MIST POSITION DESCRIPTIONS

1. **Chief Engineer**
2. **Senior Project Staff Engineer**
3. **Senior Materials Engineer**
4. **Materials Engineer**
5. **Junior Material Engineer**
6. **Senior Structural Dynamics Engineer**
7. **Structural Dynamics Engineer**
8. **Junior Structural Dynamics Engineer**
9. **Senior Stress Analysis Engineer**
10. **Stress Analysis Engineer**
11. **Senior Mechanical Engineer**
12. **Mechanical Engineer**
13. **Junior Mechanical Engineer**
14. **Senior Mechanical Systems Engineer**
15. **Mechanical Systems Engineer**
16. **Senior Mechanical Designer**
17. **Mechanical Designer**
18. **Junior Mechanical Designer**
19. **Senior Mechanical Technician**
20. **Mechanical Technician**
21. **Senior Electrical Engineer**
22. **Electrical Engineer (Analog Electronics)**
23. **Electrical Engineer (Digital Electronics)**
24. **Junior Electrical Engineer**
25. **Senior Electronic Technician**
26. **Electronic Technician**
27. **Senior Electromechanical Systems Engineer**
28. **Electromechanical Systems Engineer**
29. **Senior Thermal Engineer**
30. **Thermal Engineer**
31. **Junior Thermal Engineer**
32. **Senior Thermal Development Engineer**
33. **Thermal Development Engineer**
34. **Senior Contamination Engineer**
35. **Contamination Engineer**
36. **Junior Contamination Engineer**
37. **Senior Thermal Coatings Engineer**
38. **Thermal Coatings Engineer**
39. **Senior Manufacturing Engineer**
40. **Manufacturing Engineer**
41. **Senior Test and Integration Engineer**
42. **Test and Integration Engineer**
43. **Senior Test and Integration Technician**

MIST POSITION DESCRIPTIONS

44. Test and Integration Technician
45. Senior Optical Analyst
46. Optical Analyst
47. Senior Electro-Optical Engineer
48. Electro-Optical Engineer
49. Senior Cryogenics Engineer
50. Cryogenics Engineer
51. Systems Engineer
52. Senior Systems Analyst
53. Systems Analyst
54. Engineering Analysis Technician
55. Engineering Technical Writer
56. Technical Typist
57. Senior Product Assurance Engineer
58. Product Assurance Engineer
59. Senior Quality Assurance Specialist
60. Quality Assurance Specialist
61. Flight Software Engineer
62. Software Engineer
63. Computer Systems Engineer

MIST POSITION DESCRIPTIONS

1. Chief Engineer

Scope: The Chief engineer is a world-renowned expert in his/her primary field of expertise.

Responsibilities: Supports complex and/or technologically challenging tasks including providing leadership in the generation the Task Plan and Work Control Plan, providing guidance during the task implementation, conducting technology assessments and making recommendations for technology insertions, making trade study assessments, and recommendations, supporting CDR and PDR, and reviewing deliverables, providing technical consultation advice to Task Managers regarding design issues, development and test approaches, and test result assessments. He/she leads teams established by the Program Manager to conduct investigations of programmatic or task-level problems and to make recommendations for recovery plans; provides recommendations regarding Mission Assurance-Program Implementation considerations; and provides world-renowned expertise in space and/or ground hardware and/or software systems for analysis, design, development, integration, test, validation, and orbital operations.

Position Qualifications: This position requires a minimum of twenty [20] years of space and/or ground system design and development experience, including at least ten [10] years of experience analyzing system and performance requirements. Individual should have an extensive knowledge in the development and/or implementation of space ground hardware and/or software systems. A Bachelor of Science degree or equivalent education /experience in engineering, mathematics, or physical science is required.

2. Senior Project Staff Engineer

Scope: Manages and directs individual engineering tasks to meet the technical requirements of the contract.

Responsibilities: Develops task plans, budgets and schedules from a set of technical task requirements provided by the contracting officer and/or the contracting officer's representative. Manages engineer and designer teams to address specific tasks. Provides guidance and direction in development and maintenance budgets and schedules. Serves as technical expert advisor, providing the technical approach to resolving task challenges and/or problems.

Position Qualifications: This position requires a minimum of fifteen [15] years of experience in the aerospace industry with specific demonstrated technical expertise in relevant analytical areas such as structures, thermal, or electromechanical systems. Technical team leadership experience and spacecraft project review experience is required. A Bachelor of Science degree or equivalent education /experience in engineering, mathematics, or physical science is required.

3. Senior Materials Engineer

Scope: Directs, plans and implements comprehensive Materials and Processes Programs in accordance with the specific task assignments.

MIST POSITION DESCRIPTIONS

Responsibilities: Ensures the safety and success of the mission by the appropriate selection, processing, inspection, and testing of the materials employed to the operational requirement of the application. Provides direction and guidance to lower level Materials Engineers. Generates and maintains materials lists per the requirements of the task. Issues Material Usage Agreements for government approval, when applicable.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the aerospace industry with demonstrated technical expertise in materials engineering. A Bachelor of Science degree in materials engineering, physical sciences or related field is required.

4. Materials Engineer

Scope: Plans and implements a comprehensive Materials and Processes Program in accordance with the specific task assignment.

Responsibilities: Ensures the safety and success of the mission by the appropriate selection, processing, inspection, and testing of the materials employed to the operational requirement of the application Generates and maintains materials lists per the requirements of the task, with minimal guidance from a Senior Materials Engineer. Issues Material Usage Agreements for government approval, when applicable.

Position Qualifications: This position requires a minimum of five [5] years of experience in the aerospace industry with demonstrated technical expertise in materials engineering. A Bachelor of Science degree in materials engineering, physical sciences or related field is required.

5. Junior Materials Engineer

Scope: Plans and implements a comprehensive Materials and Processes Program in accordance with the specific task assignment.

Responsibilities: Under the direction of a Senior Materials Engineer, ensures the safety and success of the mission by the appropriate selection, processing, inspection, and testing of the materials employed to the operational requirement of the application Generates and maintains materials lists per the requirements of the task. Issues Material Usage Agreements for government approval, when applicable.

Position Qualifications: This position requires some knowledge of the aerospace industry and materials engineering. A Bachelor of Science degree in materials engineering, physical sciences or related field is required.

6. Senior Structural Dynamics Engineer

Scope: Directs or performs analyses focused on evaluating spacecraft structural designs in the areas of static and dynamic response to flight environments.

MIST POSITION DESCRIPTIONS

Responsibilities: Provides leadership in developing new analytical tools in response to task requirements. Supports the development of structural designs. Analyzes and evaluates structural performance to show that specified requirements are satisfied. Supports testing of structural designs. Provides direction and guidance to lower level Structural Analysis Engineers.

Position Qualifications: This position requires a minimum of ten [10] years in the analysis and design of aerospace structures. This experience is to include the analysis and test of aerospace subsystems and components when subjected to static, transient/ steady state dynamic, shock, and random vibration loads. Extensive experience with finite element and numerical analysis techniques in general and the NASTRAN analysis program in particular, is required. Familiarity with vibroacoustic analysis and testing is desired. Technical team leadership experience is also desired. A Bachelor of Science degree in engineering, mathematics, or physics is required.

7. Structural Dynamics Engineer

Scope: Directs or performs analyses directed toward evaluating spacecraft structural designs in the areas of static and dynamic response to flight environments.

