

Transient Stability

Dynamic Innovative Sophisticated

The Transient Stability module enables engineers to accurately model system disturbances and events while performing studies such as load shedding, fast bus transfer, critical clearing time, and generator start-up. You can split or combine multiple subsystems, automatically simulate relay actions and associated circuit breaker operations, and accelerate or re-accelerate motors. Combined with incredible plotting and graphical results, engineers can truly master power system stability.

transient
stability

A Dynamic Approach to Transient Analysis

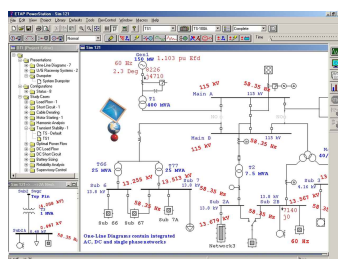
Key Features

- Unlimited Events & Actions**
- Short Time & Long Time Simulation**
- Variable Simulation Time**
- Comprehensive Exciter/Governor Models**
- Automatic Load Shedding**
- Relay & User-Defined Actions**

(User-Defined Dynamic Models Optional)
(Generator Start-Up Analysis Optional)

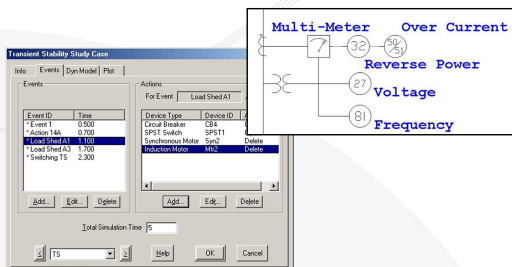
Flexible Operation

- Simulate unlimited system disturbances & operations
- Relay-controlled actions
- Automatic load shedding
- User-controlled simulation
- Frequency-dependent generator, motor, & network models



Actionable Relays

- Voltage relays • Overcurrent relays
- Frequency relays • Motor relays
- Directional overcurrent relays
- Reverse power relays

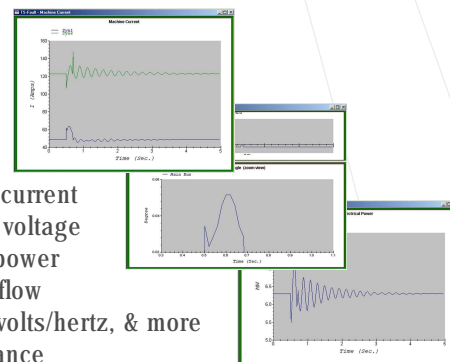


Event Simulation

- Apply/clear faults • MOV starting
- Generator/load rejection • Impact loading
- Operate circuit breakers & switches
- Generator Start-Up (optional)
- Induction motor acceleration/re-acceleration
- Synchronous motor acceleration
- Segment (fractional) faults for cables & transmission lines
- Governor isochronous/droop switching
- Reference machine switching
- Electrical or mechanical motor loads
- Set exciter & AVR parameters
- Set turbine or engine parameters
- Set speed governor parameters
- Adjust control relays
- Change operating modes
- Loss of excitation

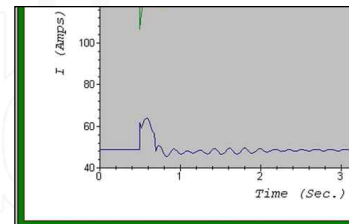
Plots & Reports

- Motor torque & slip
- Generator voltage & current
- Generator frequency & rotor angle
- Exciter output voltage & current
- Motor current & terminal voltage
- Mechanical & electrical power
- Branch power & current flow
- Bus frequency, voltage, volts/hertz, & more
- Machine terminal impedance
- Superimpose plots
- Customize output reports using Crystal Reports®
- Time-varying graphical display of results



Dynamic Models

- Round rotor & salient pole synchronous machines
- Rotor damper windings
- Single-cage & double-cage induction machines
- IEEE type exciter/AVR models
- IEEE type governor/turbine models
- MFR specific exciter & governor/turbine models
- Power system stabilizers
- Mechanical load models
- User-Defined Dynamic Models (optional)



Software For The Next Millennium

- Unlimited Buses* & Elements
- No Voltage Limitations
- Looped & Radial Systems
- Integrated 1-Phase, 3-Phase, & DC Systems
- Multiple Generators & Grid Connections
- Multiple Isolated Sub-Systems
- Customizable Libraries
- Graphical Display of Results on One-Line Diagrams
- Customizable Font Types, Sizes, Styles, & Colors
- Customizable Display of Ratings & Results
- Graphical Display of Equipment Impedance & Grounding
- Automatic Error Checking
- Graphical Display of Overstressed Devices
- Graphical Display of Over/Under Voltage Buses
- Dynamically Adjust Display of Results

*Maximum number of energized buses during calculations is license dependent.

10 CFR 50 Appendix B • 10 CFR 21 • ANSI/ASME N45.2-1977 • ASME NQA-1
ISO 9001 A3147 • ANSI/IEEE Std 730.1-1989 • CAN/CSA-Q396.1.2-89

