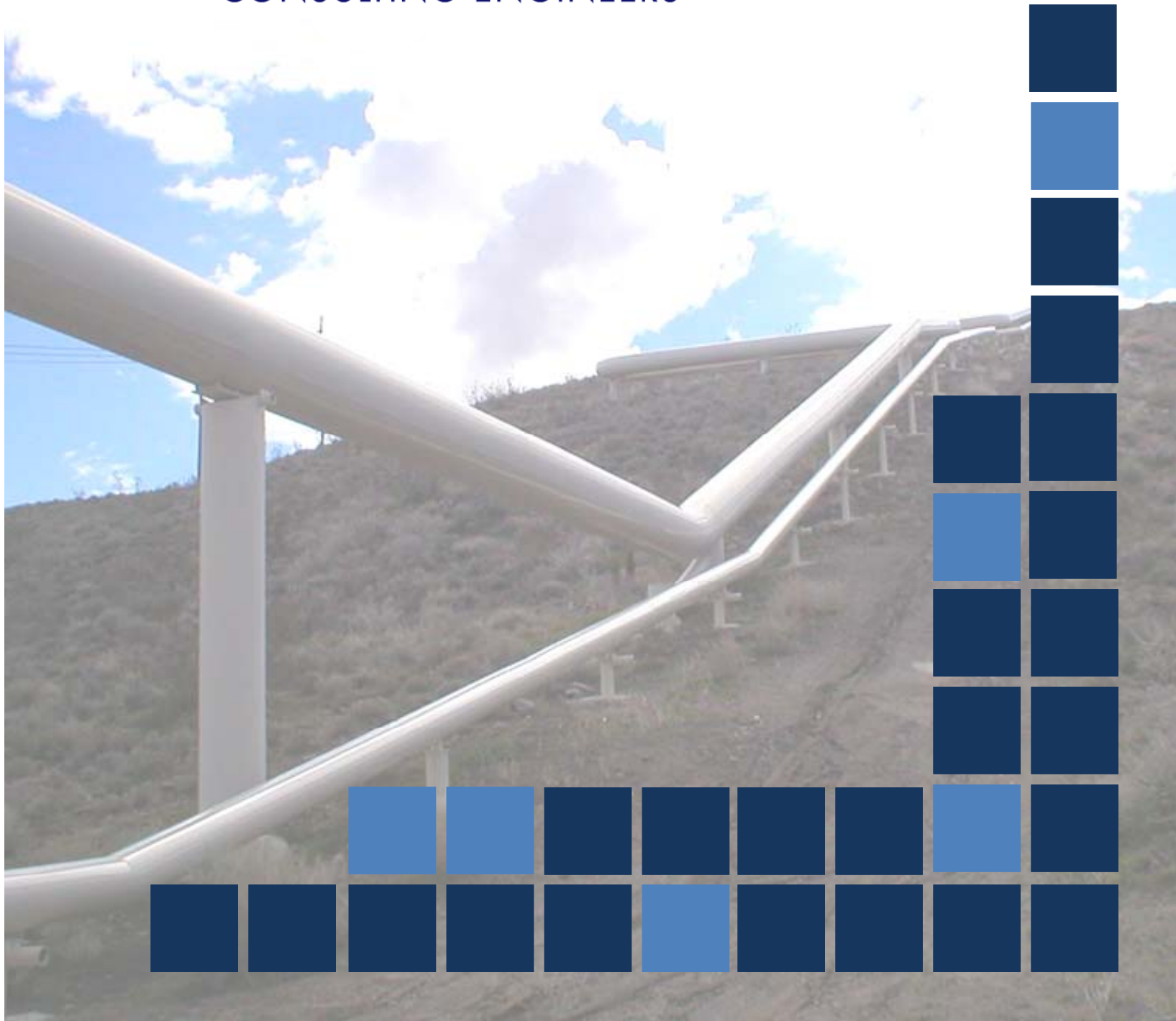




VEIZADES & ASSOCIATES, INC.

