GERS

PORTFOLIO OF SERVICES AND CAPABILITIES

MISSION & VISION

GERS

MISSION

To contribute with the development, increase of reliability and efficiency of the electrical systems of our customers through studies, design, testing, and commissioning activities.

This mission is achieved through the use of the most advanced technology, the integral development of our human resources, teamwork, and the continuous improvement of quality.

VISION

To get established in the U.S. market and internationally as an engineering consulting company characterized for excellence in its services provided.

COMPANY PROFILE

GERS

GERS Is a group with more than 34 years of experience that provides Consulting Services in Electrical Engineering and associated areas. The group has incorporated companies in USA, Colombia, Chile, Ecuador and Mexico.

GERS has been involved in the completion of projects of important sizes and complexity for utilities, oil and gas facilities, industrial and commercial organizations of more than 35 countries around the world over the past three decades.

COVERAGE

GERS

PORTFOLIO OF SERVICES

GERS

POWER SYSTEM STUDIES

SMART GRIDS

DESIGN & ENGINEERING

FIELD SERVICES

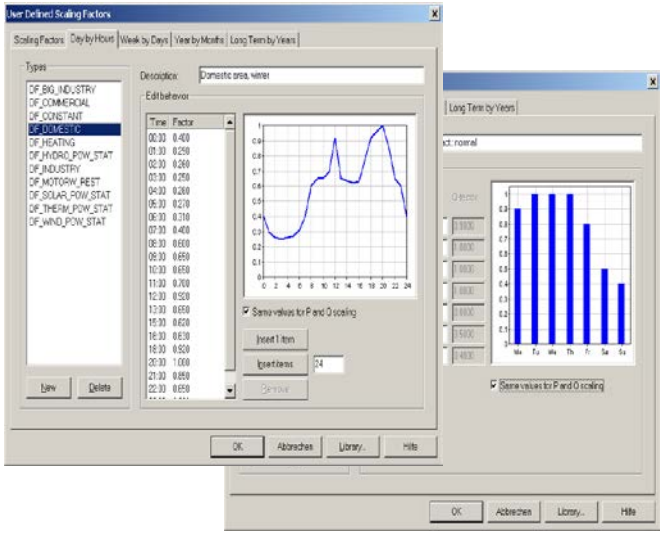
PSAT SUPPORT

TRAINING & COURSES

POWER SYSTEM STUDIES

GERS has a wide experience in realizing System Studies that includes the analysis of power exchange among different countries, modeling and analysis of national and big complexes networks, connection studies, short circuit calculations, transient behavior and power system control to achieve optimal operating conditions.

