Operational Sharing 02: Strategic HV Cable Management in Petrochemical and Refining plants

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Abstract:

Ensuring the reliability of HV cable systems is vital in industrial settings where electrical continuity affects operations. This paper introduces a structured, multi-criteria framework to assess cable condition, performance, and recovery potential. It combines qualitative and quantitative indicators across five dimensions: data collection, cable health, diagnostics, recovery system status, and consequence analysis. Each is scored via a traffic-light system (Green/Amber/Red) to visualize risks and guide maintenance priorities. Recovery feasibility is also evaluated, including re-energization, temporary generation, fault access, and spare availability. A refinery case study demonstrates the framework's effectiveness in identifying vulnerabilities and supporting strategic decisions. The paper concludes with recommendations for integrating the model into digital asset management and predictive maintenance systems.