

Case Study.
Public Transit.
North America.
Transportation.

Reducing Risks of a Battery-Powered Transit Fleet

Challenge

One of the largest east coast transit agencies in the nation procured a fleet of battery electric buses and charging stations as part of its ongoing mission to provide safe, efficient and reliable transit services to its travelers. Safe incorporation of this new technology into operations and services required rigorous analysis to ensure necessary system safety, fire/life safety, security, operations, that maintenance requirements were met, and design considerations had been fully verified and validated prior to going into service.

This required a mix of technical and engineering experts to fully analyze the risks associated with procuring, operating, charging, and maintaining the battery electric buses, charging stations, and associated equipment. The process included identifying the potential risks, while developing mitigations and controls to safely and effectively integrate these new technologies into existing facilities, operations, and maintenance processes, including the impacts their use would have on existing emergency response capabilities, processes, and procedures. The team of experts from ADS System Safety Consulting, a dss+ company, were selected to complete this process because of their technical depth, expertise, and industry leading, risk-based approach to safety and security management.

dss+ Approach

ADS established a rigorous, risk-based safety and security program designed to assist in managing the procurement and to address regulatory compliance and risk analysis needs. The team established and facilitated meetings with a project-specific panel and



committee used to review design specifications and requirements for the new technology against regulatory requirements and industry best practices. The next step was to complete a comprehensive hazard analysis to identify and prioritize the potential risks associated with the new buses and charging stations and to identify possible engineering, procedural, training, and administrative controls and mitigations to eliminate or reduce the identified risks to levels acceptable.

Ultimately, the team developed and implemented a robust process to verify design, construction, installation, testing and operational requirements and safety controls were implemented prior to placing the buses and charging stations into service.



Assignment

Design and implement a system safety and security program and implement a risk analysis process to ensure electric bus fleet and charging stations met all necessary safety, regulatory, and operational requirements.



Offering

Operational Risk Management



Impact

- Established a cross-functional committee of experts to assist in managing the risks associated with the procurement.
- Completed the hazard analysis and fire/life safety assessment needed to safely and effectively implement a fleet of new battery electric buses and charging stations.
- Identified, prioritized and documented engineering decisions to meet regulatory requirements and to improve safety and integration of the new technologies into operations.

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