

**Title:** Electrical Engineer 1

**Job Number:**

**Job Family:** Engineering

**Grade:** 9

**Date Prepared:** 4-12-2019

**Exempt/Nonexempt:** Exempt

**Purpose and Scope:**

Perform a variety of electrical engineering assignments to support project requirements, development, design, installation, operations and maintenance of facility systems that are located at NASA's Kennedy Space Center, Florida. The specific types of facilities in which these systems are located include space flight hardware processing facilities, launch pad support facilities, Engineering and Administrative Support buildings and other types of industrial facilities. Projects range from simple single-discipline to complex multi-discipline.

**Essential Responsibilities:**

1. Must have a solid foundation in basic engineering principles.
2. Under some supervision, responsible for developing the concept, basis of design and technical design solutions to maintain operability of assigned systems and components.
3. Familiarity with National Electrical Code (NFPA 70), Standard for Electrical Safety in the Work Place (NFPA 70E), National Electric Safety Code and other applicable NFPA, IEEE and industry standards.
4. Design of low-voltage and medium-voltage electrical distribution systems and building services for various types of systems and components. The design includes preparing design drawings or sketches (single line diagrams, plans, wiring schematics, control schematic, schedules, etc.), technical specifications, power system analyses and Statements of Work.
5. Develop electrical design of lighting systems to meet client requirements.
6. Detailed design of electrical system physical layouts, power system phase and ground fault protection relays, lightning and switching protection, conduit and cable plans, substation ground grid design and analysis. Candidate must be capable of laying out equipment in limited space with innovative design concepts while making sure not to violate codes and standards.
7. Perform electrical systems design - including switchgear, switchboards, motor control centers, variable frequency drives, generators, transformers, distribution panels, and other electrical distribution system.
8. Coordinate with and support other Design Engineers, Operations and Maintenance staff.
9. Conduct site visits and experimental investigations, analyze engineering problems, propose solutions and alternatives, and provide recommendations. Maintains technical project responsibility for assigned tasks and advise management of progress.
10. Candidate must be generally familiar with current industry standards and requirements of energy efficiency and arc flash hazard analyses for the safety of personnel and protection of equipment from the unpredictable threat of arc hazard.
11. Perform field inspections of electrical systems and attend system start-up field activities.

12. Support the Configuration Management (CM) program to include the evaluation and monitoring of all modifications to configured systems and the generation of Engineering Change Requests to improve interoperability, reliability, and maintainability. Adhere to applicable CM standards.
13. Ensure that assigned projects are completed on time and within approved scope and budget.
14. Interface and coordinate with internal and external customers from project initiation and requirements development to design review and working group meetings in order to ensure compliance with project requirements.
15. Apply cost effective repairs, upgrades or replacements.
16. Provides technical support to ROM (Rough Order of Magnitude) estimates for projects, as well as risk assessments to support proper project prioritization.
17. Provide technical support to project task plan development and implementation.
18. Participate in System Health and Readiness Program (SHARP) team activities.
19. Prepare, deliver and submit technical presentations in support of planning efforts.
20. Verify and comply with engineering documentation standards and test procedures.
21. Perform other position related duties as assigned.

**Minimum Position Knowledge, Skills, and Abilities Required:**

1. Bachelors of Science degree in Electrical Engineering and 0-1 years of experience in the areas defined in this job posting. It is preferred, but not required, to have taken and passed the Fundamental of Engineering (FE) exam.
2. Working knowledge of computer systems and integrated software application programs. It is preferred, but not required, to be proficient with SKM and ETAP electrical system modeling software.
3. The ability to investigate, troubleshoot, and design solutions to problems in operational hardware and software.
4. Good communication and analytical skills.
5. May require travel.
6. May require the ability to pass and maintain a Security Clearance.

**Work Environment, Physical Demands, and Mental Demands:**

This position involves work typical of an office environment with no unusual hazards; occasional lifting to 20 pounds; constant sitting with use of computer terminal; constant use of sight abilities while reviewing documents; constant use of speech/hearing abilities for communication; constant mental alertness; must possess planning/organizing skills and must be able to work under deadlines. Field work will consist primarily of site walk downs in support of design projects and system trouble shooting, site hazard training and Personal Protective Equipment are provided.