



## **GENERATOR SET BASICS**

### **BASIC CONSIDERATIONS**

There are two basic conditions to be considered when sizing generator sets:

The steady state condition : When the load is constant

The transient condition : When load is changing i.e. applied or removed

A rating sufficient for the steady state condition may not be sufficient to meet the transient conditions if stringent limitations on voltage or frequency dips are specified.

### **DETERMINING THE TOTAL LOAD**

- Add up all the individual loads
- Add for anticipated future growth

### **DETERMINING THE GENERATOR SET RATING**

- Rating is based on the Total Load as determined above
- Allow for specific transient requirements and performance criteria

### **FORMULA**

The basic formula for electrical power is:

$$\text{Power in kW} = \text{kVA} \times \text{PF}$$

$$\text{Single phase system kVA} = \text{V phase} \times \text{I phase} \times 1000$$

$$\text{Three phase system kVA} = \sqrt{3} \times \text{V phase} \times \text{I phase} \times 1000$$