Responsibilities: Develops new analytical tools in response to task requirements. Under the guidance of a Senior Structural Analysis Engineer as needed, supports the development of structural designs. Analyzes and evaluates structural performance to show that specified requirements are satisfied. Supports testing of structural designs. Provides guidance to lower level Structural Analysis Engineers.

Position Qualifications: This position requires a minimum of five [5] years of experience in structural analysis, development of analytical techniques, and computer simulation of aerospace hardware. This experience is to include the analysis and test of aerospace subsystems and components when subjected to static, transient/steady state, dynamic, shock, and random vibration loads. Experience with the NASTRAN analysis program. A Bachelor of Science degree in engineering, mathematics, or physics is required.

8. Junior Structural Dynamics Engineer

Scope: Performs analyses directed toward evaluating spacecraft structural designs in the areas of static and dynamic response to flight environments.

Responsibilities: Under the direction of a Senior Structural Analysis Engineer, supports the development of structural designs. Analyzes and evaluates structural performance to show that specified requirements are satisfied. Supports testing of structural designs.

Position Qualifications: This position requires some knowledge of structural analysis, development of analytical techniques, and computer simulation of aerospace hardware. This knowledge is to include the static, transient/steady state, dynamic, shock, and random vibration loads analysis and tests. A Bachelor of Science degree in engineering, mathematics, or physics is required.

MIST POSITION DESCRIPTIONS

9. Senior Stress Analysis Engineer

Scope: Directs or performs analyses directed toward evaluating structural designs and predicting the stresses and detailed stress distributions in spacecraft structural members.

Responsibilities: Provides leadership in developing new analytical tools in response to task requirements. Under the direction of the Senior Project Staff Engineer, supports the development of structural designs. Analyzes and evaluates structural strength to show that specified requirements are satisfied. Supports testing of structural designs. Provides direction and guidance to lower level Stress Analysis Engineer.

Position Qualifications: This position requires a minimum of ten [10] years of directly related experience in stress analysis. This experience must include a broad knowledge of materials and material properties and specific background with aerospace hardware. This must include extensive experience in stress analysis and testing as well as fracture mechanics analysis. Experience in using the NASTRAN analysis program is required. Technical team leadership experience is desired. A Bachelor of Science degree in engineering, mathematics, or physics is required.

10. Stress Analysis Engineer

Scope: Directs or performs analyses directed toward evaluating structural designs and predicting the stresses and detailed stress distributions in spacecraft structural members.

Responsibilities: Develops new analytical tools in response to task requirements. Under the direction of a Senior Stress Analysis Engineer, supports the development of structural designs. Analyzes and evaluates structural strength to show that specified requirements are satisfied. Supports testing of structural designs. Provides direction and guidance to lower level Stress Analysis Engineers.

Position Qualifications: This position requires a minimum of five [5] years of experience in the analysis of structures and broad knowledge of material properties and structural analysis techniques. This must include some experience in stress analysis and testing as well as fracture mechanics analysis. Familiarity with the NASTRAN analyses program and engineering drawings systems is required. A Bachelor of Science degree in engineering, mathematics, or physics is required.

11. Senior Mechanical Engineer

Scope: Develops, directs and/or performs the design, analysis, and testing of mechanical systems to meet all requirements.

Responsibilities: Supports the development of structural designs. Supports the conception, analysis, design, fabrication, integration, testing, deployment, maintenance, and certification of

mechanical systems, mechanisms, and related ground support and test equipment Tasks may include, but are not limited to: math modeling, dynamic analyses, static strength analyses, mass properties calculations, test hardware set-up, and conceptual designs. Performs interface definition, examines designs for proper form, fit, and function. Develops test plans and procedures, and assists in the reduction/analysis of test data.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the generation of math models and the computer analysis of engineering problems. The individual must either have the equivalent of a Bachelor of Science degree in engineering, mathematics, or physics, or be within 6 semester hours of completing the degree requirements and anticipate receiving the degree within 12 months.

12. Mechanical Engineer

Scope: Develops and/or performs the design, analysis, and testing of mechanical systems to meet all requirements, under the guidance of senior level engineer.

Responsibilities: Under the direction or guidance of a Senior Mechanical Engineer, supports the development of structural designs. Supports the conception, analysis, design, fabrication, integration, testing, deployment, maintenance, and certification of mechanical systems, mechanisms, and related ground support and test equipment Tasks may include, but are not limited to: math modeling, dynamic analyses, static strength analyses, mass properties calculations, test hardware set-up, and conceptual designs. Performs interface definition, examines designs for proper form, fit, and function. Develops test plans and procedures, and assists in the reduction/analysis of test data.

Position Qualifications: This position requires a minimum of five [5] years of experience in the generation of math models and the computer analysis of engineering problems. The individual must either have the equivalent of a Bachelor of Science degree in engineering, mathematics, or physics, or be within 6 semester hours of completing the degree requirements and anticipate receiving the degree within 12 months.

13. Junior Mechanical Engineer

Scope: Performs rudimentary mechanical engineering tasks in support of senior level engineers.

Responsibilities: Under the direction of a Senior or mid-level Mechanical Engineer, supports the development of structural designs. Tasks may include, but are not limited to: math modeling, dynamic analyses, static strength analyses, mass properties calculations, test hardware set-up, and conceptual designs. Performs interface definition, examines designs for proper form, fit, and function. Develops test plans and procedures, and assists in the reduction/analysis of test data.

Position Qualifications: This position requires some knowledge of the generation of math models and the computer analysis of engineering problems. The individual must either have the equivalent of a Bachelor of Science degree in engineering, mathematics, or physics, or be within

6 semester hours of completing the degree requirements and anticipate receiving the degree within 12 months.

14. Senior Mechanical Systems Engineer

Scope: Directs or performs the integration of the design, analysis, and testing functions to achieve the development of spacecraft mechanical systems which meet all requirements.

Responsibilities: Provides leadership in the development of hardware designs which meet specified requirements. Performs or directs mechanical engineering tasks to assure proper form, fit and function. Assures design suitability for fabrication, mass property control, material suitability, interface definition. Develops and implements test plans and procedures. Provides direction and guidance to lower level Mechanical Systems Engineers.

Position Qualifications: This position requires a minimum of ten [10] years of experience with the design and testing of aerospace hardware. This experience must include specific aerospace project related design and analysis tasks associated with the development of spacecraft mechanical systems, and subsystems. Technical team leadership is desired. A Bachelor of Science in engineering, mathematics, or physics is required.

15. Mechanical Systems Engineer

Scope: Directs or performs the integration of the design, analysis, and testing functions to achieve the development of spacecraft mechanical systems which meet all requirements.

Responsibilities: Under the direction of the Senior Mechanical Systems Engineer, supports the development of hardware designs which meet specified requirements. Performs or directs mechanical engineering tasks to assure proper form, fit and function. Assures design suitability for fabrication, mass property control, material suitability, interface definition. Develops and implements test plans and procedures.

Position Qualifications: This position requires a minimum of five [5] years of experience associated with the analysis, design, testing, and optical alignment of aerospace hardware. This experience must include specific aerospace project related engineering tasks associated with the development of spacecraft mechanical subsystems. A Bachelor of Science degree in engineering, mathematics, or physics is required.

16. Senior Mechanical Designer

Scope: Conceives design concepts for spacecraft mechanical/structural systems and translates the concepts into mechanical and/or fabrication drawings.

