

## 803 – The implementation of 24/7 condition monitoring in electrical infrastructure

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Abstract: In a process industry, uptime is key, and is entirely dependent on power. No power = lost production.

This paper focuses on how and why annual thermographic inspections of electrical infrastructure are replaced with 24x7 condition monitoring and highlights the operational efficiencies, financial benefits (estimated 30% cost savings), lower downtime (reducing failures by 70%) and increased safety that can be achieved.

It also looks at the reasons for the acceleration in the evolution from inspection to monitoring including Covid, the drive for digitization and big data analytics which enable the transition from preventative maintenance to predictive maintenance. It highlights why electrical design and specification should be revised now (including for retrofit in aged assets) to incorporate new technology, reduce risk, extend asset life, increase safety and meet digitization goals.

It covers key elements and decisions essential for digitization:

- Sensors capable of acquiring reliable, accurate and uniform data for the life of the asset
- The cloud - to capture and store 'big data'
- Analytic tools such as A.I. and M.L. to predict faults from data analysis