



Classification: Mechanical Engineer	Position No. 3300-3583-xxx
CBID: R09	Office: Energy Systems Research Office
Date Prepared: April 06, 2018	Division: Energy Research and Development

KEY: (E) IS ESSENTIAL, (M) IS MARGINAL

Under the direction of the Energy Resources Specialist III (Supervisor), the incumbent serves as part of an interdisciplinary team to plan and implement the Energy Research and Development Division's (ERDD) Natural Gas Research Program. The goal of the ERDD Program is to conduct energy research, development and demonstration (RD&D) to advance science and technologies not adequately provided by the regulated and competitive markets. The incumbent will perform the mechanical engineering work required to assess new and emerging mechanical systems technologies that are key elements of the California's energy goals for the natural gas research program. The incumbent will work with an integrated team of engineers and scientists and provide mechanical systems expertise and technical advice as the team reviews new alternative natural gas power plant and substation designs and reviews technologies that improve the safety and integrity of natural gas pipeline system. The incumbent will develop or review the designs, plans and specifications for mechanical systems and provide technical expertise on the expected operation, performance, specifications, and design limitations of these systems. The incumbent is knowledgeable of mechanical engineering concepts, technologies, and practices; performs time-critical and subject matter-critical technical or market analyses to support public interest energy RD&D funding; manages complex RD&D projects; and consults with experts in the field.

WORKING CONDITIONS:

The work involves sitting, standing, and walking and is performed in an indoor office and meeting room setting and alternatively on-site or in-field at projects financially supported by the Commission. The candidate must work well with people inside and outside the Commission, including policy-makers and members of the general public. Travel is required to attend site inspections, workshops, hearings and meetings. Additional hours beyond an eight-hour workday or forty-hour workweek may be required. While performing the duties described below, the incumbent will be required to work alone and/or in a team environment, using a personal computer and appropriate Commission software such as word processing, electronic mail and Internet; participate in and lead meetings with other staff and with other agencies. The incumbent will also be required to use complex software tools to perform engineering analyses.

DUTIES AND RESPONSIBILITIES:

45% Technical/Engineering Assessments. The incumbent provides technical and engineering assessments and reviews of new and emerging mechanical systems technologies for demonstrations and research efforts to implement the California energy goals for the natural gas research program. The incumbent will read, analyze and interpret plans, drawings, specifications and other technical information for alternative power systems designs such new natural gas power plants, substations and natural gas pipeline systems. The incumbent will work with other team engineers and scientists to complete detailed mechanical system assessments of the new technologies to ensure the proposed new technologies meet or exceed identified mechanical design specifications. The incumbent will evaluate these technologies for their expected technical performance and their mechanical systems efficiency improvements as compared to existing systems. Depending on the technology being addressed, the incumbent performs the mechanical systems engineering evaluations and/or reviews of the mechanical design, material science assessments, thermal efficiency assessments and other technical reviews to ensure the mechanical systems perform as expected based on the approved design drawings and



engineering specifications. The incumbent will provide technical assistance to commission staff in analyzing engineering problems, in the preparation of integrated engineering studies, written reports and technical assessments. The incumbent will conduct field surveys, site visits and inspections of the mechanical systems that are part of ERDD-funded demonstrations to ensure field systems comply with mechanical system requirements and engineering specifications in ERDD contracts. (E)

- 20% Planning, Specifying and Estimating. The incumbent prepares research project plans, specifies research project tasks and estimates research budgets for research projects on mechanical system, including advanced natural gas power plant designs, and new and improved natural gas distributed generation technologies. The incumbent will analyze and evaluate research plans, specifications and estimates to meet various mechanical systems codes, safety orders and regulations governing the design and installation of equipment and apparatus, and other similar installations. (E)
- 20% Solicitation Management and Administration. The incumbent will review proposals to determine how well the project addresses the scope of the solicitation criteria including, but not limited to, the extent the project will advance mechanical engineering designs or technologies, provide a sound engineering basis, address market issues and needs, meet specified target goals and objectives; the skill and experience of the project team to carry out the technical tasks within budget and schedule; and the adequacy of project funding. The incumbent will evaluate and comment on the technical strength, qualifications, and expertise of proposing contractor teams, quality of the proposing contractor's plans and deliverables; and prepares written findings of such evaluations for use by a technical scoring committee. (E)
- 10% Outreach. The incumbent consults and maintains cooperative relations with stakeholders including research organizations; state, federal and local government and utility representatives; private developers and technical experts to identify research and development opportunities of alternative and advanced energy systems or technologies in California. The incumbent defines, develops and implements projects that provide significant public benefits to California and meet the policy and technical objectives of the ERDD Program. (E)
- 5% Other Duties. As required and consistent with the classification. (M)

SIGNATURES	
I Certify That I Am Able To Perform, With Or Without The Assistance Of A Reasonable Accommodation, The Essential Job Duties Of This Position	
<hr/> Incumbent Mechanical Engineer – Limited Term	<hr/> Supervisor Energy Resources Specialist III (Supervisor)
Date	Date