Responsibilities: Provides leadership in the development of spacecraft mechanical/structural designs. Under the direction of a Senior Mechanical Systems Engineer, directs or performs geometrical layout studies, sizing calculations, and generates mechanical drawings representing

designs that satisfy all requirements. Provides direction to lower level Mechanical Designers.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the design and development of aerospace hardware. This background must include specific spacecraft hardware design experience and detailed knowledge of current aerospace design practices and hardware. Extensive knowledge of GSFC Engineering Drawing Requirements Manual, 500-PG-8700.2.5C and Dimensioning and Tolerancing per ASME Y14.5M is required.

17. Mechanical Designer

Scope: Conceives design concepts for spacecraft mechanical/structural systems and translates the concepts into mechanical and/or fabrication drawings.

Responsibilities: Under the direction of a Senior Mechanical Designer, directs or performs geometrical layout studies, sizing calculations, and generates mechanical drawings representing designs that satisfy all requirements. Provides direction to lower level Mechanical Designers.

Position Qualifications: This position requires a minimum of five [5] years of experience in the design of aerospace or related hardware. This background must include Specific design experience with layout or piece part drawings. Extensive knowledge of GSFC Engineering Drawing Requirements Manual, 500-PG-8700.2.5C and Dimensioning and Tolerancing per ASME Y14.5M is required.

18. Junior Mechanical Designer

Scope: Conceives design concepts for spacecraft mechanical/structural elements and translates the concepts into mechanical and/or fabrication drawings.

Responsibilities: Under the direction of a Senior or mid-level Mechanical Designer, directs or performs geometrical layout studies, sizing calculations, and generates mechanical drawings representing designs that satisfy all requirements.

Position Qualifications: This position requires a minimum of one [1] year of experience in the design of aerospace or related hardware. This background must include specific design experience with layout or piece part drawings. Some knowledge of GSFC Engineering Drawing Requirements Manual, 500-PG-8700.2.5C and Dimensioning and Tolerancing per ASME Y14.5M is required.

19. Senior Mechanical Technician

Scope: Performs mechanical fabrication and assembly of flight and ground support hardware.

Responsibilities: Sets up and operates machines such as lathes, milling machines, shapers, jig bores, brakes, shears, and heavy duty presses. Cuts, bends, align, and forms metal plates, sheets, and structural shapes as specified by engineering drawings, layouts, and templates. Read

engineering drawings for product specifications such as dimensions and tolerances, and tooling instructions. May be required to operate grinder, spot welder, and other machine tools. Assemble hardware as specified by engineering drawings. Assist in the performance of mechanical tests.

Position Qualifications: This position requires a minimum of ten [10] years of machine shop experience is required of which a minimum of 5 years shall be in the fabrication and assembly of aerospace flight hardware. Ability to work from sketches and drawings.

20. Mechanical Technician

Scope: Performs mechanical fabrication and assembly of flight and ground support hardware.

Responsibilities: Under the direction or guidance of a Senior Mechanical Technician, sets up and operates machines such as lathes, milling machines, shapers, jig bores, brakes, shears, and heavy duty presses. Cut, bend, align, and form metal plates, sheets, and structural shapes as specified by engineering drawings, layouts, and templates. Read engineering drawings for product specifications such as dimensions and tolerances, and tooling instructions. May be required to operate grinder, spot welder, and other machine tools. Assemble hardware as specified by engineering drawings. Assist in the performance of mechanical tests.

Position Qualifications: Five [5] years of machine shop experience is required of which a minimum of one [1] years shall be in the fabrication and assembly of aerospace flight hardware. Ability to perform with minimal supervision and ability to work from sketches and drawings.

21. Senior Electrical Engineer

Scope: Directs or performs analysis, design, modeling, simulation, instrumentation, fabrication, test and integration of electrical Systems for ground support and space borne applications including magnetic, electromagnetic and electronic components and subsystems.

Responsibilities: Interprets system level requirements as they apply to the development of electrical systems and components, identifies design alternatives and performs trade-off studies, error budget, sensitivity, reliability, failure mode and worst case analysis to determine the optimum approach for the design, and to predict performance of the system for the expected operational and environmental conditions. Support the development of models that describe the behavior and performance of the actuators and sensors, together with the associated controller, drive, command and telemetry electronics that are required for the analysis and design of the control system. Designs or performs test sequences to measure and characterize the performance of electrical components and systems, and, subsequently, analyzes and interprets the test results and prepares summary reports.

Qualifications: This position requires a minimum of ten [10] years of experience in the analysis, design and development of electrical and electronic systems for space borne applications including hands-on work in the fabrication, ground test and integration and on-orbit operation of flight hardware. Experience the analysis, design and test of analog and digital

circuitry for the measurement and control of thermal and electromechanical systems using continuous or sampled data techniques, including the use of field programmable gate arrays, software development and hardware interfacing in microprocessor based systems. Experience in analysis and design of control systems, the operation and interfacing to the spacecraft's command and telemetry and power subsystems, sensors and actuators, experience in the design of electronic instrumentation systems from the standpoint of grounding, shielding and Electromagnetic Compatibility (EMC), component de-ratings, performance limitations and the effects of cosmic radiation, and the modeling and management of the thermal effects that result from the power dissipation in electrical components. Experience in the use of electronic instrumentation and test equipment and of computer aided analysis, design and simulation tools such as PSpice™, OrCAD™, ELECTRO™, MAGNETO™, COULOMB™, and AMPERE™. Strong computer skills (Excel, Word, PowerPoint and other technical software) and excellent communication/interpersonal skills are required. A Bachelor of Science degree in Engineering, physics or mathematics is required.

22. Electrical Engineer (Analog Electronics)

Scope: Performs the analysis, design, modeling, simulation, fabrication, test and integration of electronic components and systems for ground support and space borne applications with emphasis in the area of analog circuit design.

Responsibilities: Performs trade-off studies, noise, sensitivity, reliability, failure mode and worst- case performance analysis to design and optimize electronic circuits and systems to meet the functional specifications and perform over the expected range of environmental conditions. Support the development of models that describe the behavior and performance of the actuators and sensors, together with the sensor signal conditioning, and the actuator drive and control electronics. Designs or performs test sequences to measure and characterize the performance of electronic components and systems, and subsequently analyzes and interprets the test results and prepares summary reports.

Qualifications: This position requires a minimum of 5 years of experience with emphasis in the analysis, design and development of circuits for analog signal processing and power electronics as they apply to the measurement and control of space borne thermal and electromechanical systems. Experience should include the design of precision, low noise electronics including analog-to digital and digital to analog conversion circuitry. Must be an expert in the use of electronic test equipment and of computer tools such as PSpice™ and OrCAD™ for the design and analysis of analog circuits. Knowledge of digital logic circuit design, microprocessors, feedback systems, sensors and actuators, and the operation and interfacing to the spacecraft's command and telemetry and power subsystems is required. Experience must also include hands-on work in the fabrication, testing, integration and on-orbit operation of flight electronic hardware. A Bachelor of Science degree in engineering, physics or mathematics is required.

23. Electrical Engineer (Digital Electronics)

MIST POSITION DESCRIPTIONS

Scope: Performs the analysis, design, modeling, simulation, fabrication, test and integration of electronic components and systems for ground support and space borne applications with emphasis in the area of digital, Field Programmable Gate Array (FPGA) and microprocessor based electronics design.

