

STATE OF WISCONSIN
CLASSIFICATION SPECIFICATION

NUCLEAR ENGINEER
CLASSIFICATION SERIES

I. INTRODUCTION

A. Purpose Of This Classification Specification

This classification specification is the basic authority under Wis. Admin. Code ER 2.04 for making classification decisions relative to present and future professional nuclear engineering positions within the Department of Health Services. Positions allocated to this classification perform duties that are professional in nature as defined in s. 111.81(15), Wis. Stats.

Classification decisions must be based on the “best fit” of the duties within the existing classification structure. The “best fit” is determined by the majority (i.e., more than 50%) of the work assigned to and performed by the position when compared to the class concepts and definitions of this specification or through other methods of position analysis. Position analysis defines the nature and character of the work through the use of any or all of the following: definition statements; listing of areas of specialization; representative examples of work performed; allocation patterns of representative positions; job evaluation guide charts, standards or factors; statements of inclusion and exclusion; licensure or certification requirements; and other such information necessary to facilitate the assignment of positions to the appropriate classification.

B. Inclusions

This classification specification encompasses positions performing professional engineering duties and providing professional engineering expertise for Department of Health Services nuclear engineering programs. The positions provide oversight and monitoring of nuclear installations; provide comprehensive recommendations for an incidence; and provide consultation, review, analysis, and training in the areas of nuclear installations, nuclear materials, and radon. Positions included in this series must meet the Qualifications prescribed under Section I.C.

C. Qualifications

Positions included in this series have duties and responsibilities of such a nature that it is required (by federal or state law or by position review and analysis) that the incumbent have one of the following:

- Registration as a Professional Engineer as determined by the Department of Safety and Professional Services per s. 443.04, Wis. Stats.;
- a specific record, issued by the professional engineering section of the Department of Safety and Professional Services, showing 4 years or more of experience in engineering work of a character satisfactory to the professional engineering section and satisfactory completion of the fundamentals of engineering exam;

- have graduated from a recognized college or university with a degree in a related engineering field such as electrical, mechanical, civil or environmental engineering or degrees in related disciplines similar to nuclear engineering, nuclear medical technology, health physics, radiation engineering, or nuclear/radiological focused physics, chemistry or biology degrees; OR
- have equivalent professional training and practical experience so as to be deemed a professional engineer as defined by the Department of Safety and Professional Services per s. 443.01, Wis. Stats. and also deemed to be qualified to engage in professional engineering practice as determined by the Department of Safety and Professional Services per s. 443.04 or 443.05, Wis. Stats.

Positions not having duties and responsibilities that require such credentials shall be allocated to a different classification series.

D. Exclusions

Excluded from this classification series are the following types of positions:

1. "Management" and "Supervisor" positions as defined in s. 111.81(13) and (19), Wis. Stats., and as administered and interpreted by the Wisconsin Employment Relations Commission.
2. Employees who are not engaged for the majority of time in "[p]rofessional employee" work as defined in s. 111.81(15), Wis. Stats., and as administered and interpreted by the Wisconsin Employment Relations Commission.
3. Positions which do not require that the incumbent perform professional engineering duties and be a professional engineer by background and training for the successful performance of the tasks assigned to the position.
4. Positions which are not located at the Department of Health Services.
5. Positions which spend the majority of their time reviewing building plans and/or inspecting buildings to assure the minimum safety codes are met.
6. All other positions which are more appropriately identified by other classification specifications.

E. Entrance Into And Progression Through This Series

Employees enter positions within this classification series by meeting the qualifications under I.C. and by competitive examination. Progression to the senior level will occur through reclassification if the employee performs the assigned work in a satisfactory manner. Progression to the advanced level will typically occur through some form of competitive examination.

II. DEFINITIONS

Section A, Levels, describes the appropriate placement of an employee based upon the specific level of skills, knowledge, and abilities required of the position and the amount of supervision received for the majority of time within the specific professional engineer program area.

Section B, Functional Work Activities, describes the full range of duties performed at the objective level. [Senior Level is the level an employee can reasonably expect to obtain if he/she performs the full range of functional work activities.]

Employees may also perform the following types of duties, but they are usually performed at the Senior or Advanced levels:

1. **Lead Worker:** An employee who trains, assigns the work and reviews the work of other professional employees and which may also include technical employees. Lead Worker functions will cease for developmental level engineers when they have successfully attained the Senior level. Lead Worker functions are a permanent assignment but are dependent upon having developmental level (below the Senior level) engineer staff.
2. **Program Leader:** An employee who is the technical expert for a specific area(s) and who may have some oversight to assure uniformity within a specific engineering program area(s).
3. **Project Leader:** An employee who has the responsibility for coordinating the work of another professional engineer(s) when a project requires two or more engineers for completion and which may also include other technical and professional employees. This function would last only as long as the project takes. An employee can be a project leader and a team member for another project simultaneously. **OR** A project leader can be an employee who has the responsibility of oversight of nonpermanent, nonstate, or contractor engineers and related staff.

