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.

A Dynamic Approach to Transient Analysis

transient stability

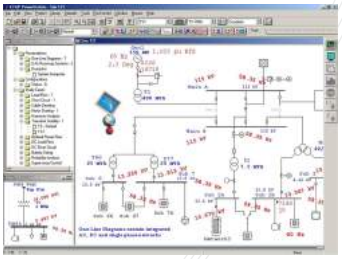
Key Features

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)

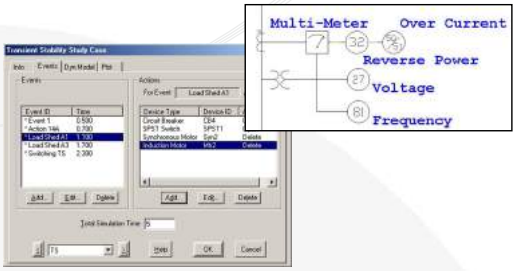
Flexible Operation

- 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



Software For The Next Millennium

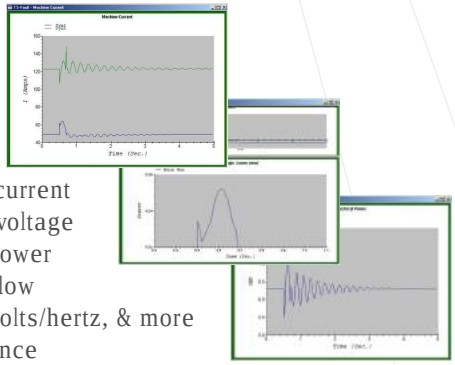
Unlimited Buses* & Elements
No Voltage Limitations
Looped & Radial Systems
Integrated 1-Phase, 3-Phase, & DC Systems
Multiple Generators & Grid Connections
Multiple Isolated Sub-Systems
Customizable Libraries
Graphical Display of Results on One-Line Diagrams
Customizable Font Types, Sizes, Styles, & 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.

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

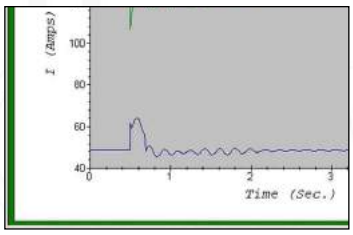
Plots & Reports



- 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)



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

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