

## **CLASSIFICATION TITLE- SUB-TITLE**

Engineering Consultant - Building HVAC Systems – Senior

### **POSITION SUMMARY**

Under general supervision by the Technical Services Section Chief, examine, in an expedient manner, all plans, with an emphasis on the Energy, Mechanical and Fuel Gas codes, petitions for variance, and preliminary designs, which involve all buildings of than 3 stories or less in height and of non-fire resistive construction, to maintain minimum standards including but not limited to the design, construction, structural strength, quality of materials, adequate egress facilities, sanitary facilities, natural lighting and ventilation, Energy Conservation, HVAC systems, Fuel Gas systems, HVAC Appliances and fire safety for all public buildings and places of employment in accordance with the requirements of the Wisconsin Administrative Rules and adopted standards. Communicate with architects, engineers, designers, contractors, and owners. Review and analyze Petitions for Variance requests against the intent of the code and take appropriate action. Maintain up-to-date knowledge of current codes and design concepts for new buildings, and maintain an awareness of obsolete codes for application to older building renovations or additions. Provide consultation and high level training on the most complex technical applications of Energy, HVAC, and Fuel Gas code regulation issues. Conduct preliminary reviews and communicate code application for the specific project. Perform field investigations of buildings and structures as assigned. Study the codes, code commentaries, obsolete codes and related documents to maintain knowledge of the code and code intent. This position spends a significant amount of time providing technical support and plan review in these specialty areas. Perform other duties as assigned by management. (Statutory references includes: 101 and 145, and Administrative Rules: SPS 303, 305, 320-325, and 360-66)

### **GOALS AND WORKER ACTIVITIES**

- 55%    A.    Examination of architectural, structural, Energy, HVAC and Fuel Gas plans to ensure that minimum standards are maintained.
- A1.    Examine and interpret assigned plans, specifications and calculations including preliminary design reviews.
  - A2.    Determine compliance with the appropriate administrative codes and adopted standards.
  - A3.    Apply engineering principles and judgment to the review of assigned plans.
  - A4.    May begin, under close supervision, the review of new buildings, additions, alterations and changes of use of all types of construction and occupancies regardless of building size including HVAC review.
  - A5.    Determine if plans are to be Conditionally Approved, Withheld for Additional Information, or Denied in a uniform and consistent manner within the parameters and checklists established by the Division.
  - A6.    Enter all data into the Regulated Objects database and generate a letter of action setting forth the determined action and reasons for the action in a clear, concise and professional manner.
- 25%    B.    Communication with architects, engineers, designers, contractors, owners, and the general public.
- B1    Notify the designing architects, engineers, designers, contractors and/or owners by phone of plan submittal additional information needed or discrepancies needing resolution in order to complete a submittal. Try to resolve by phone, fax, e-mail or overnight mail so the review can proceed.
  - B2.    Notify architects, engineers, designers, contractors and/or owners of the plan review determination, including withholds for revised plans and additional fees, in writing and by telephone, explaining the action taken.
  - B3.    Make written and telephone follow-up inquiries to Additional Information requests for responses regarding the status of unresolved code requirements or problems.
  - B4.    Respond to telephone and written questions regarding plan submittal, fees and plan review actions for projects assigned or otherwise.
  - B5.    Consult with various code users including architects, engineers, designers, contractors, and/or owners on technical issues.
  - B6.    Discuss preliminary designs and options to achieve code compliance with submitters and provide a written report of code application for the specific project

- 10% C. Increase and maintain knowledge of Codes, Engineering Principles and Practices.
- C1. Maintain an extensive knowledge of the code.
  - C2. Maintain a working knowledge of obsolete codes and codes used by other sections in the Division and other State Agencies.
  - C3. Study and research the code, code commentary, code interpretations, material approvals and other materials as directed by the Section Chief.
  - C4. Attend lectures, conferences, conventions, training courses and seminars as directed in order to keep abreast of current technology in code and standard applications.
  - C5. Receive training in complex building, structural, HVAC, energy and fuel gas system methodology.
- 5% D. As assigned, analysis and preparation of petitions for variance in a manner similar to plan review per section A. and B., as well as:
- D1. Research model codes, petition history files, code interpretations, older codes, and scientific journals in the preparation of variances.
  - D2. Review plans and specifications related to variances.
  - D3. Apply architectural and engineering knowledge and principles to determine if the variance provides equivalent degrees of safety established by the code exercising broad discretion in the determination and consult with architects, engineers, owners and technical experts to determine acceptable equivalencies and conditions of approval.
  - D4. Draft written decisions and make recommendations on approval or denial of variances including conditions of approval which establish an equivalency to the rule being petitioned.
  - D5. Confer with the appropriate matrix chief on precedent-setting petitions.
  - D6. Inform owners of agency decisions on variances and answer questions regarding review actions and conditions.
- 5% E. Perform miscellaneous duties as assigned.
- E1. Perform field inspections of construction sites, buildings and structures to verify compliance with the code, approved plans and conditions of approval and potential causes of HVAC system failures applying engineering principles and practices. Write analytical reports
  - E2. Complete and process all required paperwork associated with field inspections, and discuss the results of the inspection with architects, engineers, designers, contractors, local code officials and owners.
  - E3. Develop training curriculum and publications. Provide training to code users.
  - E4. Participate in code development activities as a technical expert.
  - E5. Other duties and special projects, including quality / process improvement teams, as directed by the Section Chief.

### **JOB KNOWLEDGE, SKILLS AND ABILITIES**

1. Understanding of engineering principles and theories
2. Knowledge of WI statutes and administrative codes, related to assigned program
3. Ability to read and understand building schematics, plans and specifications
4. Professional approach to problem-solving and ability to resolve issues in a collegial and positive manner
5. Provide a high level of customer service and public relations
6. Decision making skills
7. Problem solving skills
8. Effective oral and written communication skills
9. Organization skills
10. Utilizing technology, such as a computer and appropriate software
11. Ability to work as a team

12. Extensive knowledge of the design of HVAC systems, heat and/or smoke detection relating to fire and smoke duct dampers, ducts and systems, kitchen exhaust hoods, and hazardous exhaust systems.
13. Extensive math skills and knowledge of computer modeling and design systems and their relationship to Energy Conservation and HVAC systems, including, but not limited to, the following design software: COMcheck, REScheck, and Heat Loss Calcs.
14. The person holding this position has or can obtain a Wisconsin Commercial Building Inspector Certification plus either a Wisconsin Designer of Engineering Systems, a Wisconsin Professional Engineer or a Wisconsin Registered Architect, or equivalent knowledge and experience.
15. Ability to interpret code for compliance.