



Office of Human Resources
Baggage Handling Systems Engineer - CE3595
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General Statement of Duties

The Baggage Handling Systems Engineer performs specialized, advanced engineering work related to the operation, maintenance, optimizations, and engineering support of complex Baggage Handling Systems (BHS) and is responsible for system performance analysis, complex system diagnostics, root cause investigations after failures, and development of high-level strategies for improving or standardizing mechanical, electrical, controls, and software subsystems. Performs detailed technical evaluations and engineering studies, supports system reliability, availability, and maintainability (RAM) objectives, and serves as a subject matter expert to operations, maintenance teams, contractors, and airport stakeholders on BHS engineering, troubleshooting, and system enhancements.

Distinguishing Characteristics

The Baggage Handling Systems (BHS) Engineer performs specialized, advanced professional engineering work supporting the operation, maintenance, capital and sustainment projects, system reliability, and lifecycle management of Denver International Airport's large-scale, automated Baggage Handling Systems. Work is primarily technical in nature and requires the application of professional engineering judgment, airport operational expertise, and system-level analysis.

The BHS Engineer develops and authors technical engineering specifications, performance requirements, and detailed scopes of work for BHS-related projects, system upgrades, investigations, operation and maintenance or other service contracts. Responsible for defining functional requirements, system interfaces, testing and acceptance criteria, constructability considerations, and performance expectations to support design and project execution.

This classification is distinguished from the Conveyance Administrator, which is primarily responsible for contract administration, regulatory compliance, inspections, reporting, coordination with service providers, and day-to-day oversight of conveyance and BHS maintenance activities. While the Conveyance Administrator ensures contractual performance and code compliance, the BHS Engineer is accountable for technical engineering analysis, system design evaluation, failure investigation, and engineering decision-making that directly affects system performance, reliability, and lifecycle outcomes. The BHS Engineer role is a senior technical position and may require matrix management of duties of contractors or other DEN employees.

Essential Duties

Provides advanced professional engineering support for the operation, maintenance, reliability, and lifecycle management of Denver International Airport's complex, automated Baggage Handling Systems (BHS), including in-line EDS screening systems, sortation, CBIS/CBRA interfaces, vertical transportation, and associated mechanical, electrical, and controls systems.

Performs detailed technical analyses of BHS performance, including system diagnostics, fault analysis, root cause failure investigations, capacity and throughput evaluations, and reliability, availability, and maintainability (RAM) assessments to support safe, reliable, and efficient airport operations.

Supports BHS modernization, and recapitalization efforts by reviewing and evaluating system designs, equipment replacements, controls changes, and integration testing, ensuring compatibility with existing systems and minimizing operational risk within live airport environments.

Conducts engineering quality control activities, including review of technical specifications, design documents, shop drawings, and submittals; participation in emulation/ factory and site acceptance testing (FAT/SAT); commissioning support; and verification of operational readiness for new or modified BHS assets.

Develops, evaluates, and recommends technical standards, detailed training materials, contingency plans, specifications, scopes of work, and engineering solutions related to BHS equipment, controls platforms, operation and maintenance strategies, and asset lifecycle planning.

Monitors and evaluates existing BHS engineering programs, assets, and operation and maintenance approaches, and recommend technical modifications to improve system performance, safety, resilience, and long-term sustainability in response to changing operational demands and other requirements.

Serves as the technical subject matter expert for BHS engineering, providing authoritative guidance and engineering judgment to operations staff, maintenance teams, contractors, consultants, and airport leadership regarding system architecture, troubleshooting, system optimization, and failure mitigation.

Supports cross-functional coordination with airport operations, maintenance providers, airlines, TSA, and project teams to resolve complex technical issues affecting BHS performance while maintaining continuous airport operations.

Creates 3D models and detailed engineering drawings using AutoCAD, SolidWorks, Fusion or comparable software for complex parts or equipment drawings and schematic modifications.

Ensures BHS engineering activities comply with applicable city, state, and federal codes, standards, and regulations, including TSA and airport operational requirements.

Performs other related duties as assigned.

Employees may be re-deployed to work in other capacities in their own agencies or in other City agencies to support core functions of the City during a City-wide emergency declared by the Mayor.

Any one position may not include all the duties listed. However, the allocation of positions will be determined by the amount of time spent in performing the essential duties listed above.

Competencies

Adaptability in a Live Operational Environment - Demonstrates the ability to prioritize, respond, and make sound technical decisions in a high-volume, time-critical airport operating environment with minimal system downtime tolerance.

Baggage Handling Systems Engineering Expertise - Demonstrates advanced technical knowledge of automated Baggage Handling Systems, including mechanical conveyance, electrical distribution, controls/PLC systems, software interfaces, in-line EDS screening, and system integration within a live airport environment.

Controls, Automation, and Diagnostics - Interprets and evaluates controls logic, PLC/HMI interfaces, system alarms, and diagnostic data to support troubleshooting, system optimization, and integration of new technologies.

Engineering Quality Control and Technical Review - Performs thorough technical reviews of designs, specifications, submittals, and test results to ensure compliance with engineering standards, constructability, maintainability, and operational requirements.

Operations and Maintenance Engineering Support - Understands airport operational constraints and maintenance practices and applies engineering principles to support system uptime, fault recovery, lifecycle planning, and maintainability of mission-critical systems.

Problem Solving and Root Cause Analysis - Uses structured analytical methods to identify root causes of system failures and performance issues and develops corrective and preventive engineering solutions.

Regulatory and Standards Compliance - Maintains working knowledge of applicable city, state, federal codes, standards, and TSA requirements and ensures engineering activities and recommendations meet regulatory and safety obligations.

