

## What is this form?

This checklist helps our engineers analyze your electrical network under normal operating conditions to assess voltage profile, loading, and system performance.

Fill in as much as you can, partial information is always helpful.

- Estimates are fine.
- Attach any existing drawings, bills, or equipment lists you have.
- Our engineer will follow up if anything needs clarification.

## Your Contact Details

**Company / Organization:** \_\_\_\_\_

**Site Name & Address:** \_\_\_\_\_

**Your Name & Role :** \_\_\_\_\_

**Email Address :** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Date Completed:** \_\_\_\_\_

## A. SITE & SUPPLY OVERVIEW

<b>Industry / Sector</b>	<i>e.g. Oil &amp; Gas, Hospital, Commercial</i>	<b>Facility Description</b>	<i>e.g. Manufacturing plant, data center</i>
<b>Operating Hours</b>	<i>e.g. 24/7 / Mon–Fri 8am–6pm</i>	<b>Is supply critical?</b>	<i>Yes / No tolerate short interruptions?</i>
<b>Utility / Grid Supplier</b>	<i>e.g. TNEB, National Grid, Eskom</i>	<b>Supply Voltage at Site</b>	<i>e.g. 11 kV, 33 kV, 415 V</i>
<b>No. of Incoming Feeders</b>	<i>e.g. 1 main, 2 independent</i>	<b>Applicable Grid Code / Standard</b>	<i>e.g. IEEE 519, IEC, local utility spec</i>
<b>Paying Power Factor Penalty?</b>	<i>Yes / No / Not sure</i>	<b>Tariff / Contract Type</b>	<i>e.g. HT-1, Industrial, Time-of-Use</i>
<b>Approx. Monthly kWh</b>	<i>e.g. 250,000 kWh/month</i>	<b>Peak Demand (kVA or kW)</b>	<i>e.g. 850 kW from utility bill</i>
<b>Target / Required Power Factor</b>	<i>e.g. 0.95 lagging (utility requirement)</i>	<b>Harmonic Limit Applied</b>	<i>e.g. IEEE 519 / utility-specific / unknown</i>

## B. TRANSFORMERS (Provide SLD if available)

Tag / Name	KVA Rating	Primary KV	Secondary V	Year / Age	Notes
<i>e.g. TR-01 Main</i>					

<b>Any OLTC (On-Load Tap Changers)?</b>	<i>Yes / No / Not sure</i>	<b>Transformers dedicated to VFDs/furnaces?</b>	<i>Yes / No — describe below</i>
<b>Additional transformer notes</b>	<i>e.g. One transformer feeds compressor room only...</i>		



<b>Capacitors ever tripped / failed?</b>	<i>Yes / No describe below</i>	<b>Any SVG / SVC / Active Filter?</b>	<i>Yes / No / Brand &amp; rating</i>
<b>Notes on PF correction (trips, fuse issues, problems)</b>	<i>e.g. Panel trips Monday mornings when production starts, replaced fuses twice...</i>		
<b>Solar PV Installed / Planned?</b>	<i>Yes / Planned (year) / No</i>	<b>Solar Capacity (kWp DC)</b>	<i>e.g. 500 kWp</i>
<b>Solar Inverter Brand / Model</b>	<i>e.g. SMA Sunny Tripower, Sungrow</i>	<b>Solar Exports to Grid?</b>	<i>Full export / Limited / Self-consumption only</i>
<b>Standby / Prime Generator?</b>	<i>Yes-standby / Yes-parallel with grid / No</i>	<b>Generator Capacity (kVA)</b>	<i>e.g. 2 x 500 kVA</i>
<b>Battery Storage (BESS) Installed/Planned?</b>	<i>Yes / Planned / No</i>	<b>Battery Capacity (kWh)</b>	<i>e.g. 500 kWh</i>

## E. PROBLEMS & SYMPTOMS OBSERVED

Tick everything you have experienced even if it seems minor or unrelated:

- High electricity bills / unexpected increases
- Equipment tripping / shutting down unexpectedly
- Flickering lights (especially when large equipment starts)
- UPS alarming or switching to battery unexpectedly
- VFD / inverter drives faulting or failing early
- Communication / signal interference on cables
- Production stoppages caused by electrical issues
- Failed electrical audit / inspection finding
- Power factor penalty charges on utility bill
- Motors or transformers running hot / overheating
- Voltage dips or sags lights dim momentarily
- Capacitor bank tripping, blowing fuses, or damage
- Sensitive equipment (PLC, instruments) malfunctioning
- Transformer humming louder than normal / vibrating
- Utility has raised concerns or issued a written notice
- Other, describe below

<b>Describe problems in your own words</b>	<i>What happens, when it happens, how often, which equipment is affected...</i>		
<b>When did problems first start?</b>	<i>e.g. After new VFDs in 2022 / Always been an issue</i>	<b>How often?</b>	<i>e.g. Daily / Weekly / Random / Peak production only</i>
<b>Production loss or downtime caused?</b>	<i>Yes, describe / No / Minor impact</i>	<b>Estimated financial impact (per year)</b>	<i>e.g. USD 50,000 lost production / Hard to estimate</i>

## F. EXISTING DATA & DOCUMENTS (tick what you can share)

- Single Line Diagram (SLD) even an old one
- Load list or equipment schedule
- VFD / UPS technical datasheets or manuals
- Power quality measurement report
- Fault logs from protection relays / breakers
- Generator / DG set datasheet
- Photographs of main switchboard / MCC
- Electricity bills last 6–12 months
- Transformer nameplates / test certificates
- Previous electrical study or audit report
- SCADA / BMS energy & demand data
- Capacitor bank / APFC panel datasheet
- Solar PV / inverter documents
- Cable schedule or routing drawings

## Existing Site Measurements (leave blank if no data)

Measurement	Value (if known)	Location	Date
Power Factor			
Voltage (L-L)			
Current (A)			
Voltage THD %			
Current THD %			
Peak Demand (kW/kVA)			

## G. YOUR OBJECTIVES & STUDY SCOPE

Tick your top priorities:

- |   |  |
|---|--|
| <input type="checkbox"/> Reduce electricity bill                        | <input type="checkbox"/> Eliminate power factor penalty charges        |
| <input type="checkbox"/> Stop equipment tripping / unexpected shutdowns | <input type="checkbox"/> Reduce motor / transformer overheating        |
| <input type="checkbox"/> Comply with utility or grid code requirement   | <input type="checkbox"/> Connect new renewable energy (solar / wind)   |
| <input type="checkbox"/> Connect a new large load or expand the site    | <input type="checkbox"/> Improve overall reliability and uptime        |
| <input type="checkbox"/> Understand root cause of electrical problems   | <input type="checkbox"/> Extend equipment lifespan, reduce maintenance |
| <input type="checkbox"/> Prepare for electrical audit / inspection      | <input type="checkbox"/> Other, describe below                         |

<b>Most important goal for this engagement</b>	<i>What does a successful outcome look like for you?</i>		
<b>Project completion timeline</b>	<i>e.g. Utility compliance deadline 3 months / No specific deadline</i>	<b>Utility written notice / requirement?</b>	<i>Yes attach letter / No</i>
<b>Study needed for permit / tender / approval?</b>	<i>Yes, describe / No</i>		
<b>Any other requirements or context</b>	<i>e.g. Sensitive process line that cannot be disrupted, noise complaint, insurance requirement...</i>		

### COMPANY NAME

Full Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_

### What Happens Next

Our engineer will review your form shortly and contact you.