the-job training and, where appropriate, academic education; and do other related work. Positions in this class are not supervisory.

Health Physicist, Range B

This is the first working level of the series. Incumbents assist higher level physicists in the performance of their duties and, under supervision, are responsible for completing assigned professional work of average difficulty and complexity for which there are established guides and procedures such as routine hazard evaluation of license applications, compliance inspections, accident and complaint investigations; evaluate radiation shielding plans; conduct surveys; prepare and disseminate information on radiation safety principles, regulations, standards, and methods; work with governmental and private entities to determine and obviate radiation hazards; prepare technical reports and correspondence; and do other work of average difficulty. Positions in this class are not supervisory.

Health Physicist, Range C

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This is the full journey person and lead person-level of the series. Incumbents, under direction, perform the more difficult and complex health physicist work; plan and conduct difficult studies, surveys, inspections, and investigations of radiologic health hazards; evaluate license applications and determine compliance with law and regulations in non-routine cases; develop and adapt instrumentation for determination and measurement of radiation; review plans and specifications and advise on design and modification of engineered controls, including shield and exhaust ventilation systems; provide consultation and assistance to professional and technical personnel and public and private entities and assist them in determining and obviating radiation hazards; supervise decontamination procedures in case of radiological incidents; conduct training courses; prepare technical reports and correspondence. Positions in this class are not supervisory.

Senior Health Physicist (Specialist)

This is the advanced journey level in this series. Incumbent at this level function as highly skilled, technical experts and perform the most difficult and complex duties. Incumbents independently plan, organize, and direct a specific major program for the regulation and control of sources of ionizing radiation; provide high level consultation, technical assistance, and training in health physics, radiation detection and measurement; evaluate installations using high hazard value radioisotopes for radiation hazards; prepare plan and direct field operations to obviate health hazards caused by radiation accidents; plan and conduct special studies and investigations as determined by management; correlate and interpret findings from complex investigations and studies as they relate to the field of health physics; prepare recommendations and assist in the development of radiation control rules and regulations when highly technical radiation dosimetry or health physics calculations are required or environmental radiological hazards affect the environment; develop and disseminate information to the public; prepare and review technical reports; address interested groups; and do other related work with immediate and long-range impact. Positions at this level are those where the level of expertise required is definably greater than that for the Health Physicist, Range C or any other supervisory position at this level and where the function performed is critical to the department's basic mission. Positions in this class are not supervisory.

Senior Health Physicist (Supervisory)

This is the first supervisory level in this series. Incumbents, under general direction, plan, organize, and direct a specific major program for the regulation and control of sources of ionizing radiation; provide high level consultation, technical assistance, and training in health physics, radiation detection, measurement, and protection to State and local agencies and others; develop criteria for radioactive materials licensing; develop criteria and procedures for inspecting installations for potential or existing radiation

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hazards; prepare plans and direct field operations to obviate health hazards caused by radiation accidents; plan and conduct special studies and investigations and develop and disseminate findings, correlate and interpret the findings, investigations and studies of other disciplines as they relate to the field of health physics; prepare recommendations and assist in the development of radiation control rules and regulations; develop and disseminate information to the public; prepare and review technical reports and correspondence; address interested groups; and do other related work.

Positions in this class are supervisory. Incumbents perform duties which are substantially different from those of subordinates and have the authority, in the interest of management to: hire, transfer, suspend, layoff, recall, promote, discharge, assign, reward or discipline other employees, or responsibly direct them or adjust their grievances, or effectively recommend such action. ~~The intent is to exclude leadpersons.~~

Supervising Health Physicist

This is the second supervisory level. Incumbents, under general direction, plan, organize, direct and evaluate a number of statewide radiation regulatory programs involving the surveillance and licensing of radiation sources and the evaluation, regulation, and control of industrial (limited to licensing only), research, medical, diagnostic, and therapeutic uses of radiation; coordinate, integrate, and evaluate programs and activities relating to licensing and inspections and insure compliance with State regulations; evaluate and resolve unusually complex technical and administrative problems in connection with license issuance, amendment, suspension, revocation, or denial; approve inclusion of specialized conditions and other unusual provisions in licenses; plan and direct a continuing program of staff training and development; propose new rules and regulations; coordinate the programs with related activities of the Nuclear Regulatory Commission, the State Division of Occupational Safety and Health, Environmental Protection Agency, U.S. Department of Health and Welfare, local health agencies, and other interested and affected agencies; keep abreast of technical development in radiation use and radiation protection; plan and direct special studies and investigations; address interested groups; prepare articles for publication; and do other related work.

Positions in this class are supervisory. Incumbents perform duties which are substantially different from those of subordinates and have the authority, in the interest of management, to: hire, transfer, suspend, layoff, recall, promote, discharge, assign, reward or discipline other employees, or responsibly direct them, or adjust their grievances, or effectively recommend such actions. ~~The intent is to exclude leadpersons.~~

Minimum Qualifications

Health Physicist

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Education: Possession of a Bachelor's Degree in Radiologic Health, Radiologic Science, Health Physics, Engineering, Mathematics, Physical Science, **Biology** or a closely related science. (Registered seniors will be admitted to the examination, but must provide proof of graduation prior to appointment.)