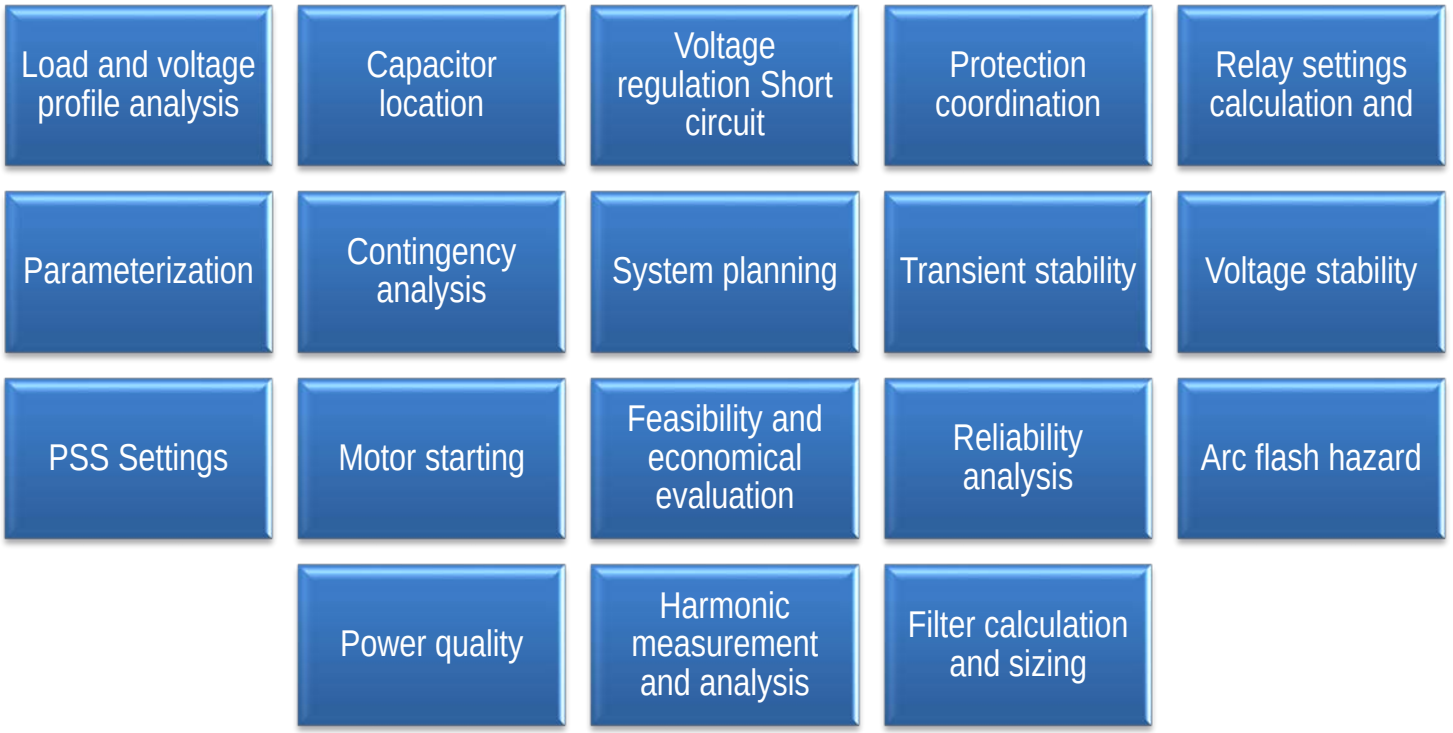
A vital complement of power systems quality analysis are the power quality analysis are the power quality measurements and analysis, whose importance is very high, talking into account the growing demanding standards of good service that utilities have to guarantee to users nowadays.



POWER SYSTEM STUDIES

GERS

The fields on which the company works are the following:



SMART GRIDS

GERS

Distribution systems are receiving great attention all over the world and huge investments are being poured to them since they are responsible for the most part of the service quality and the losses of electrical systems.

In our group we have develop also routines to best place and size capacitors that let the voltage profile meet the ranges approved and reduce loses.

SMART GRIDS

GERS

- Maturity Model
- Distributed Load Flow
- Volt/Var Management Systems
- Power Quality
- Harmonic Recording and Analysis
- Filter calculation and sizing
- Adaptive Relaying
- Optimal separation points
- Feeder reconfiguration
- Arc Flash hazard
- Distributed Generation
- Smart Grids Implementation
- AMI/AMR

PROTECTION AND CONTROL DESIGN

GERS

• Protection Engineering Designs for substations, power plants, industrial and commercial facilities.

•Single line diagram development

•Three line drawings

•AC / DC Schematics

•Control logic

•I/O mapping

PROTECTION AND CONTROL DESIGN

GERS

Testing and commissioning in service in two power plants 75 MW in Medan Indonesia

- Point to point cable schedules
- Control panel layout for protective devices
- Metering systems
- Substation automation
- Relay networks
- Substation communications / telemetry

FIELD SERVICES

GERS

GERS personnel can perform field acceptance testing and commissioning services of protective devices and associated equipment on any substation protection scheme.

Prior to energization, GERS will test system components in accordance with industry and manufactures standards. The finished system is energized and tested through very operational detail. Certified test reports following appropriate standards with all relevant information is submitted after the tests have been performed.

TRAINING AND OEM'S SUPPORT

GERS offers training services to customers willing to increase the knowledge of their personnel in specialized topics on which GERS engineers have a strong command.

On the other hand, GERS supports manufacturers who require widening the local support in places not covered by them where GERS engineers can access more readily. The training services are split in the following two categories:

- Specialized courses
- Product Support

SPECIALIZED COURSES

GERS

- System Modeling, Load Flow and Short Circuit Calculations
- Arc Flash Calculations and PPE specification
- Distribution System Protection
- Generator and Transformer Protection
- Relay Testing and Commissioning
- Circuit Breaker Testing and Commissioning
- Distribution Automation

The engineers in charge of the courses have postgraduate degrees and very good experience in consulting activities, and are university lectures.

Testing and Commissioning

Signature Projects

GERS

Organic Growth Project 1 (OGP1)

SCOPE OF WORK

Testing of medium & high voltage equipment and associated protection and control devices. Pre-operational testing over 230 and 69, 33 kV GIS Substations and 13.8, 6.6, 4.16 and 0.48 kV electrical distribution rooms including switchgears, MCCs and Power Transformers.

