Energy Storage Analysis

Objective:

To provide users with the relevant skills to model energy storage systems, in particular battery storage, for different types of applications and studies.

Pre-requisites:

- **MUST have attended the 'Introduction to Renewable Generation Analysis' course**
- **MUST have attended the 'Dynamic Analysis of Renewable Energy Generation' course**
- A good working knowledge of the basic techniques used in PowerFactory.

Schedule and Cost:

Please visit https://www.digsilent.co.za/training-courses/ for the latest scheduled course dates and costs.
PowerFactory license, for the duration of the training course, is included.
Please note the booking clauses on the registration form.

CPD Points: 1

Duration: 1 day

Topics to be covered:

Theory

- Brief introduction to presently available battery technology
- Different battery systems and interconnections
- Typical controllers used
- State of charge calculations

Steady State Calculations

- Modelling storage for load flow calculations
- Short circuit / fault level current contributions
- Reactive capability considerations (Q capability)

Quasi- Dynamic Calculations

- Using Time and file based characteristics.
- Time based load flow
- Quasi-dynamic simulations
- Introduction to QDSL

Power Quality

- Modelling harmonic current injections
- Harmonic load flows.

Dynamic Studies

- Introduction to built in models in Powerfactory and control models (f, V and P)
- Performing fault studies