Responsibilities: Performs hardware and software trade-off studies, timing, reliability, failure mode and worst case analysis to determine and optimize digital electronic circuits and systems to meet the functional specifications and perform over the expected range of environmental conditions. Support the development of models that describe the behavior and performance of the actuators and sensors, together with the associated command, telemetry and control electronics. Designs or performs test sequences to measure and characterize the performance of electronic components and systems, and subsequently analyzes and interprets the test results and prepares summary reports.

Qualifications: This position requires a minimum of five [5] years of experience with emphasis in the analysis, design and development of digital and microprocessor based electronic systems as they apply to the measurement and control of space borne thermal and electromechanical systems. Experience should include the design, simulation, development and testing of microprocessor code for processing digital data in real time. Must be an expert in the use of electronic test equipment and of computer tools such as OrCAD™, FPGA Design, and VHDL/Verilog for the design and analysis of digital circuits. Knowledge of analog circuit design including analog to digital conversion (ADC) and digital to analog conversion (DAC) circuitry, feedback systems, sensors and actuators, and the operation and interfacing to the spacecraft's command and telemetry and power subsystems is required. Experience must also include hands-on work in the fabrication, testing, integration and on-orbit operation of flight electronic hardware. A Bachelor of Science degree in engineering, physics or mathematics is required.

24. Junior Electrical Engineer

Scope: Performs analysis, design, modeling, simulation, instrumentation, fabrication, test and integration of electrical Systems for ground support and space borne applications including magnetic, electromagnetic and electronic components and subsystems.

Responsibilities: Under the direction of a Senior Electrical Engineer, interprets system level requirements as they apply to the development of electrical systems and components, identifies design alternatives and performs trade-off studies, error budget, sensitivity, reliability, failure mode and worst case analysis to determine the optimum approach for the design, and to predict performance of the system for the expected operational and environmental conditions. Support the development of models that describe the behavior and performance of the actuators and sensors, together with the associated controller, drive, command and telemetry electronics that are required for the analysis and design of the control system. Designs or performs test sequences to measure and characterize the performance of electrical components and systems, and, subsequently, analyzes and interprets the test results and prepares summary reports.

MIST POSITION DESCRIPTIONS

Qualifications: This position requires some knowledge of analysis, design and development of electrical and electronic systems for space borne applications including hands-on work in the fabrication, ground test and integration and on-orbit operation of flight hardware. Exposure to analysis, design and test of analog and digital circuitry for the measurement and control of thermal and electromechanical systems using continuous or sampled data techniques, including the use of field programmable gate arrays, software development and hardware interfacing in microprocessor based systems. Exposure to analysis and design of control systems, the operation and interfacing to the spacecraft's command and telemetry and power subsystems, sensors and actuators, experience in the design of electronic instrumentation systems from the standpoint of grounding, shielding and Electromagnetic Compatibility (EMC), component de-ratings, performance limitations and the effects of cosmic radiation, and the modeling and management of the thermal effects that result from the power dissipation in electrical components. Experience in the use of electronic instrumentation and test equipment and of computer aided analysis, design and simulation tools such as PSpice™, OrCAD™, ELECTRO™, MAGNETO™, COULOMB™, and AMPERE™. Strong computer skills (Excel, Word, PowerPoint and other technical software) and excellent communication/interpersonal skills are required. A Bachelor of Science degree in Engineering, physics or mathematics is required.

25. Senior Electronic Technician

Scope: Applies electronic theory, principles of electrical circuits, electrical testing procedures, engineering mathematics, physics, etc. to layout, build, test, troubleshoot, repair, and modify system components and the equipment to test the components.

Responsibilities: Discusses the layout and assembly problems with electronic engineers and draw sketches to clarify design details and functional criteria of electronic units. Recommends changes in circuitry or installation specifications to simplify assembly and maintenance. Assembles circuitry using engineering instruction, technical manuals, along with knowledge of electronic systems and components and their functions. Sets up-standard test apparatus or conceive test equipment and circuitry, and conduct function, operational, environmental and life test to evaluate the performance and reliability of prototype or production models. Analyzes and interprets test data. Adjusts, calibrates, aligns, and modifies circuitry and components and record unit performance. Wires chassis, harness, consoles, racks, and PC boards from wire lists, schematics, logic diagrams; cuts wire in specified lengths using wire cutters and measuring jig; strips insulation from wire ends using stripping tool; solders wires to specified plugs and terminals; performs layout and fabrication of printed circuit boards.

Position Qualifications: This position requires someone who has graduated from a technical school with three [3] years of experience in aerospace flight/ground support equipment assembly and evaluation. Experience in the design and testing of analog and digital electronic circuit using discrete and integrated circuit technology. Basic knowledge of prototype board layout and build procedures, and ability to read and interpret electrical schematics. Must be familiar with and certified to the requirements of NASA-STD 8739.3.

26. Electronic Technician

MIST POSITION DESCRIPTIONS

Scope: Applies electronic theory, principles of electrical circuits, electrical testing procedures, engineering mathematics, physics, etc. to layout, build, test, troubleshoot, repair, and modify system components and the equipment to test the components.

Responsibilities: Discusses the layout and assembly problems with electronic engineers and draw sketches to clarify design details and functional criteria of electronic units. Recommends changes in circuitry or installation specifications to simplify assembly and maintenance. Assembles circuitry using engineering instruction, technical manuals, and knowledge of electronic systems and components and their functions. Set up-standard test apparatus or conceive test equipment and circuitry, and conduct function, operational, environmental and life test to evaluate the performance and reliability of prototype or production models. Analyzes and interprets test data. Adjusts, calibrates, aligns, and modifies circuitry and components and record unit performance. Wires chassis, harness, consoles, racks, and PC boards from wire lists, schematics, logic diagrams; cuts wire in specified lengths using wire cutters and measuring jig; strips insulation from wire ends using stripping tool; solders wires to specified plugs and terminals; performs layout and fabrication of printed circuit boards.

Position Qualifications: This position requires a technical school graduate with 3 years of experience in aerospace flight/ground support equipment assembly and evaluation. Experience in the design and testing of analog and digital electronic circuit using discrete and integrated circuit technology. Basic knowledge of prototype board layout and build procedures, and ability to read and interpret electrical schematics. Must be familiar with and certified to the requirements of NASA-STD 8739.3.

27. Senior Electromechanical Systems Engineer

Scope: Directs and performs conceptual and detailed analytical studies for the design, optimization, modeling, simulation, instrumentation and performance verification of electronic, and electromechanical control systems.

Responsibilities: Provides the technical expertise to perform and direct the analysis, design, modeling, simulation and specification of electromechanical systems in response to task requirements. This includes the selection and modeling of actuators and sensors for feedback control systems, the use of classical and modern control techniques in the analysis and design of linear and non-linear feedback systems, an understanding of how to use test data and simulation results to verify system performance, extract model parameters, estimate margins and sensitivities to parameter variations, and predict performance in the disturbance environment of on-orbit operation.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the analysis and design of space flight electromechanical Systems. This experience should include hands-on work with flight hardware at all stages of development, design, build, test, qualification, and on-orbit operation. Emphasis should be placed on an understanding of control/structure interaction, and performance in the presence of jitter. This position also requires

expertise in the modeling of mechanical, electronic, and electromechanical control systems using tools such as Matlab ™. Strong computer skills (Excel, Word, PowerPoint and other technical software) and excellent communication/interpersonal skills are required. A Bachelor of Science degree in engineering, mathematics or physics is required.