This Project is the biggest investment to increase the cooper production of Minera Escondida which is one of the largest open-pit mines in the world.

LOCATION

Minera Escondida, operated by BHP Billiton.
Antofagasta, Chile

CUSTOMER

Bechtel Mining & Metals

COMPLETED

2015

Testing and Commissioning

Signature Projects

GERS

OXIDE LEACH AREA PROJECT (OLAP)

SCOPE OF WORK

Testing of medium & high voltage equipment and associated protection and control devices. Pre-operational testing of medium & high voltage equipment and associated protection and control devices. Pre-operational testing over 230 and 69, 33 kV GIS Substations and 13.8, 6.6, 4.16 and 0.48 kV at 23 electrical distribution rooms.

LOCATION

Minera Escondida, operated by BHP Billiton
Antofagasta,Chile

CUSTOMER

Bechtel Mining & Metals

COMPLETED

2013 - 2014

SPECIALIZED COURSES

Signature Projects

GERS

NAPTIN POWER LOSSES REDUCTION TECHNOLOGIES

SCOPE OF WORK
Review and training on the current Distribution System and applicable power losses reduction methodologies to National Power Training Institute of Nigeria (NAPTIN).

LOCATION
Raleigh, NC
Abuja ,Nigeria

CUSTOMER
DNV-GL

COMPLETED
2013

Design, Studies and Testing and Commissioning

Signature Projects

GERS

LYBIA 450 MW GENERATION PROJECTS

SCOPE OF WORK

Design, Studies and Testing and Commissioning activities for 450 MW power plants installed in Lybia. The 450 MW are split in six temporary generation plants. Voltage levels: 0.4, 11.5, 30 and 66 kV.

LOCATION

Al Furnag, Al Khoms, Samnu, Zliten, Birmilad and Um Al Djadawel.

CUSTOMER

APR Energy

COMPLETED

2013

Testing and Commissioning

Signature Projects

GERS

ANTAPACCAY PROJECT –TINTAYA EXPANSION

SCOPE OF WORK

Testing of medium voltage equipment and associated protection and control devices. The works were performed in several electrical distribution rooms and one GIS 230 kV Substation.

LOCATION

Antapaccay, Peru

CUSTOMER

Bechtel Mining and Metals

COMPLETED

2012 - 2013

Testing and Commissioning

Signature Projects

GERS

FP&L SUBSTATION SCHEME MODIFICATION

SCOPE OF WORK

Testing and commissioning of Electrical protection devices. Setup of Digital Fault Recorders (DFR) and switches (RCPs) for relay networks that are communicated with FPL Control Center.

LOCATION

Transmission Substations: Charlotte, Collier, Florida City
Distribution Substations (Double Bus Outage Scheme Modification - DBOS): Auburn, Jet Port, Miami Lakes, Park, Rotonda, St. Joe, Deltona, Taylor, Brevard, Duval, and McGregor.

CUSTOMER

Power Grid Engineering

COMPLETED

2011 - 2014

Testing and Commissioning

Signature Projects

GERS

UNIVERSITY OF FLORIDA SCADA UPDATE

SCOPE OF WORK

Testing and commissioning of Electrical protection devices located at 5 and 13.8 kV Distribution Substations 5, 6, 10, 11, 12 and 13 inside UF Campus.