A. Levels

NUCLEAR ENGINEER

Positions work under close progressing to limited supervision. Nuclear engineering principles and practices have been learned prior to entrance into this classification series. The emphasis is in developing skills in working with and/or understanding the program, state systems, user group(s) and the mechanics of the program; and developing an understanding and applying the statutes, rules, regulations, administrative code and standards required in the program area. Initial work assignments are well defined and short term in duration. Over time the work assignments become long term or short term with the employee expected to exercise independent judgment in determining specifics and priorities, as the objectives are progressively less clear. The positions may be in contact with outside consultants or engineers and may have assignments which cross program lines depending on where the individual employee's performance level is determined. The supervisor reviews the work to determine the completeness or accuracy and adherence to policy.

NUCLEAR ENGINEER - SENIOR

Positions work under general supervision. The work assignments the employee is expected to complete include the full range and scope of their specific program duties. The majority of the assignments are complex. Positions at this level have extensive authority in carrying out their assigned responsibilities involving independently implementing the assigned responsibilities. The work at this level requires a high degree of interpretation and creativity in evaluating engineering aspects of new technologies. Positions at this level make decisions independent of supervisory oversight, with the work being reviewed after the decisions have been made.

NUCLEAR ENGINEER - ADVANCED

This is the objective level for positions under general policy review which provide advanced professional engineering expertise in their assigned program. Positions at this level function as the primary engineer for a specific aspect of a department program or function as a program engineer within an assigned geographic area. Engineer positions at this level perform the most complex, difficult, and advanced engineering work which includes multi- and cross-program issues and which often include policy-making responsibilities. Employees at this level have engineering responsibilities which require continually high level contacts with public and private officials and engineers/engineering consultants on highly sensitive and complex engineering reviews. The engineering knowledge at this level includes a broader combination than found at the Senior level. Assignments are broad in scope and continually require the incumbent to use independent judgment in making professional engineering decisions. Positions at this level make independent decisions and perform work in response to program needs as interpreted by the employee with the work being reviewed after the decisions have been made.

B. Functional Work Activities

Monitoring: Plan, implement, maintain, evaluate, and coordinate the radiological environmental monitoring programs around nuclear power plants in or near Wisconsin in order to assure compliance of nuclear emissions with ss. 254.31 to 254.45 WI Stats., and federal regulations 10 CFR Part 50, 10 CFR Part 20 and 40 and CFR Part 61. Plan and conduct surveys of radiation installations, including planning and coordinating activities related to the detection, surveillance and monitoring of background and manmade radiation. Provide technical support in the planning and implementation of sample collection and the analysis and actions to protect the public in an event involving radioactive contamination of the environment.

Emergency Response: Maintain radiological mobile laboratory. Plan, develop, and conduct emergency response exercises and preparedness. Provide consultation and technical capability to state and local personnel involved in the implementation of the state radiological emergency response plan regarding nuclear power plant operations and radiological health physics. Provide radiological dose assessment projections and technical consultation to the State Radiological Coordinator (SRC) or assume the SRC function during drills or emergency. Consult with utility nuclear engineers and state and federal radiological health experts to develop, implement, maintain, and evaluate consistent radiological emergency response plans and procedures to insure public safety in the event of a radioactive release of materials to the environment. Provide technical consultation, direction, and training to state and local radiological emergency response personnel to develop, maintain, and evaluate their state of readiness to respond to radiological incidents.

Maintain the working condition and calibration of radiation measurement equipment used by radiological emergency response and environmental monitoring personnel statewide. Develop and implement procedures for the decontamination of emergency workers and other affected persons in the radiation plume exposure zone. Participate in nuclear power plant emergency response drills, exercises, and real events. Review federal guidance documents in the area of radiological emergency response and recommend changes to the State response plan.

Other Areas: Consult with federal, state and private-sector radiological health physicists to develop and maintain consistent and up to date technical program information. Coordinate and consult with hospitals and ambulance services involved in radiological medical services planning. Develop and present technical training programs. As radiation waste manager, investigate potential problems and dispose of any radioactive materials that may need to be confiscated or contained. Develop, implement and maintain storage and control of radioactive waste and materials in possession of the Section. Develop training programs and materials and conduct training sessions for state and local personnel involved in responding to radiological accidents. Coordinate and consult with Wisconsin Emergency Management (WEM), nuclear utility emergency planning staff, hospitals and ambulance services, supervisors, and county emergency government directors to develop necessary training courses. Manage the regulation of radioactive materials through licensure, inspection and investigation of compliance issues.

III. ADMINISTRATIVE INFORMATION

This classification series was created effective October 12, 1997, and announced in Bulletin CC/SC-74 to describe positions which perform nuclear engineering work for the Department of Health and Family Services. The creation of this classification series resulted from the Governor's Human Resource Reform Commission recommendation to simplify the classification system. This action resulted in the abolishment of the Nuclear Engineer classification series (class codes 27761 through 27765).

The classification specification series was modified effective June 30, 2013 and announced in Bulletin OSER-0327-MRS/SC to reflect the removal of the Radon Functional Work Activities because they are no longer performed by the Division of Public Health. This series was also modified to reflect changes to the qualification language that better communicate the minimum qualifications that are required for positions within this series.

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