Systems Analysis and Engineering Judgment - Applies professional engineering judgment to analyze complex system behavior, diagnose failures, evaluate operational risk, and develop technically sound solutions that improve system reliability, safety, and performance.

Technical Competence - Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

Knowledge & Skills

Knowledge Requirements

Advanced knowledge of automated Baggage Handling Systems (BHS), including conveyor and sortation systems, mechanical components, electrical distribution, motor controls, sensors, and integrated controls platforms operating in a large-hub airport environment.

Working knowledge of in-line Explosive Detection System (EDS) screening systems, CBIS/CBRA interfaces, and system integration with TSA and airline operations.

Knowledge of industrial automation and controls systems, including PLC architecture, HMI/SCADA interfaces, networked controls, and system diagnostics.

Knowledge of system performance analysis, fault diagnostics, root cause analysis methodologies, reliability, availability, and maintainability (RAM) principles.

Knowledge of engineering quality control processes, including design review, technical specification development, submittal evaluation, testing, commissioning, and operational readiness.

Knowledge of asset lifecycle management, maintenance engineering practices, and sustainment strategies for mission-critical systems.

Knowledge of applicable city, state, and federal codes, standards, and regulations related to electrical, mechanical, life safety, and airport systems, including TSA requirements.

Knowledge of airport operations, safety practices, and the constraints of maintaining and modifying systems in a live, high-volume operational environment.

Skills Requirements

Skill in applying professional engineering judgment to analyze complex, integrated systems and develop technically sound recommendations.

Skill in diagnosing and resolving complex BHS performance issues using system data, alarms, controls interfaces, and field observations.

Skill in reviewing and evaluating engineering designs, technical specifications, shop drawings, and contractor submittals for compliance, constructability, and maintainability.

Skill in supporting testing and commissioning activities, including participation in FAT/SAT and validation of operational readiness.

Skill in interpreting technical documentation, controls systems, electrical schematics, and system architecture drawings.

Skill in preparing clear technical reports, analyses, and recommendations for diverse technical and non-technical audiences.

Skill in collaborating with operations, maintenance providers, contractors, consultants, TSA, and airline stakeholders to resolve system issues and support continuous operations.

Skill in prioritizing and managing technical work in a time-critical, operationally constrained environment.

Skill in using engineering, diagnostic, and asset management tools to support system analysis and lifecycle planning.

Level of Supervision Exercised

Matrix manages and coordinates the work of consultants and contractors and other employees who are assigned to specific areas and may perform lead work or supervise subordinate technical staff.

Education Requirement

Bachelor's degree in engineering (Mechanical, Systems Controls, Electrical, or Computer Science) or related field.

Experience Requirement

Three (3) years of experience at the type and level of an experienced Baggage Handling Systems Engineer or Controls Engineer.

Education & Experience Equivalency

No substitution of experience for education is permitted.
Additional appropriate education may be substituted for experience requirements.

Licensure & Certification

By position requires a valid Driver's License at the time of application.
Licenses and certifications must be kept current as a condition of employment.

Working Environment

Handles absentee replacement on short notice.
Handles emergency or crisis situations.
Noise: sufficient noise to cause distraction or possible hearing loss.
Personal Safety: aware of surroundings, people, and events.
Potential exposure to cold weather conditions (indoor/outdoor).
Potential exposure to dust.
Potential exposure to hazards from electrical/mechanical/power equipment.

Potential exposure to housekeeping/cleaning agents/chemicals.
 Potential exposure to temperature changes: variations in temperature from hot to cold.
 Pressure due to multiple calls and inquiries.
 Subject to many interruptions.
 Subject to hot and cold temperature changes.
 Subject to injury from moving parts or equipment.
 Subject to long irregular hours.
 Subject to long, irregular hours.
 Subject to noise is sufficient to cause distraction or possible hearing loss.
 Subject to traffic, roadways, and pedestrians.
 Subject to varying and unpredictable situations.
 Subject to long irregular hours.

Level of Physical Demand

3-Medium (20 - 50 lbs.)

Physical Demands

Balancing: Maintaining equilibrium.
 Bending: Bending or positioning oneself to move an object from one level to another.
 Carrying: Transporting or moving an object.
 Climbing: Ascending or descending an object or ladder.
 Color vision: Ability to distinguish and identify different colors.
 Crawling: Moving about in a low or crouched position.
 Depth Perception: Ability to judge distances and space relationships.
 Eye/Hand/Foot Coordination: Performing work through using two or more body parts or other devices.
 Field of Vision: Ability to sharply detect or perceive objects peripherally.
 Fingering: Picking and pinching, through use of fingers or otherwise.
 Handling: Seizing, holding, grasping, through use of hands, fingers, or other means.
 Hearing: Perceiving and comprehending the nature and direction of sounds.
 Lifting: Moving objects weighing no more than 50 pounds from one level to another.
 Reaching: Extending the hands and arms or other device in any direction.
 Repetitive motions: Making frequent or continuous movements.
 Sitting: Remaining in a stationary position.
 Stair Climbing: Ascend and descend flights of stairs.
 Talking: Communicating ideas or exchanging information.
 Vision Far Acuity: Ability to perceive or detect objects clearly at 20 feet or more.

Background Check Requirement

Criminal Check
 Employment Verification
 Education Check
 By position, Motor Vehicle Record
 Additional airport security clearances

Assessment Requirement

None

Probation Period

Six (6) months.

Class Detail

Pay Grade: EX-16

FLSA Code: Y

Established Date: 3/29/2026

Established By: AOF

Revised Date:

Revised By:

Class History: New classification.