LOCATION

Gainesville, FL

CUSTOMER

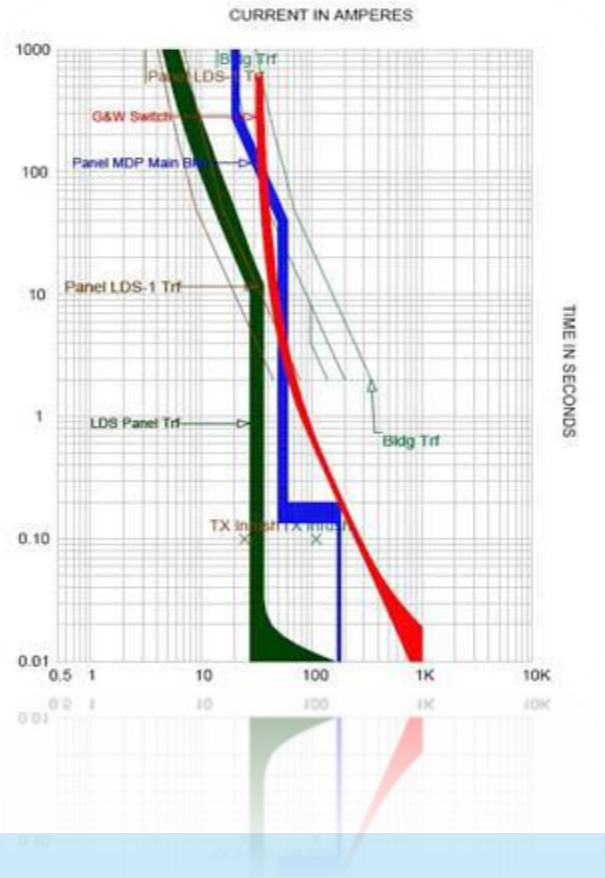
Power Grid Engineering

COMPLETED

2011 - 2013

Power Systems Studies
Signature Projects

GERS



LEESBURG 13 kV DISTRIBUTION COORDINATION

SCOPE OF WORK

Coordination Study for 13 kV distribution feeders L-61, L-62 and L-63. The work included optimal settings for relays, reclosers, VFI and development of tables for fuse-fuse coordination, relay-fuse coordination and recloser-fuse coordination.

LOCATION
Leesburg, FL

CUSTOMER
Power Grid Engineering

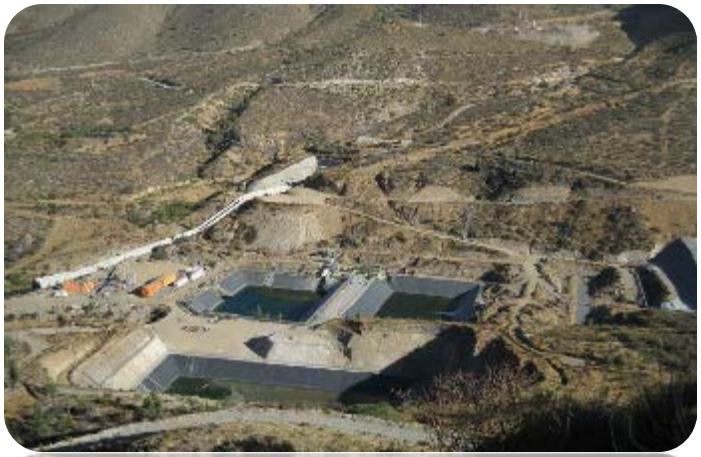
COMPLETED
2011

Testing and Commissioning

Signature Projects

GERS

LOS PELAMBRES COPPER MINE -REPOWERING II



SCOPE OF WORK

Testing of medium voltage equipment and associated protection and control devices.

LOCATION

Salamanca (Los Pelambres) ,Chile

CUSTOMER

Bechtel

COMPLETED
2009 - 2010

Design & Engineering
Signature Projects

GERS

NEW HOPE POWER PLANT

SCOPE OF WORK
Conceptual Engineering for connection of New Hope Power Plant to Okeelanta Sugar Mill. (Extension of the 132 /13.8 kV system)

LOCATION
SOUTH BAY, FL

CUSTOMER
FLORIDA CRYSTALS CORPORATION

COMPLETED
2009

Testing and Commissioning

Signature Projects

GERS

DAURA GENERATING STATION UNIT 5 AND 6

GENERATOR AND TRANSFORMER PROTECTIONS TEST

BUS TRANSFER TEST

SCOPE OF WORK

Testing in generator protection Beckwith M-3425A, transformer protection Beckwith M-3311 and distance protection Beckwith M-3520. Motor Bus Transfer MV commissioning was also included. Functional test and synchronization of the Units 5 & 6 to the HV Iraqi Electrical System.

LOCATION
Baghdad, Iraq

CUSTOMER
Bechtel

COMPLETED
2006-2007

Commissioning
Signature Projects

GERS

PETROBRAS - REFAP PROJECT

SCOPE OF WORK

Commissioning activities at Petrobras Oil Refinery Alberto Pasqualini.
Supervision and support during energization of all systems.
SCADA testing.