28. Electromechanical Systems Engineer

Scope: Performs conceptual and detailed analytical studies for the design, optimization, modeling, simulation, instrumentation and performance verification of electronic, and electromechanical control systems.

Responsibilities: Provides the technical expertise to perform the analysis, design, modeling, simulation and specification of control systems in response to task requirements. This includes the selection and modeling of actuators and sensors for feedback control systems, the use of classical and modem control techniques in the analysis of linear and nonlinear feedback systems, an understanding of how to use test data and simulation results to verify system performance, extract model parameters, estimate margins and sensitivities to parameter\variations, and predict performance in the disturbance environment of on-orbit operation.

Position Qualifications: This position requires a minimum of five [5] years of experience in the analysis and design of space flight control systems. Emphasis should be placed on an understanding of control structure interaction and performance in the presence of jitter, and hands-on experience in the modeling of mechanical, electronic, and electromechanical control systems using tools such as Matlab ™. A Bachelor of Science degree in engineering, mathematics or physics is required.

29. Senior Thermal Engineer

Scope: Directs or performs analyses directed toward evaluating thermal designs and predicting the temperatures and detailed temperature distributions in spacecraft and instruments (including cryogenic applications).

Responsibilities: Provides leadership in developing new thermal models in response to task requirements. Under the direction of the Senior Project Staff Engineer, supports the development of thermal designs. Analyzes and evaluates temperatures and power requirements to show that specified thermal requirements are satisfied. Provides direction and guidance to lower level Thermal Analysis Engineers.

Position Qualifications: This position requires a minimum of ten [10] years of experience in thermal design and thermal analysis. This experience must include conceptual thermal designs, development of thermal analytical models and thermal analyses of spacecraft and instruments for ELV and ISS missions. Extensive experience with thermal computer programs like Thermal Desktop and/or TSS/SINDA™ and is required. Technical team leadership experience is desired. A Bachelor of Science degree in engineering, mathematics, or physics is required.

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30. Thermal Engineer

Scope: Directs or performs analyses directed toward evaluating thermal designs and predicting the temperatures and detailed temperature distributions in spacecraft and instruments (including cryogenic applications).

Responsibilities: Develops new thermal models in response to task requirements. Under the direction of the Senior Thermal Engineer, supports the development of thermal designs. Analyzes and evaluates temperatures and power requirements to show that specified requirements are satisfied. Provides guidance to lower level Thermal Analysis Engineers.

Position Qualifications: This position requires a minimum of five [5] years of experience in thermal design and thermal analysis. This experience should include development of thermal analytical models and thermal analyses of spacecraft and instruments for ELV and/ or ISS missions. Extensive experience with thermal computer programs like Thermal Desktop and/or TSS/SINDA™ is required. A Bachelor of Science degree in engineering, mathematics, or physics is required.

31. Junior Thermal Engineer

Scope: Performs analyses directed toward evaluating thermal designs and predicting the temperatures and detailed temperature distributions in spacecraft and instruments.

Responsibilities: Under the direction of a Senior Thermal Engineer, supports the development of thermal designs. Analyzes and evaluates temperatures and power requirements to show that specified requirements are satisfied.

Position Qualifications: This position requires some experience in thermal design and thermal analysis. Some experience in the use of thermal computer programs like Thermal Desktop and/or TSS/SINDA™ is required. A Bachelor of Science in engineering, mathematics, or physics is required.

32. Senior Thermal Development Engineer

Scope: Directs or develops designs and/or analysis directed towards developing advanced thermal control technologies.

Responsibilities: Develops advanced thermal control hardware and software in response to task requirements. Supports advanced thermal control technology development. Quantifies requirements, develops appropriate design and/or analytical solutions, and conducts tests. Provides guidance and direction to lower level advanced development engineers.

Position Qualifications: This position requires a minimum of ten [10] years of experience in thermal design and analysis. This experience must include detailed hardware design, development and use of analytical tools, test experience, and some exposure to flight hardware.

MIST POSITION DESCRIPTIONS

Knowledge of heat pipes, capillary pumped loops, heat pumps, and similar thermal control devices are highly desired. A Bachelor of Science degree in engineering, mathematics or physics is required.

33. Thermal Development Engineer

Scope: Develops designs and/or analysis directed towards developing advanced thermal control technologies.

Responsibilities: Develops advanced thermal control hardware and software in response to task requirements. Supports advanced thermal control technology development. Quantifies requirements, develops appropriate design and/or analytical solutions, and conducts tests. Provides guidance and direction to lower level advanced development engineers.

Position Qualifications: This position requires a minimum of three [3] years of experience in thermal design and analysis. This experience must include detailed hardware design, development and use of analytical tools, test experience, and some exposure to flight hardware. Knowledge of heat pipes, capillary pumped loops, heat pumps, and similar thermal control devices are highly desired. A Bachelor of Science degree in engineering, mathematics or physics is required.

34. Senior Contamination Engineer

Scope: Directs or performs analyses directed toward predicting contamination depositions. Develops contamination control plans. Monitors, reviews, and evaluates overall contamination control management implementation and development.

Responsibilities: Reviews contamination control requirements, performs detailed contamination analyses, develops contamination control plans, and implements contamination control plans. Develops new analytical tools in response to task requirements. Provides direction and guidance to lower level Contamination Engineers.

Position Qualifications: This position requires a minimum of three [3] years of experience in contamination management and contamination analyses. This experience must include contamination control requirement development, detailed environmental analyses, and contamination impact assessment. Experience with SPACE II, FEMAP, TRASYS and contamination programs such as CAP, MOLFLUX, ISEM, and DSMC is required. Experience with PYTHON and PRO-E is desired. A Bachelor of Science degree or equivalent education /experience in engineering, mathematics, chemistry, material science, or physics is required.

35. Contamination Engineer

Scope: Directs or performs analyses directed toward predicting contamination depositions. Develops contamination control plans. Monitors, reviews, and evaluates overall contamination control management implementation and development.

MIST POSITION DESCRIPTIONS

Responsibilities: Reviews contamination control requirements, performs detailed contamination analyses, develops contamination control plans, and implements contamination control plans. Develops new analytical tools in response to task requirements. Provides direction and guidance to lower level Contamination Engineers.

Position Qualifications: This position requires a minimum of three [3] years of experience in contamination management and contamination analyses. This experience must include contamination control requirement development, detailed environmental analyses, and contamination impact assessment. Experience with SPACE II, FEMAP, TRASYS and contamination programs such as CAP, MOLFLUX, ISEM, and DSMC is required. Experience with PYTHON and PRO-E is desired. A Bachelor of Science degree or equivalent education /experience in engineering, mathematics, chemistry, material science, or physics is required.

36. Junior Contamination Engineer

Scope: Performs analyses directed toward predicting contamination depositions. Monitors and reviews overall contamination control management implementation and development.

Responsibilities: Under the direction of a Senior Contamination Engineer, reviews contamination control requirements, performs detailed environmental analyses of all phases of assembly, integration, test, transportation, pre-launch, on-orbit, and descent, and implements contamination control plans. Operates clean room facilities, performs BRDF light scattering measurements and conducts particulate contamination characterizations.

