

Optimal Capacitor Placement

Selective Efficient Powerful

Optimal Capacitor Placement allows engineers to strategically place capacitors for voltage support and power factor correction while minimizing installation and long-term operation costs. The advanced graphical interface gives users the flexibility to control the capacitor placement process and graphically view the results. The precise calculation approach automatically determines the best locations and bank sizes. In addition, it reports the branch capacity release and the estimated savings during the planning period due to var loss reduction.

Optimize Size & Location to Minimize Costs

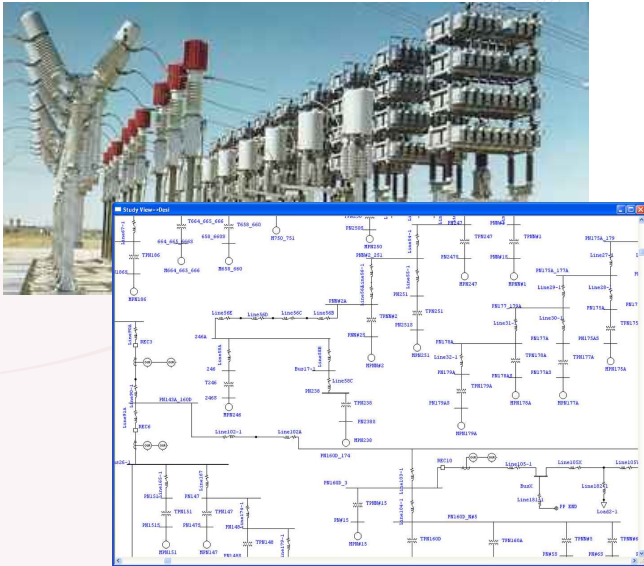
optimal capacitor placement

Key Features

- Optimal Location & Bank Size
- Minimize Installation & Operation Costs
- Individual Source or Average Energy Cost
- Voltage and/or Power Factor Objectives
- Minimum, Maximum & Average Loading
- Branch Capacity Release & Cost Savings
- Review Capacitor Impact on the System
- Capacitor Control Method

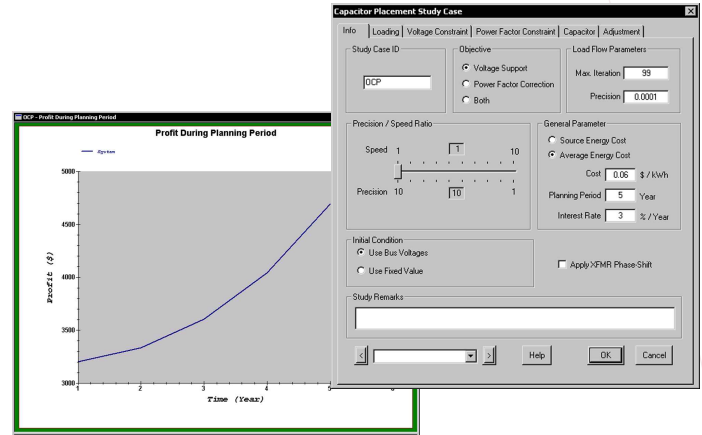
Flexible Operation

- Selectable candidate locations
- Selectable capacitor types & bank sizes
- Different loading categories
- Multiple cost functions
- User-defined planning period & interest rate
- Optional capacitor placement objectives
- Flexible constraints



Capabilities

- Find capacitor's best location & bank size
- Minimize the total cost of installation & operation
- Uses a Genetic algorithm (with heuristic initialization) to find a global optimal solution
- User selectable capacitor placement objectives: voltage support, power factor correction, or both
- Global or individual constraints
- Analyze capacitor control method & review capacitor impact on the system with load duration setting
- Handle radial or meshed balanced networks
- User-controlled speed & precision ratios
- Determine available capacitor installation locations by users
- Determine maximum capacitor size using maximum load & determine switchblade capacitor size using minimum load
- Use global average energy cost or individual source energy cost
- Focus on savings during the whole planning period
- Report branch capacity release
- Integrated load flow features
- Graphical display of new capacitor information (location, size...) & load flow results



Advanced Battery Selection & Verification

- 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.

Plotting

- Loss reduction savings during the planning period
- Capacitor operation cost during the planning period
- Annual savings during the planning period

Reporting

- Capacitor properties
- Capacitor locations & sizes
- Load flow results
- Branch capacity release
- Customize output reports using Crystal Reports®



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

