



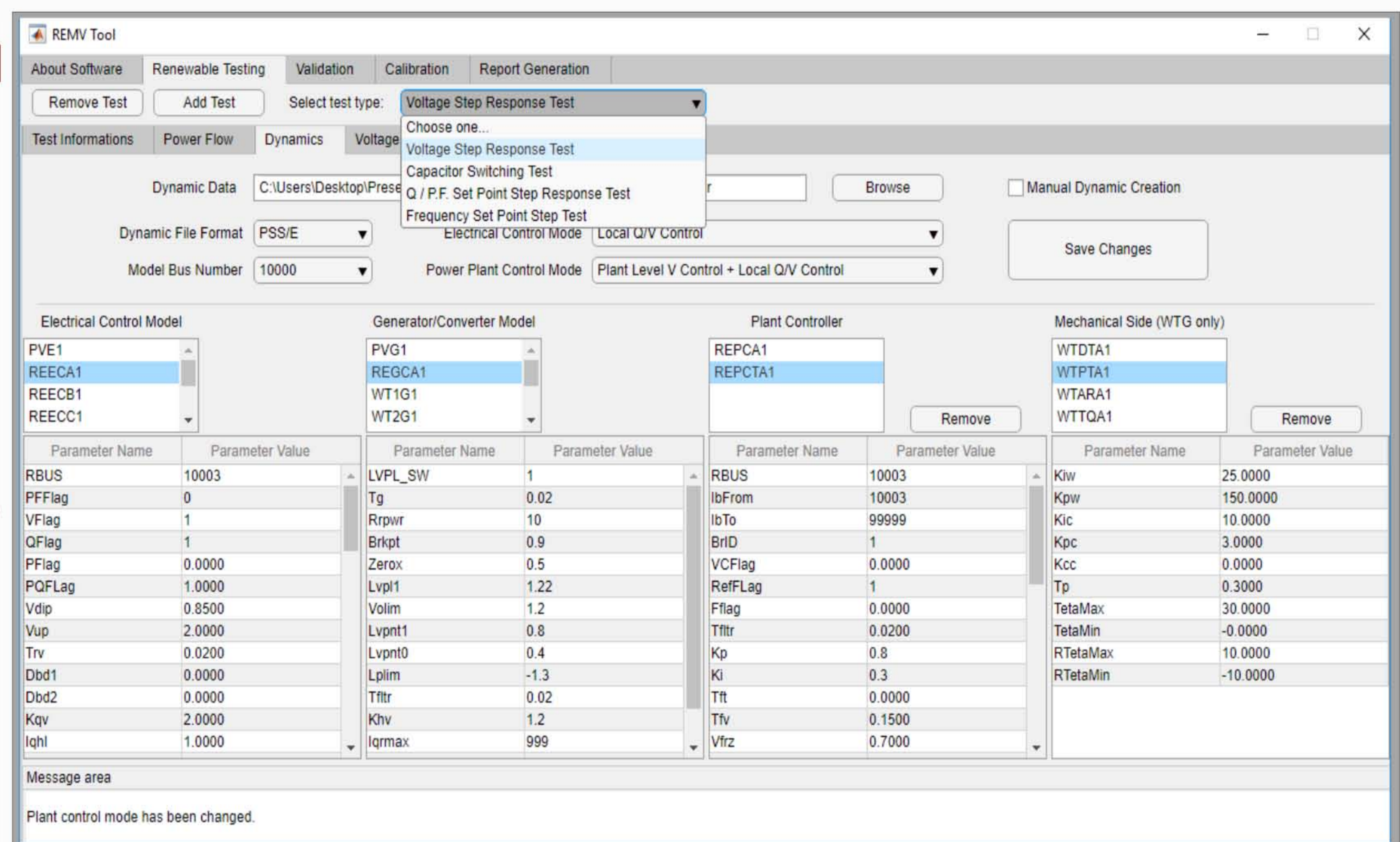
REMV

Renewable Energy Model Validation Tool

REMV is the only and comprehensive software for renewable energy model validation tool using test measurements. REMV includes a rich set of renewable energy tests and studies to perform model validation and comply with requirements. REMV also includes a comprehensive set of model library for renewable energy. REMV uses the cutting edge technologies such as artificial intelligence for the purpose of model validation and parameter identification.

Applications

- ➔ Renewable power plant (wind & PV) model validation and parameter estimation
- ➔ Renewable energy model development
- ➔ Parameter sensitivity analysis
- ➔ NERC compliancy studies (i.e. MOD-25-1, MOD-26-1, MOD-33-1, etc.)
- ➔ Control systems design and tuning
- ➔ Noise reduction and fault detection on data
- ➔ Other



Validation

Calibration

Wind & Solar

Baseline Test

Model Development



REMV

Key Features

- Modern and user friendly user interface
- Comprehensive model library for wind and solar energy systems
- Comprehensive test library for renewable power plants
- Capability to perform simulations using third-party software (DSATools, PSS/E, PSLF)
- Compatibility with major third-party input data formats (including DSATools, PSS/E, PSLF)
- Perform model validation studies using measurements
- Manual and engineering knowledge based parameter identification
- Artificial intelligence and optimization based parameter identification
- Report generation feature to ease with report preparation
- Comprehensive and detailed user manual

The image displays two screenshots of the REMV software interface. The top screenshot shows the 'Calibration' tab with a table of parameters and an 'Optimization is in Progress...' dialog box. The bottom screenshot shows the 'Validation' tab with a table of test sets and two graphs showing 'Line Reactive Power (MVAR)' vs. time for different test sets. Below the graphs is a schematic diagram of a power system with components like 'External System Equivalence', 'Tap line', 'Station Transformer', 'Collector feeder', 'Pad mounted Transformer', and 'Generator'.

Bus#	Model Name	Par. Name	Initial	New Value	Min	Max	Identification
10000	REPCTA1 1	Kp	0.8	0.1147	0.0800	0.1200	<input checked="" type="checkbox"/>
10000	REPCTA1 1	Ki	0.3	0.0810	0.0800	0.1200	<input checked="" type="checkbox"/>

No.	Test Name	Quantity	Bus/Branch Number	Scenario	Contingency	Run Original	Run Modified	Measurement	Calibration
1.	+1% Voltage Step	Line Reactive Power (MVAR)	10003 99999 '1'	1	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Q (MW)	<input checked="" type="checkbox"/>
2.	+2% Voltage Step	Line Reactive Power (MVAR)	10003 99999 '1'	1	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Q (MW)	<input type="checkbox"/>

Bus#	Model Name	Par. Name	Initial	New Value	Authorized	Identification
10000	RECEA1 1	Kqi	0.1000	0.1000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10000	RECEA1 1	Kvp	0.200	0.200	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10000	RECEA1 1	Kvi	50.000	50.000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10000	REPCTA1 1	Kp	0.8	0.8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10000	REPCTA1 1	Ki	0.3	0.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10000	REPCTA1 1	Kc	0.0	0.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

REMV supports different types of renewable energy models including type 2, 3, 4 renewable power generations. Furthermore, REMV allows the users to create simulation and powerflow cases in different formats without using the third-party software through a very user friendly interface. For the users without third-party software, REMV offers development of power system models in a premium REMV stand alone software.

About Power Grid Innovations

Power Grid Innovations is home to a broad range of scientists, engineers, and technical specialists, with capabilities in power system studies, software development, smart utility services, microgrids, renewable energy, automations and electrical testing. These skilled researchers have decades of collective and real-world experience and often work in cross-departmental teams to investigate, diagnose and solve complex problems.