LOCATION

Canoas, Rio Grande do Sul, Brazil

CUSTOMER

Bechtel / Petrobras

COMPLETED
2005-2006

Testing and Commissioning
Signature Projects

GERS

SPALDING ENERGY POWER PLANT
(2 x 305 MW + 1 x 435 MW)

SCOPE OF WORK
Test, commissioning and calibration works for power transformers, instrument transformers, meters and relays at Spalding Energy Power Project. Combined cycle including 2 x 305 MW Combustion Turbine Generators and 1 x 435 MW Steam turbine generator connected at 420 kV National Grid through 3 Step up transformers. Balance of Plant electrical equipment were also commissioned.

LOCATION
Spalding, England

CUSTOMER
Bechtel Power

COMPLETED
2003-2004

Testing and Commissioning

Signature Projects

GERS

ARAUCARIA POWER PLANT (3 x 200 MW)

SCOPE OF WORK

Testing and commissioning of Electrical protection devices associated to 2 x 200 MW Combustion Turbine Generators and to 1 x 200 MW Steam Turbine Generator. The Power Plant is connected to the South Brazilian Grid at 138 kV through 3 step up transformers. Balance of Plant equipment was also commissioned.

LOCATION
Araucaria, Paraná, Brazil.

CUSTOMER
Bechtel

COMPLETED
2001-2002

Testing of protection

Signature Projects

GERS

SIDI KRIR POWER PLANT

SCOPE OF WORK

Testing of protection and control and metering devices associated to the Step up and Auxiliary Power Transformers and balance of plant medium and low voltage.

LOCATION
Alexandria, Egypt

CUSTOMER
Bechtel

COMPLETED
2000

REPRESENTATIONS

GERS

Standard Modules:

- Load Flow
- Load Profile Time Simulation
- Contingency Analysis
- Short Circuit Analysis
- Harmonic Analysis
- Motor Starting
- Calculation of Line Parameters
- Network Reduction
- Grounding System Analysis (GSLab)

Stability Modules:

- Voltage Stability
- Dynamic Stability – RMS / EMT
- Small Signal Stability

Advanced Modules:

- Reliability Analysis
- Reliability Centered Maintenance (RCM)
- Asset Management (Capex – Opex)

NEPLAN as Tool for Research

- NPL- Neplan Programing Library
- Matlab – NEPLAN
- Research Package

Optimization and Security Modules

- Optimal Load Flow, Contingencies N-1
- Available Transfer Capability Analysis (ATC)
- Optimal Distribution Network
- Reconfiguring of Distribution Network (Optimal Separation Points)
- Optimal Capacitor Placement
- Optimal Network Restoration Strategy
- Investment Analysis
- Feeder Reinforcement

Protection Modules:

- Overcurrent Protection (Selectivity Analysis)
- Distance Protection
- Fault Finding
- Arc Flash
- Current Transformer Saturation
- Cable Thermal Analysis

NEPLAN®
Smarter Tools

NEPLAN is a tool for analysis , planning , optimization and operation of electrical, water , gas and heating networks.

NEPLAN 360

NEPLAN ® 360 is the first fully browser-based power system analysis tool on the market and offers all advantages of cloud and intranet computing. The software does not need to be installed on a specific desktop computer or notebook, but is accessible through Login and Password everywhere through Intranet or Internet. The majority of commercially-available browsers are supported, e.g. Internet Explorer, Google Chrome, Safari, Mozilla Firefox. NEPLAN 360 is accessible through Web Services and allows therefore an easy integration with external GIS, SCADA or Smart Grid application, which is a big advantage over a classical desktop solution. It can also access map servers which are used by the Geographical Information Systems (GIS), in order to display any map together with the network. The software therefore can have the function of a software service (SaS).

CUSTOMERS

GERS

- ABB
- Allied New Technologies
- APR Energy
- Basler
- Bechtel
- Beckwith
- CFE 9 (Mexico)
- Comercializar
- Conve & AVS
- Florida Crystals
- Florida Power & Light
- Great River Energy / Arjay
- Hawai Electric Light / Beckwith
- IIE Mexico
- Integrated Trade Systems
- ITS
- Intergen
- ISA
- JM Engineers
- K&M Engineering and Consulting LLC
- Motorola / Jones Lang LaSalle
- New Hope Power Plant
- PREPA / Kema
- Power Gen – Trinidad & Tobago
- Power Grid Engineering
- Punta Gorda City – Florida
- Reinassance Hotel / PCS
- Siemens
- Titan America
- Topaz Power Group
- Toyota / All State
- Turbine Technology Services
- University of Florida
- University of Gonzaga
- University of Pensylvania
- UPME Colombia
- US Army Corps of Engineers
- Winn-Dixie / Preservation Power