Selection of Site

The selection sites will be done such that the sites are representative of all sector of the electricity sector.

♦ Installation of Power Quality Monitor

In this project, the power quality monitor will be installed at 50 industrial sites to get the data. For the 1st year, power quality monitors will be installed at 25 sites at the northern and eastern region. Another 25 sites at the central and southern region will be monitored during the 2nd year. Equipment that will be used for data monitoring is FLUKE 1750.

♦ Industrial Survey

An industrial survey regarding the power quality problems in the industries will be conducted to collect information regarding the type of load, mitigation technique used and the associated cost due to power quality problems.

The survey will be carried out to enable the consultant to understand the industry production process, the equipment employed and losses incurred due to the incidence of power quality events. From this survey, the various cost associated to power quality especially harmonics and voltage sags will be accurately assessed.

UTM Centre of Electrical Energy Systems
UNIVERSITI TEKNOLOGI MALAYSIA

Global Technology and Innovation Management Sdn Bhd (GTIM) is the consulting arm of UTM. Centre of Electrical Energy Systems (CEES) through GTIM has been awarded a 30 months consultancy project, namely *Power Quality Baseline Study for Peninsular Malaysia.*

Consultant Project Team

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4) Mohamed Onn Daud
- ♦ Logging and monitoring

5) Mohd Salleh Serwan
- ♦ PQ database

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Suruhanjaya Tenaga

Request for Voluntary Participant of Power Quality Baseline Study for Peninsular Malaysia

Objective

- To obtain the baseline data on power quality events and the sources through the power quality monitoring programs.
- To determine the standard utility and consumer reference impedance, estimate the industrial economic losses, and validate the international standards with Malaysia environment.
- The results from this study will be used by the Energy Commission to determine the suitable period for implementation and enforcement of the Malaysian Standards regarding to power quality.

Requirement:

◊ Permission for competent person to access the premises for PQ logger installation.

◊ Reasonable procedure in obtaining access permission.

Benefits:

◊ Contribute to the development of good Power Quality standards for the benefits of all in Malaysia.

◊ The host company will be given a copy of the data recorded no cost.

◊ The recorded data can assist the host company to evaluate and improve its power quality.

FLUKE 1750

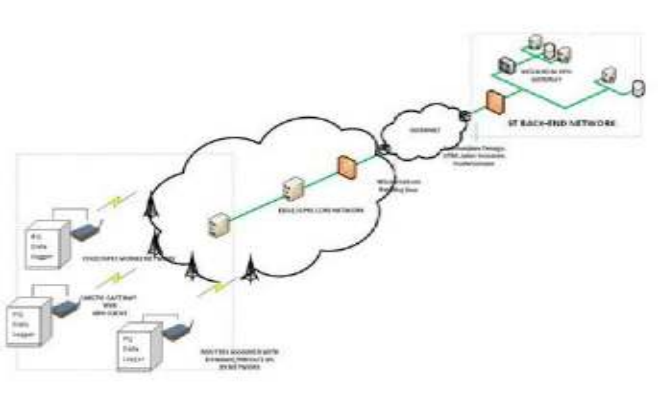
Applications

Long-term analysis:
Uncover hard-to-find or intermittent issues
Power quality surveys: Quantify power quality throughout a facility, documenting results with professional reports
Quality of service compliance:
Validate incoming power quality at the service entrance
Semi-permanent monitoring:
Monitor critical equipment, capturing power quality events to correlate with equipment malfunction

Power quality measurement standards	
Conformance	IEC 61999-1-4 Class 1, IEC 61000-4-30 Class A or B depending on measurement function, IEEE519, IEEE1159, IEEE1459
Maximum recording period	At least 31 days
Measurement time control	Automatic
Maximum number of events	Limited only by the size of the internal memory
Power requirements	100 to 2 40 V rms ± 10 %, 47-63 Hz, 40 W
Operating time during interruptions (internal UPS operation)	5 minutes per interruption, 60 minutes total operating time without recharging
Dimensions	215 mm x 310 mm x 35 mm (8.5 in x 12.2 in x 3.5 in)
Mass (weight)	6.3 kg (14 lb)

PQ MONITORING SYSTEM

◊ A broadband modem will be installed to connect the recorder for networking with database server. A UPS will be provided to ensure data recording will not be interrupted or corrupted as a result of supply interruption. The recorder will be equipped with a storage system for data backup. The PC supplied can act as a temporary storage, in case the communication system failed.



◊ During the monthly maintenance checking, the recorder data or the PC data will be backed up and later brought and copied to the server.

Advantages

◊ PQ monitor reading are transmitted to a central processing unit and processed along with the knowledge about the overall power system model to estimate the location of the voltage sag origin.

Reply Form

Please tick at the box provided below:

☐ Yes, I would like to participate as a volunteer in this project

☐ No

Name: _____

Designation:_____

Company Address:_____

_____

Tel: _____

Fax: _____

For any enquiries, please contact Fatimah bt Salim at 03-2615 4398/ 4515 or email to fatimah@ic.utm.my or fax to 03-2515 4516

IMPORTANT NOTES

◊ All data are confidential and will not be used for any regulatory enforcement.
◊ Energy Commission will not use this data as basis for any action under electricity act and regulation.
◊ Data will be used as representative sample to get accurate picture of power quality statistic in Peninsular Malaysia for appropriate action that will benefit all stakeholder.