

Reliability Engineer Job Description

Entry Level

Summary:

Originates and develops analysis methods for determining reliability of components, equipment, and processes. Acquires data and analyzes the data. Prepares diagrams, charts, drawings, calculations, and reports for defining reliability problems and makes recommendations for improvements. Conducts an analysis of reliability problems and investigates to determine the reliability required for the particular situation considering the cost limitations for equipment up/down time, repair/replacement costs, weight, size, and availability of materials/equipment. Determines the cost advantages of alternatives for developing action plans to comply with internal/external customer demands for reliable processes/equipment *to avoid failures*.

Typical Education: BS Degree (Engineering, Statistics, Mathematics) or equivalent.

Typical Experience: Entry level with zero to two years experience.

Position Responsibility:

Gathers and examines basic reliability data from field studies or data base, and correlates the data for analysis using well defined engineering techniques/principles/procedures.

Performs detailed/routine engineering calculations involving relatively simple tests on less complicated system details where ingenuity and high level of judgment is not required.

Initiates elemental engineering studies into equipment/process failures and presents details of the analysis to more experienced engineers for approval/feedback for gaining in-depth experience and improving judgment for advancing to higher level jobs.

Assist others in root cause failures analysis to avoid future failures.

Works under supervision of other engineers and receives guidance in the use of standard company procedures for use of reliability analysis specific to the product/process.

Follows company safety and health guidelines and other company policies.

Performs other work as assigned.

Maintenance Engineer Job Description

Entry Level

Summary:

Originates and develops analysis information for rapidly repairing equipment by study of operating and repair manuals. Acquires failure data and prepares maintenance plans for restoring equipment to operating condition in a minimum amount of time. Prepares general diagrams, charts, drawings, and spare parts requirements for maintenance planners. Makes recommendations for improving the repair cycle. Provides manning level forecasts for supervisors and estimates the duration of outages. Determines the cost advantages of alternatives for developing action plans to comply with internal/external customer demands *for timely repairs* of processes/equipment.

Typical Education: BS Degree (Engineering, Industrial Arts), equivalent trade school associate degree, or former maintenance craft background supplemented by night school training.

Typical Experience: Entry level with zero to two years experience.

Position Responsibility:

Gathers and examines basic maintainability problem data from field studies or database, and merges the data into well defined repair techniques/principles/procedures.

Performs occasional detailed/routine engineering calculations involving relatively simple criteria on less complicated system details where ingenuity and high level of judgment is not required.

Initiates elemental engineering studies into equipment/process repair time and presents details of the analysis to more experienced engineers for approval/feedback for gaining in-depth experience and improving judgment for advancing to higher level jobs.

Works under supervision of other engineers and receives guidance in the use of standard company procedures for use of maintenance analysis specific to the product/process.

Follows company safety and health guidelines and other company policies.

Performs other work as assigned.

Reliability Engineer Job Description
Intermediate Level

Summary:

Originates and develops analysis methods for determining reliability of components, equipment, and processes. Acquires data and analyzes the data. Prepares diagrams, charts, drawings, calculations, and reports for defining reliability problems and makes recommendations for improvements. Conducts an analysis of reliability problems and investigates to determine the reliability required for the particular situation considering the cost limitations for equipment up/down time, repair/replacement costs, weight, size, and availability of materials/equipment. Determines the cost advantages of alternatives for developing action plans to comply with internal/external customer demands for reliability processes/equipment *to avoid failures*.

Typical Education: BS Degree (Engineering, Statistics, Mathematics) or equivalent.

Typical Experience: Entry level with three to ten years experience.

Position Responsibility:

Works under general direction from project engineers, section head, or under general administrative instruction for performing detailed reliability studies and detailed calculations of component/system reliabilities.

Considers impact of costs on recommended action plans for avoiding/correcting problems during the design phase or remedial action for correcting reliability problems on installed equipment; and performs root cause failure analysis to help prevent failures.

Plans and performs engineering research, design development or manufacturing/process engineering assignments including responsibility for major subsections of complex projects using general engineering practices influenced by the general theme of reliability principles.

Estimates engineering personnel needs, coordinates and supervises the use of other engineers and technicians to accomplish the objective of cost effective reliability improvements for projects.

Assignments are broad in nature and require appreciable originality and ingenuity for completing the assignments which have considerable latitude for unreviewed action or decisions.

Follows company safety and health guidelines and other company policies.

Performs other work as assigned.