Position Qualifications: This position requires some knowledge of or experience in contamination control and contamination analyses. This experience must include contamination control requirement development and detailed contamination analyses. Experience with SPACE II, FEMAP, TRASYS, PYTHON and PRO-E and contamination programs such as CAP, MOLFLUX, ISEM, and DSMC is desired. A Bachelor of Science degree or equivalent education /experience in engineering, mathematics, chemistry, material science, or physics is required.

37. Senior Thermal Coatings Engineer

Scope: Performs tests directed toward evaluating thermal control coatings for usage on specific spacecraft.

Responsibilities: Provides thermal coatings expertise in the R&D, application, characterization and qualification of space flight thermal coatings (paints, thin films, tapes, metals, optical surface reflectors, solar cells, polymeric membranes and composites) for aerospace missions. Generate technical documents, test plans, and test reports in reference to these activities. Evaluates, analyzes, and qualifies the thermal radiative/optical properties of thermal coatings and materials for space flight applications. Performs routine maintenance on government-owned equipment, as needed.

MIST POSITION DESCRIPTIONS

Position Qualifications: This position requires a minimum of ten [10] years of experience in material property characterization and environmental testing of aerospace thermal control coatings. A Bachelor of Science degree in engineering, mathematics, chemistry, material science, or physics is required.

38. Thermal Coatings Engineer

Scope: Performs tests directed toward evaluating thermal control coatings for usage on specific spacecraft.

Responsibilities: Under the direction of a Senior Thermal Coatings Engineer, performs thermal-optical testing and thermal-radiative testing. Develops and conducts space environmental testing of space flight coatings to evaluate their thermal properties. Evaluates and analyzes the data from reflectance, transmittance, solar absorptance, normal emittance, coating adherence, UV radiation, and thermal cycle testing. Writes technical reports and test plans. Maintains laboratory records and data. Performs routine maintenance on government-owned equipment, as needed.

Position Qualifications: This position requires some knowledge of or experience with material property characterization. A Bachelor of Science degree in engineering, mathematics, chemistry, material science, or physics is required.

39. Senior Manufacturing Engineer

Scope: Direct and provide insight/oversight in the manufacturing and assembly areas.

Responsibilities: Defines and/or oversees assembly sequence and procedures for complete manufacturing of space qualified hardware. Documents all manufacturing aids and controls. Resolves technical and/or operational situations as they arise and continually monitor manufacturing and assembly for conformance to required specifications.

Position Qualifications: This position requires a minimum of ten [10] years of experience in development, manufacturing, assembly and qualification of aerospace hardware. Knowledge of existing assembly techniques and various Military and Industry specifications. Experience with techniques and procedures for assembly and inspection of aerospace manufactured hardware. A Bachelor of Science Degree or equivalent education /experience in an appropriate engineering discipline or related physical science degree.

40. Manufacturing Engineer

Scope: Provide insight/oversight in the manufacturing and assembly areas.

Responsibilities: Defines assembly sequence and procedures for complete manufacturing of space qualified hardware. Documents all manufacturing aids and controls. Resolves technical and/or operational situations as they arise and continually monitor manufacturing and assembly

for conformance to required specifications.

Position Qualifications: This position requires a minimum three [3] years of experience in development, manufacturing, assembly and qualification of aerospace hardware. Knowledge of existing assembly techniques and various Military and Industry specifications. Experience with techniques and procedures for assembly and inspection of manufactured products. A Bachelor of Science Degree or equivalent education /experience in an appropriate engineering discipline or related physical science degree.

41. Senior Test and Integration Engineer

Scope: Directs and performs the operations required in the test and integration of electronic, electromechanical, and thermal systems.

Responsibilities: Provides the technical expertise to perform and direct the test and integration of thermal, electronic, and electromechanical systems and subsystems in response to task requirements. This includes the design, fabrication, and operation of ground support equipment (both electronic GSE, and mechanical test fixtures), the design of test sequences, the specification of pass/fail criteria, and the generation of test procedures. This position requires expertise in determining test methodologies, specifying the instrumentation (e.g. accelerometers, thermistors), and test equipment (e.g. DSA's, Laser ranging interferometers) necessary for test, directing the test, and subsequently analyzing the resulting data (statistically, in the time and frequency domain) and preparing summary reports. This requires expertise in operation of various test equipment, and instrumentation sensors, and in the manipulation and processing of resultant data. Tests will often involve measuring system or subsystem performance over temperature, and in the presence of a disturbance environment.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the test and integration of space flight mechanical, electronic, electromechanical, and thermal systems. This experience should include hands-on work with flight hardware at all stages of development, design, build, test, qualification, and on-orbit operation. Emphasis should be placed on an understanding of control/structure interaction, and performance in the presence of jitter. This position also requires expertise in the collection, manipulation and interpretation of test data. A Bachelor of Science degree in engineering, mathematics or physics is required.

42. Test and Integration Engineer

Scope: Performs the operations required in the test and integration of electronic, electromechanical, and thermal systems.

Responsibilities: Provides the technical expertise to perform the test and integration of thermal, electronic, and electromechanical systems and subsystems in response to task requirements. This includes the design, fabrication, and operation of ground support equipment (both electronic GSE, and mechanical test fixtures), the design of test sequences, the specification of pass/ fail criteria, and the generation of test procedures. This position requires expertise in determining test

methodologies, specifying the instrumentation (e.g. accelerometers, thermistors), and test equipment (e.g. DSA's, laser ranging interferometers) necessary for test, directing the test, and subsequently analyzing the resulting data (statistically, in the time and frequency domain) and preparing summary reports. This requires expertise in operation of various test equipment, and instrumentation sensors, and in the manipulation and processing of resultant data. Tests will often involve measuring system or subsystem performance over temperature, and in the presence of a disturbance environment.

Position Qualifications: This position requires a minimum of three [3] years of experience in the test and integration of space flight mechanical, electronic, electromechanical, and thermal systems. This experience should include hands-on work with flight hardware. Emphasis should be placed on an understanding of control/ structure interaction, and performance in the presence of jitter, and in the collection, manipulation and interpretation of test data. A Bachelor of Science degree in engineering, mathematics or physics is required.

43. Senior Test and Integration Technician

Scope: Supports the Test and Integration Engineer in the test and integration of electronic, electromechanical, and thermal systems.

Responsibilities: Under the direction of Test and Integration Engineer, provides support in the test and integration of thermal, electronic, and electromechanical systems and subsystems in response to task requirements. This includes the breadboarding of test electronics, the fabrication of test harnesses, the interfacing and operation of various test hardware, instrumentation, and equipment, and the documentation of test sequences, and test procedures. It also includes the ability to read and interpret schematics, and efficiently operate computers including the ability to write simple programs.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the test and integration of space flight hardware. This position requires experience and NASA approved verification in soldering, wire wrapping, handling ESD sensitive parts, and contamination control. This position requires a minimum of 1 year of education in an engineering technical program; it also requires knowledge of engineering terms and units and computer analysis techniques.

44. Test and Integration Technician

Scope: Supports the Test and Integration Engineer in the test and integration of electronic, electromechanical, and thermal systems.

Responsibilities: Under the direction of Test and Integration Engineer and/or Senior Test and Integration Technician, provides support in the test and integration of thermal, electronic, and electromechanical systems and subsystems in response to task requirements. This includes the breadboarding of test electronics, the fabrication of test harnesses, the interfacing and operation of various test hardware, instrumentation, and equipment, and the documentation of test

sequences, and test procedures. It also includes the ability to read and interpret schematics, and efficiently operate computers including the ability to write simple programs.

