

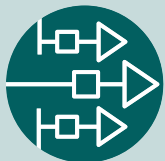


PlanOS

The comprehensive software platform to confidently plan for a reliable, resilient, and stable energy system.

PlanOS* provides a holistic approach to planning for your energy system's most pressing challenges. This platform leverages the robust algorithmic capabilities of our decades-proven planning software (MAPS, MARS, and PSLF) and breaks down traditional planning silos. With PlanOS you can analyze the economics, reliability, and power flow of your system, as well as confidently plan for capacity expansion. With the option to augment your modeling with GE Vernova's robustly mapped power system dataset, you can enhance your analysis capabilities and accelerate model development. Your unified dataset model will seamlessly flow between native single- or multi-function analysis – enabling truly integrated energy systems planning.

Integrated Planning Functions



Steady State Power Flow

Simulates physical behavior of the grid and connected equipment.

Answers the question: Does my transmission system “work”—under stressful conditions will it deliver electricity reliably, protect equipment and people, and comply with regulatory requirements?



Production Cost

Simulate the economic operation of the power system.

Answers the question: What is the most economical way to schedule generation to serve demand, given limitations in the transmission system?



Resource Adequacy

Assesses reliability of supply to serve customers.

Answers the question: Have I built enough generation, storage, and transmission so that I have enough capacity to reliably provide electricity when it is demanded?



Stochastic Capacity Expansion

Helps users develop a plan for building new generation

Answers the question: Knowing what generation we have today, and with estimates of future costs, demand, and regulations, what is the lowest cost reliable and compliant plan for new generation?

PlanOS

STEADY STATE POWER FLOW FUNCTION

Formerly "PSLF" software

KEY FEATURES & BENEFITS

- Execute transmission planning, interconnection analysis, and contingency analysis.
- Easily generate monitored and contingent element lists including custom contingencies for specialized use cases.
- Generation/load scaling and island detection utilities.
- Leverage graphical data preparation, editing, viewing, and reporting.
- An advanced API allows for easy script development.

More accurately describe and simulate the physical behavior of the grid and connected equipment under stable operating conditions, identify potential vulnerabilities, and help ensure reliable operation.

Plan for the future expansion of your power systems and help ensure that your existing network operates reliably under normal conditions with the Steady State Power Flow function of PlanOS. Improve your operations by determining the most suitable control and planning actions to help identify issues such as overloaded equipment and voltage instability before they become problematic. With PlanOS your team can more easily assess the impact of changes in generation, demand, network topology, and faults in the power system.



Analyze power systems in normal steady-state conditions and optimize operation by determining most suitable control/planning actions.



Identify potential issues such as overloaded equipment or voltage instability, and assess impact of changes in generation, demand, network topology, and faults in the power system.



Ensure the existing network operates reliably under normal conditions and plan for the future expansion of power systems.



ADVANCED POWER FLOW SOLUTIONS AND CONTINGENCY POWER SYSTEM ANALYSIS

Full-Scale, Full-Scope Simulation

Effective power system performance analysis requires large-scale simulations and large volumes of data. GE Vernova recognizes these imperatives and the Steady State Power Flow function of PlanOS meets those needs with detailed and comprehensive modeling of even the largest systems.

Effective data management is as important as the algorithms for which the data is used. With PlanOS, data is structured using a relational database and a variety of input and output formats are supported, as well as easy and flexible reporting of engineering results. Several engineering-judgement-based data checks are also available within the program.

Steady State Analysis

Network modeling is extremely detailed and flexible, allowing users to accurately describe and simulate their systems. Both AC and DC power flow solution methods are available, including full Newton-Raphson and decoupled approaches. The AC power flow includes a wide array of solution and control options to achieve fast and reliable convergence. Graphical viewing and inspection of solution results is available within the user interface.

Contingency and Transfer Analysis (formerly SSTools and ProvisoHD)

The Steady State Contingency and Transfer Analysis function of PlanOS provides the ability to perform traditional thermal contingency and transfer limit analysis using one common data format.

Diversified solution methods

AC and DC power flow, including full and fast-decoupled Newton-Raphson methods.

Data management

Leverage data preparation, editing, viewing, and reporting within the power flow solution engine.

Integrated development environment (IDE)

An advanced IDE allows for easy Python and EPCL script development and debugging.

Remedial action schemes

Model corrective controls in contingency scenarios for real-life power system operations.

With PlanOS you can plan for

TOMORROW'S GRID, TODAY.



HOLISTIC ASSESSMENTS AND STUDIES

With our inhouse experts, we can provide your team holistic studies that include:

- Power economics assessments and software tools that determine economic feasibility
- Grid stability and integration studies that evaluate the grid, transmission and distribution, and pathways to integrate conventional, renewable and emerging power sources; grid code compliance and specialty hardware products
- Carbon management consulting that inform customers' strategies to lower their greenhouse gas and carbon footprint.



POWER ECONOMICS AND SOFTWARE

Is a project worth building?



GRID STABILITY AND INTEGRATION

Can a project safely interconnect and reliably operate?



CARBON MANAGEMENT CONSULTING

Can you operate sustainably in the future?

WE HAVE
~140
ENERGY EXPERTS

THROUGHOUT
12
COUNTRIES

AND MORE THAN
100
PATENTS

PROJECT LEVEL STUDIES

- Is it worth building?
- Can it safely interconnect?
- Does the investment justify upgrades?
- What is the right technology?

SYSTEM LEVEL STUDIES

- Can the system operate with new projects?
- Can frequency and voltage stay stable?
- What technology is needed?
- What market rules to consider?

Powered by

PlanOS:



Power
Flow



Production
Cost



Resource
Adequacy



Capacity
Expansion

For more information, contact:
www.governova.com/consulting

