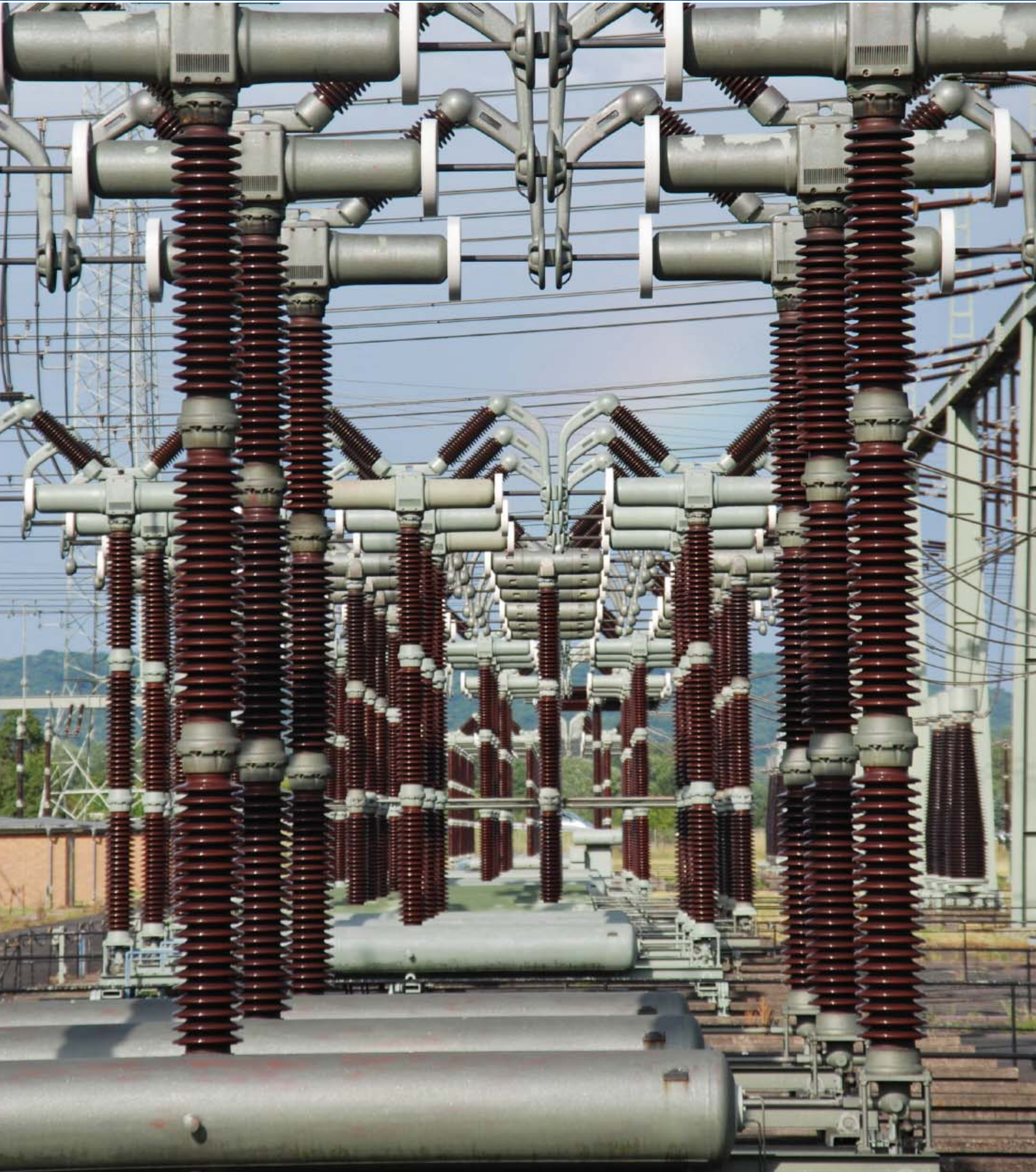


**ERA**  
TECHNOLOGY

Power Quality and Reliability



Industry and commerce is reliant upon the integrity of electrical and electronic equipment to ensure the continuity of business processes. Reliable, adequate and continuous electricity supplies to communications, computing, process control systems and plant that are vitally important.

Public electricity supplies are subject to a wide range of possible problems such as voltage fluctuations, waveform corruption and partial or total failure, and any of these can affect the operation of electrical and electronic equipment. Problems can be caused by faults on the public supply network as well as from disturbances imposed on it by other connected customers. The severity, frequency and impact of these effects will depend upon the characteristics of the local electricity supply, the type of equipment connected to it and the measures taken on site to mitigate them.



ERA Technology provides a comprehensive and cost-effective power quality investigation service that identifies and quantifies power quality problems and recommends mitigation measures to ensure that equipment performs adequately. ERA also advises customers on how to comply with their own requirements for limiting disturbances imposed onto the local electricity supplier's network.

In helping to identify and manage the effects of poor power quality, ERA also provides an advisory service to ensure clients have appropriate standby or uninterruptible power supplies to meet their operational requirements in the event of transient or longer-term supply failure.

### Power quality investigation service

Good electrical power quality is vital to ensure that connected equipment is not damaged nor causes excessive disturbance to the supply power waveform. Many companies are unaware of the effect that distortion of the supply power waveform can have on their own or their neighbours' power supplies. This can result in premature failure of electrical equipment causing disruption to business processes.

To avoid these risks, ERA carries out power quality investigations. A typical investigation includes:

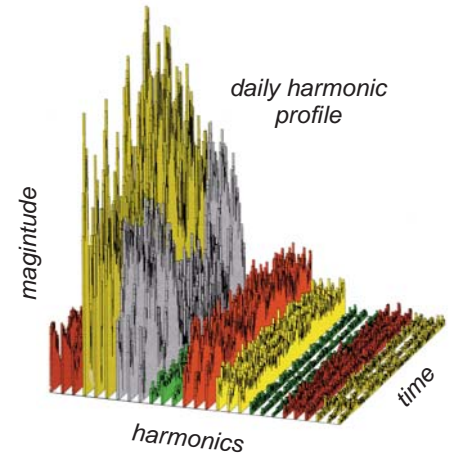
- An overall site survey to determine the type and level of distortion and the resulting effect on other equipment
- A survey at the point of common coupling prior to the installation of new equipment
- Analysis of the effect of new equipment with respect to compliance with electricity supply industry requirements
- Recommendations for any remedial action
- Advice on cost effective solutions to either mitigate or eliminate the distortion.

### Standby and uninterruptible power

To raise the integrity of the electricity supply, users with critical processes or equipment should install alternative electrical support in the form of standby power generation, uninterruptible power supplies (UPS) or power conditioning equipment.

ERA's standby power advisory service offers potential standby power supply users assistance covering all aspects of the system; from initial load characterisation through specification to the final testing of a new installation.

Existing standby power supply users can also benefit from a comprehensive audit as ERA's experience has identified that some systems are unnecessarily complex or badly designed resulting in an increased risk of disruption rather than an improvement in the continuity of supply. A fully integrated approach is important, particularly where load growth due to increased business needs can lead to a situation where the standby system fails to perform adequately. Common failures in installation design and practice can be identified and corrected by a regular and effective system review.



### Benefits

Power quality and standby power consultancy services help clients:

- Identify the source and severity of power disturbances
- Mitigate the effects of poor power quality
- Reduce disruption resulting from equipment malfunction or power failure
- Improve the quality of power supplies to maximise the life of equipment
- Save costs on premature equipment replacement
- Confirm compliance with electricity support industry standards and regulations
- Verify performance of standby power and power conditioning to avoid downtime.

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