Position Qualifications: This position requires a minimum of three [3] years of experience in the test and integration of space flight hardware. This position requires experience and NASA approved verification in soldering, wire wrapping, handling ESD sensitive parts, and contamination control. This position requires a minimum of 1 year of education in an engineering technical program; it also requires knowledge of engineering terms and units and computer analysis techniques.

45. Senior Optical Analyst

Scope: Directs or provides system level analysis support for electro-optic instrument and experiment design, calibration, and verification.

Responsibilities: Performs and/or directs analysis of electro-optic elements, subsystems, and systems that comprise an optical instrument. Specific duties include system end-to-end studies, digital communication signal to noise analysis, establishing error budgets, etc.

Position Qualifications: This position requires a minimum of ten [10] years of experience in optical systems analysis with extensive knowledge in analysis techniques and methodology required during development of aerospace flight systems, components, and related ground support equipment. A Bachelor of Science degree or equivalent education/experience, in physics or engineering.

46. Optical Analyst

Scope: Provides system level analysis support for electro-optic instrument and experiment design, calibration, and verification.

Responsibilities: Under the direction of the Senior Optical Analyst, performs analysis of electro-optic elements, subsystems, and systems that comprise an optical instrument. Specific duties include system end-to-end studies, digital communication signal to noise analysis, establishing error budgets, etc.

Position Qualifications: This position requires a minimum of three [3] years of experience in optical systems analysis with extensive knowledge in analysis techniques and methodology required during development of aerospace flight systems, components, and related ground support equipment. A Bachelor of Science degree or equivalent education/experience, in physics or engineering.

47. Senior Electro-Optical Engineer

Scope: Provides system level design, development, calibration and evaluation of electro-optic instruments.

MIST POSITION DESCRIPTIONS

Responsibilities: Performs design, development, calibration, and evaluation of electro-optic elements, subsystems, and systems for spaceflight and ground-based systems. Included are lasers, detectors, and beam control assemblies.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the design, fabrication, and testing of lasers, detectors, and control assemblies. A Bachelor of Science degree or equivalent education /experience in physics or engineering.

48. Electro-Optical Engineer

Scope: Provides system level design, development, calibration and evaluation of electro-optic instruments.

Responsibilities: Performs design, development, calibration, and evaluation of electro-optic elements, subsystems, and systems for spaceflight and ground-based systems. Included are lasers, detectors, and beam control assemblies.

Position Qualifications: This position requires a minimum of five [5] years of experience in the design, fabrication, and testing of lasers, detectors, and control assemblies. A Bachelor of Science degree or equivalent education /experience in physics or engineering.

49. Senior Cryogenics Engineer

Scope: Directs or develops designs and/or analysis directed towards developing cryogenic systems for spacecraft systems and instruments.

Responsibilities: Conducts or directs research and development work on cryogenic cooling systems for spacecraft systems or instruments. This includes conceiving, designing, and directing the testing of liquid helium, helium-3, adiabatic demagnetization, and dilution refrigerator systems or components. Interface and support the development, fabrication, and testing of components.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the development and qualification of low temperature hardware. A Bachelor of Science degree or equivalent education/experience, in engineering, physical science, or mathematics is required.

50. Cryogenics Engineer

Scope: Directs or develops designs and/or analysis directed towards developing cryogenic systems for spacecraft systems and instruments.

Responsibilities: Conducts research and development work on cryogenic cooling systems for spacecraft systems or instruments. This includes conceiving, designing, and directing the testing of liquid helium, helium-3, adiabatic demagnetization, and dilution refrigerator systems or components. Interface and support the development, fabrication, and testing of components.

MIST POSITION DESCRIPTIONS

Position Qualifications: This position requires a minimum of three [3] years of experience in the development and qualification of low temperature hardware. A Bachelor of Science degree or equivalent education/experience, in engineering, physical science, or mathematics is required.

51. Systems Engineer

Scope: Ensures that space/ground systems requirements are archived, analyzes system requirements, develops functional performance requirements, conducts trade studies, and allocates requirements to space and ground system elements.

Responsibilities: Under the direction of the Senior Systems Engineer, is responsible for interface control during development and maintenance activities and for the integration and test planning necessary to verify (prelaunch) that system requirements have been realized. Also, responsible for balancing specialty engineering requirements such that system performance requirements are achieved.

Position Qualifications: This position requires a minimum of five [5] years of experience as an aerospace systems engineer performing several of the analysis, design and integration functions described above. A Bachelor of Science degree or equivalent education and experience, in engineering, computer science or mathematics.

52. Senior Systems Analyst

Scope: Directs or performs systems analyses of the optical, electro-optical and RF aspects of space flight and special test equipment subsystems, systems, instruments and spacecraft.

Responsibilities: Provides the technical expertise to perform or direct the systems analyses in response to task requirements. Expert in the use of analytical tools or capable of developing new analytical tools: This includes developing interfaces to existing analysis tools such as NASTRAN for interdisciplinary analysis. Knowledge of electro-optical, electronic and mechanical requirements for space flight and special test equipment subsystems, systems, instruments and spacecraft is required. Capable of evaluating and analyzing system requirements and system error budgets to show that they met specific performance requirements. Provide direction and guidance to lower-level systems analysts.

Position Qualifications: This position requires a minimum of ten [10] years of experience in the analysis and design of space flight systems. This experience is to include component tolerancing and tolerance sensitivity; radiometry (receivers, detectors and detector arrays); stray light/energy; alignment and calibration; Structural-Thermal-Optical (STOP) analysis; system behavior and system error budgets and tolerances of subsystems, instruments and spacecraft; the establishment of component tolerances based on allowable tolerance sensitivities, performance degradation, and error budgets; control systems and the effects of structural modes on control system performance; and RF, digital and analog circuit design and analysis. A Bachelor of Science degree in engineering, mathematics or physics is required.

MIST POSITION DESCRIPTIONS

53. Systems Analyst

Scope: Performs systems analyses of the optical, electro-optical and RF aspects of space flight and special test equipment subsystems, systems, instruments and spacecraft.

Responsibilities: Under the direction of the Senior Systems Analyst, performs systems analyses in response to task requirements. Utilizes analytical tools and/or develops new analytical tools. Knowledge of electro-optical, electronic and mechanical requirements for space flight and special test equipment subsystems, systems, instruments and spacecraft is required. Capable of evaluating and analyzing system requirements and system error budgets to show that they met specific performance requirements.

Position Qualifications: This position requires a minimum of five [5] years of experience in the analysis and design of space flight systems. This experience is to include component tolerancing and tolerance sensitivity; radiometry (receivers, detectors and detector arrays); stray light/energy; alignment and calibration; Structural-Thermal-Optical (STOP) analysis; system behavior and system error budgets and tolerances of subsystems, instruments and spacecraft; the establishment of component tolerances based on allowable tolerance sensitivities, performance degradation, and error budgets; control systems and the effects of structural modes on control system performance; and RF, digital and analog circuit design and analysis. A Bachelor of Science degree in engineering, mathematics or physics is required.

54. Engineering Analysis Technician

Scope: Supports engineers and designers with preparation of engineering data, plots, reports, and other documentation.

Responsibilities: Prepares engineering data for computer analysis using simple hand or computer calculations. Enters data into the computer and recovers the results in the form of plots or summary tables. Compiles reports and documentation from material provided by engineers and designers. Operates drawing and document reproduction equipment.