Maintenance Engineer Job Description
Intermediate Level

Summary:

Originates and develops analysis methods for determining maintenance demands for components, equipment, and processes. Acquires maintenance data and analyzes the data. Prepares diagrams, charts, drawings, calculations, and reports for avoiding maintenance delays and makes recommendations for improvements. Conducts an analysis of maintainability problems and investigates to determine the outage required for the particular situation considering the cost limitations for equipment up/down time, repair/replacement costs, weight, size, and availability of materials/equipment. Determines the cost advantages of alternatives for developing action plans to comply with demands *for timely repair* of processes/equipment.

Typical Education: BS Degree (Engineering, Industrial Arts), equivalent trade school associate degree, or former maintenance craft background supplemented by night school training.

Typical Experience: Entry level with three to ten years experience.

Position Responsibility:

Works under general direction from project engineers, section head, or under general administrative instruction for performing detailed maintainability studies and detailed calculations of component/system downtime. Helps establish good maintenance practices.

Considers impact of costs on recommended action plans for avoiding/correcting problems during the design phase or remedial action for correcting downtime problems on installed equipment.

Plans and performs engineering research, design development or manufacturing/process engineering assignments including responsibility for major subsections of complex projects using general engineering practices influenced by the general theme of reducing downtime.

Estimates engineering personnel needs, coordinates and supervises the use of other engineers and technicians to accomplish the objective of cost effective outage improvements for projects.

Assignments are broad in nature and require appreciable originality and ingenuity for completing the assignments which have considerable latitude for unreviewed action or decisions.

Follows company safety and health guidelines and other company policies.

Performs other work as assigned.

Reliability Engineer Job Description
Advanced Level

Summary:

Originates and develops analysis methods for determining reliability of components, equipment, and processes. Acquired data and analyzes the data. Prepares diagrams, charts, drawings, calculations, and reports for defining reliability problems and makes recommendations for improvements. Conducts an analysis of reliability problems and investigates to determining the reliability required for the particular situation considering the cost limitations for equipment up/down time, repair/replacement costs, weight, size, and availability of materials/equipment. Determines the cost advantages of alternatives for developing action plans to comply with internal/external customer demands for reliable processes/equipment *to avoid failures*.

Typical Education: MS/PhD Degree (Engineering, Statistics, Mathematics) or equivalent.

Typical Experience: More than ten years experience.

Position Responsibility:

Works under broad administrative instructions; and provides in-house consulting activities to advise and council personnel on a variety of complicated processes/procedures supported by detailed calculations and guided by cost effective decisions and recommendations.

Plans, conducts, and directs engineering research and development projects of major significance which are very difficult and complex in nature and require the expert application of advanced engineering knowledge from several different fields; and resolves difficult root cause failure analysis to prevent future failures.

Designs and develops new and unique engineering methods and procedures, special equipment, innovative test procedures, special analysis of failure techniques, and communicates these advanced concepts by way of detailed technical reports which are used in the supervision and education of lower level reliability engineers.

Represents the company in outside discussions and technical forums while working with a wide latitude for unreviewed action and decisions expected from a seasoned engineer.

Follows company safety and health guidelines and other company policies.

Performs other work as assigned.

Maintenance Engineer Job Description
Advanced Level

Summary:

Originates and develops analysis methods for determining maintenance demands for components, equipment, and processes. Acquires downtime data and analyzes the data. Prepares diagrams, charts, drawings, calculations, and reports for defining downtime problems and makes recommendations for reducing outages. Conducts an analysis of downtime problems and investigates to determine the manpower/equipment required for the particular situation considering the cost limitations for equipment up/down time, repair/replacement costs, weight, size, and availability of materials/equipment. Determines the cost advantages of alternatives for developing action plans to comply with *customer demands for outages* of processes/equipment.

Typical Education: BS/MS Degree (Engineering, Industrial Arts) or equivalent.

Typical Experience: More than ten years experience.

Position Responsibility:

Works under broad administrative instructions; and provides in-house consulting activities to advise and council personnel on a variety of complicated processes/procedures supported by detailed calculations and guided by cost effective decisions and recommendations. Establishes good maintenance practices and trains others to promulgate the concepts across the organization.

Plans, conducts, and directs engineering development projects of major significance which are very difficult and complex in nature and require the expert application of advanced engineering knowledge from several different fields.

Designs and develops new and unique repair methods and procedures, special equipment, innovative test procedures, special analysis of failure techniques, and communicates these advanced concepts by way of detailed technical reports which are used in the supervision and education of lower level reliability engineers.

Represents the company in outside discussions and technical forums while working with a wide latitude for unreviewed action and decisions expected from a seasoned engineer.

Follows company safety and health guidelines and other company policies.

Performs other work as assigned.