

Bearbeitung: offen
Zeitraum: ab sofort



Typ: Bachelor Thesis (BA)
Thema: **Security Constrained Unit Commitment for creating Active Power Time Series**



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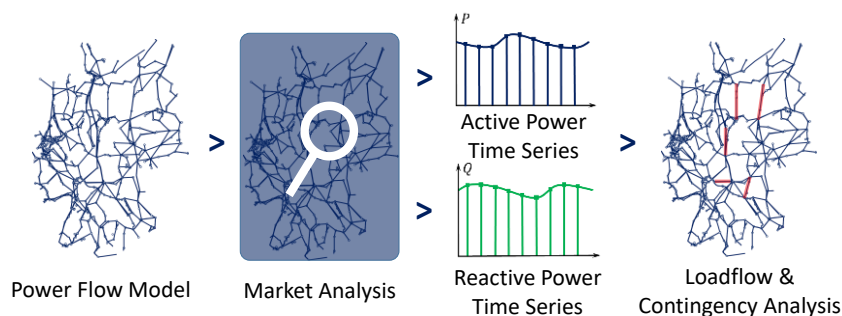
Keywords: Security Constrained Unit Commitment, Time Series Load Flow, Contingency Analysis, Optimization

Description

The initialisation of dynamic controller models for RMS simulations is based on load flow results and depends on the operating points of the energy sources and consumers.

To estimate the stability of future grids, operating points of the energy sources are determined within the scope of market analysis. However, the hourly-based output of the market analysis do not contain exact operating points, but rather indicate potential ranges for thermal power plants as well as uncertainties for renewable energy sources.

In this work, the Security Constrained Unit Commitment (SCUC) problem will be solved to determine time-based active power operating points. In this context, the N-1 criterion and cost-efficient grid operation must be taken into account.



Scope

- Getting started with DigSILENT®PowerFactory
- Introduction to Python™ /MATLAB®
- DC Power Flow Contingency Analysis using Linear Sensitivity Factors
- Formulating and solving the Security Constrained Unit Commitment problem.

Requirements

- Independent, careful and structured way of working
- Knowledge of electrical power systems
- Motivation to be part of the Kopernikus-ENSURE research project

KOPERNIKUS
PROJEKTE
Die Zukunft unserer Energie

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