Position Qualifications: This position requires a minimum of one [1] year of college education in an engineering curriculum; it also requires a basic knowledge of engineering terms and units and a basic understanding of computer analysis techniques.

55. Engineering Technical Writer

Scope: Develops technical documentation related to spacecraft systems

Responsibilities: Prepares complex technical documentation related to spacecraft systems analysis, design, environmental testing, launch operations, safety, and operations of thermal, mechanical and electromechanical systems. Provides coordination between engineering and operations personnel.

MIST POSITION DESCRIPTIONS

Position Qualifications: This position requires a minimum of four [4] years of experience in the writing and preparation of documentation that is technically and grammatically correct. Experience with word processing and desktop publishing systems is highly desirable. A Bachelor of Science degree in engineering, mathematics, or physics is required.

56. Technical Typist

Scope: Provides clerical support to engineering staff.

Responsibilities: Types engineering specifications, design review reports and analyses, test plans and procedures, minutes of meetings, systems analyses, and documentation related to the design development, and testing of spacecraft systems.

Position Qualifications: This position requires a minimum of three [3] years of experience in typing and word processing; including one [1] year of clerical work in support of an engineering or aerospace organization. A high school diploma is required.

57. Senior Product Assurance Engineer

Scope: To establish, maintain, and coordinate appropriate product assurance system(s) and disciplines in compliance with requirements specified in individual task assignments.

Responsibilities: Prepares, maintains, and implements Performance Assurance Implementation Plans (PAIP) in compliance with requirements. Coordinates all applicable performance assurance activities including testing, system safety, EEE parts program, materials assurance, reliability, quality assurance, contamination control, and software assurance. Provide required performance assurance (PA) documentation and prepare PA status reports.

Position Qualifications: This position requires a minimum of eight [8] years related experience in product assurance. Knowledge of product assurance disciplines as defined in the NASA Handbooks (NASA-STD 8739.3). Ability to coordinate activities of personnel in associated performance assurance disciplines (EEE parts, materials, safety, reliability, etc.). A Bachelor of Science Degree or equivalent education /experience in an appropriate engineering discipline or related physical science degree.

58. Product Assurance Engineer

Scope: To establish, maintain, and coordinate appropriate product assurance system(s) and disciplines in compliance with requirements specified in individual task assignments.

Responsibilities: Under the direction of the Senior Product Assurance Engineer, prepares, maintains, and implements Performance Assurance Implementation Plans (PAIP) in compliance with requirements. Coordinates all applicable performance assurance activities including testing, system safety, EEE parts program, materials assurance, reliability, quality assurance, contamination control, and software assurance. Provides required performance assurance (PA)

documentation and prepare PA status reports.

Position Qualifications: This position requires a minimum of three [3] years related experience in product assurance. Knowledge of product assurance disciplines as defined in the NASA Handbooks (NASA-STD 8739.3). Ability to coordinate activities of personnel in associated performance assurance disciplines (EEE parts, materials, safety, reliability, etc.). A Bachelor of Science Degree or equivalent education /experience in an appropriate engineering discipline or related physical science degree.

59. Senior Quality Assurance Specialist

Scope: To inspect flight hardware, flight support equipment, spares, and engineering units for compliance with the requirements of the applicable documents that are specified in the individual task assignments.

Responsibilities: Verify that the hardware, plans, and materials are in compliance with the procurement documents and engineering drawings. Ensure that hardware, plans, and materials are being handled and stored properly to prevent degradation and/or damage. Ensure compliance with the configuration control plan, and verify the configuration of the deliverable hardware. Ensure the processes pertaining to soldering, crimping, conformal coating, electronic welding, stitch-wire welding, structural welding, etc., are being complied with by the fabricator and/or operator.

Position Qualifications: This position requires experience in all aspects of mechanical and electrical fabrication, receiving, and shipping inspection. Must have ten [10] years of experience in quality control pertaining to aerospace hardware and/or systems. Thorough knowledge of quality assurance activities as defined in the NASA Handbooks (NASA-STD 8739.3) and ability to implement the requirements with minimal supervision. Must be certified in accordance with the requirements stated in NASA-STD 8739.3. A Bachelor of Science Degree or equivalent education /experience in an appropriate engineering discipline or related physical science degree.

60. Quality Assurance Specialist

Scope: To inspect flight hardware, flight support equipment, spares, and engineering units for compliance with the requirements of the applicable documents that are specified in the individual task assignments.

Responsibilities: Under the direction of the Senior Quality Assurance Specialist, verifies that the hardware, plans, and materials are in compliance with the procurement documents and engineering drawings. Ensures that hardware, plans, and materials are being handled and stored properly to prevent degradation and/or damage. Ensures compliance with the configuration control plan, and verify the configuration of the deliverable hardware. Ensures the processes pertaining to soldering, crimping, conformal coating, electronic welding, stitchwire welding, structural welding, etc., are being complied with by the fabricator and/or operator.

MIST POSITION DESCRIPTIONS

Position Qualifications: This position requires experience in all aspects of mechanical and electrical fabrication, receiving, and shipping inspection. Must have three [3] years of experience in quality control pertaining to aerospace hardware and/or systems. Thorough knowledge of quality assurance activities as defined in the NASA Handbooks (NASA-STD 8739.3) and ability to implement the requirements with minimal supervision. Must be certified in accordance with the requirements stated in NASA-STD 8739.3. A Bachelor of Science Degree or equivalent education /experience in an appropriate engineering discipline or related physical science degree.

61. Flight Software Engineer

Scope: Supports development of flight software systems through software life cycle.

Responsibilities: Performs flight software requirement analysis, specifications, design, development, integration and testing, and on-orbit software maintenance for spacecraft command and data handling (C&DH) and attitude control systems (ACS), and instrument payloads. The Flight Software Engineer shall code, document, configure and debug flight software, simulators and test software. The Flight Software Engineer shall assist in preparation of design review (PDR/CDR) material.

Position Qualifications: This position requires a minimum of five [5] years of related professional experience in flight software systems development for spacecraft/aircraft and/or space borne/airborne instruments or equivalent experience with embedded systems. A Bachelor of Science degree, or equivalent education and experience, in computer sciences, electrical engineering or mathematics is required.

62. Software Engineer

Scope: Develops code in accordance with applicable requirements documentation as well as develops test plans for software system verification and acceptance.

Responsibilities: Develops code and test plans as well as provides computer systems and facilities management support.

Position Qualifications: This position requires four [4] years professional experience; with three [3] years directly related experience in programming and software systems. A Software Engineer must have experience providing software project development support including the generation of software specifications, analysis of software systems, coding of software modules, interfacing and coding of communication/network subsystems, and generation of related documentation. A Bachelor of Science degree or equivalent education /experience in computer sciences, electrical engineering or mathematics is required.

63. Computer Systems Engineer

Scope: Plans and controls the use of computing resources.

Responsibilities: Computing Resources includes general purpose computers and peripherals,

work stations, and Local Area Networks, software operating systems, software development tools and packages. Coordinates maintenance and upgrades to the computer hardware and software operating systems.

Position Qualifications: This position requires a minimum of five [5] years of computer systems experience in a complex software environment with multiple computer systems and operating systems in a Local Area Network, and must have knowledge of software engineering principles. A Bachelor of Science degree, or equivalent education and experience, in computer sciences, mathematics, or engineering is required.