Senior Health Physicist (Specialist)

Either I

Two years of experience performing the duties of a Health Physicist, Range C in California state service AND,

Possession of a Master's degree in radiologic health, radiologic science, health physics, engineering, physical science, biology, or a closely related science.

Or II

Certification in Comprehensive Health Physics issued by the American Board of Health Physics (ABHP).

Senior Health Physicist (Supervisory)

Either I

Two years of experience performing the duties of a Health Physicist, Range C in California state service.

Or II

Four years of professional experience in health physics or a closely related field, **at least two years of which must have included responsibility for a major program in radiological health in a supervisory capacity,** and

Possession of a Bachelor's Degree in radiologic health, radiologic science, health physics, engineering, , physical science, ~~life-science~~ **biology**, or a closely related science. (One year of full-time graduate work in radiologic health, radiologic science, health physics, engineering, , physical science, **or biology** may be substituted for one year of the required general experience.) (Possession of a master's degree in a radiologic health, radiologic science, health physics, engineering, mathematics, physical science, biology, or a closely related scientific discipline may be substituted for one year

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of the required general experience; possession of a doctorate in the above-named disciplines may be substituted for two years of the general experience.)

~~Possession of a Master's Degree in radiologic health, radiologic science, health physics, engineering, mathematics, physical science or a closely related field or Certification in Comprehensive Health Physics issued by the American Board of Health Physics (ABHP).~~

Supervising Health Physicist

Either I

Two years of experience in performing the duties of a Senior Health Physicist (Specialist or Supervisory) in California state service.

Or II

Six years of increasingly responsible professional experience in health physics or a closely related field, at least three years of which must have included supervisory responsibility for a major program in health physics or radiologic health, and

Possession of a Bachelor's Degree in radiologic health, radiologic science, health physics, engineering, , physical science, **biology** or a closely related science. (Possession of a Master's Degree in Radiologic Health, Radiologic Science, Health Physics, Engineering, , Physical Science, or Life Science Biology may be substituted for two years of the required general experience.)

~~Possession of a Ph.D in radiologic health, radiologic science, health physics, engineering, mathematics, physical science or a closely related field or Certification in Comprehensive Health Physics issued by the American Board of Health Physics (ABHP).~~

Knowledge and Abilities

Health Physicist

Knowledge of: Basic research techniques; theory and principles of physical science and engineering; theory and practice of health physics and radiation protection; theory and practical design of shielding for protection against radiation; radiation dosimetry and the theory and design of instruments and methods used to measure radiation; biological

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effects of ionizing radiation; radiological ecology; scientific research technique; various parameters entering into evaluation of radiological hazards involved in medical, dental, industrial, and laboratory work, and the use of radiation machines and radioactive materials; atomic and nuclear physics and nuclear chemistry and the use of radioisotopes; radioactive waste disposal techniques and procedures; California radiation control laws and regulations; radiation standards set by the Nuclear Regulatory Commission, the Environmental Protection Agency, the National Council on Radiation Protection and Measurement; ~~principles of leadership.~~

Ability to: Analyze situations accurately, derive recommendations, and take effective action; establish and maintain cooperative relations with those contacted in the course of the work; communicate effectively; prepare clear and concise reports; plan, conduct and correlate routine investigations of radiological health hazards and exposures; evaluate plans and specifications to insure prevention of radiation hazards; gain confidence and compliances of persons of varied scientific disciplines; prepare technical reports and correspondence; develop methods to minimize radiation hazards..

Senior Health Physicist (Specialist)

Knowledge of: All of the above and advanced scientific research technique; the legislative process; laws, regulations, plans, programs, policies, functions and operations of State and Federal programs in radiation control and radiological health; and radiologic substances and waste materials and their interactions with and effects on public health and the environment; principles of leadership.

Ability to: All of the above and train personnel in the various aspects of radiological health work; develop and evaluate programs.

Senior Health Physicist (Supervisory)

Knowledge of: All of the above and supervisory methods and techniques; training procedures; State and departmental equal employment opportunity ~~and affirmative action~~ policies ~~and objectives~~; a manager's role in the and Equal Employment Opportunity program Ability to: All of the above and effectively supervise subordinate personnel; effectively carry out the State and departmental equal employment opportunity policies.

Supervising Health Physicist

Knowledge of: All of the above and principles of public administration and personnel management; trends and developments in radiological health; ~~department's Affirmative Action Program objectives and Equal Employment Opportunity program.~~

Ability to: All of the above and direct and coordinate the work of others; establish and maintain cooperative working relationships with Federal, State, and local agencies.

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Additional Desirable Qualifications Aptitude for learning and understanding a broad range of technical data and applying it to individual cases. **Class History**

Health Physicist Series History - Dates Established, Revised, and Title Changed

Class	Date Established	Date Revised	Title Changed
Health Physicist	10/17/1978	01/03/1996	--
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<u>Senior Health Physicist (Specialist)</u>			
Senior Health Physicist (Supervisory)	12/02/1960	01/03/1996	--
Supervising Health Physicist	09/06/1962	01/03/1996	--