CONSULTING ENGINEERS







COMPANY OVERVIEW

Veizades & Associates, Inc. is a multi-disciplinary geothermal engineering and consulting firm providing solutions and innovative strategies in the geothermal and construction fields for our clients since 1979.

VEIZADES & ASSOCIATES, INC. is a professional engineering firm with offices in San Francisco, California. Our mission is to provide our clients with quality services that exceed our clients' expectations and fulfill their project needs. Our clients include geothermal power developers, producers, and engineering firms. We have developed an excellent relationship with local and international clients while providing our services.

VEIZADES & ASSOCIATES, INC. has developed expertise in innovative design of steam and two-phase aboveground pipelines in high relief terrain. Our project experience includes engineering new facilities as well as upgrading and retrofitting existing facilities.

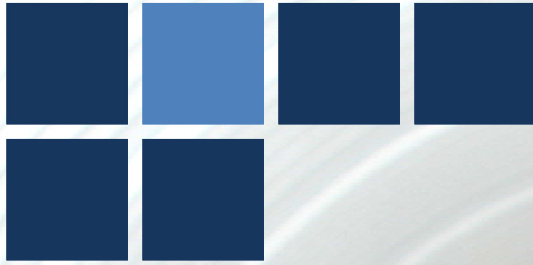
VEIZADES & ASSOCIATES, INC. has a multi-disciplinary staff of highly experienced and knowledgeable licensed professionals who hold registrations in the State of California, Nevada, and Hawaii. Our principal engineers are directly involved in the execution and completion of all of our professional services. Our company is committed to delivering efficient, cost effective, and quality services.

Contact Us

5 Third Street, Suite 400
San Francisco, CA 94103

Telephone 415.394.8855
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www.veizades.com



We Deliver QUALITY SERVICES

Geothermal energy fuels the future.

VEIZADES & ASSOCIATES, INC. provides a wide range of services while incorporating our client's specific needs. VEIZADES & ASSOCIATES, INC.'s engineers and experienced CAD designers collaborate together, with our clients, to efficiently deliver results.

Services provided by VEIZADES & ASSOCIATES, INC. include:

Civil and Geothermal Engineering

- ◆ Evaluation of modifications and expansions to existing facilities
- ◆ Design of Power Plant sites
- ◆ Design of access roads, drill sites, sumps, and drill cuttings storage facilities
- ◆ Design of storm drainage facilities for roads and site improvements
- ◆ Design impoundment structures
- ◆ Design soil disposal sites
- ◆ Preparation of right-of-way maps for construction easements and permitting documents
- ◆ Remediation or avoidance of geologic hazards (e.g. settlement, land sliding, subsidence)



Brine Pond. San Jacinto, Nicaragua



Separation Station. Germencik, Turkey



Mechanical Engineering

- ◆ Design of geothermal steam and two-phase gathering systems including pipelines, vent valve systems, metering, condensate collection, two-phase separation, pressure relief, and steam vent facilities
- ◆ Design of pumped brine (production) gathering system for binary plants
- ◆ Development of Piping and Instrumentation Diagrams and Process Flow Diagrams
- ◆ Design of brine and condensate injection systems including piping, pumps, metering, control valves, and wellhead facilities
- ◆ Design of non-condensable gas handling facilities (vacuum pumps) for plant performance optimization
- ◆ Computer analysis of hydraulic piping networks
- ◆ Single or two-phase pipeline pressure drop modeling
- ◆ Evaluation of steam scrubbing and polishing systems including design and installation of new systems and optimization of existing systems
- ◆ Computer pipeline stress analysis in conformance with ASME B31.1 Power Piping Code



Geothermal Well Testing Services

In conjunction with a team of reservoir sub-consultants, VEIZADES develops flow test procedures and fluid sampling protocol, training and on-site supervision. VEIZADES also provides the following services:

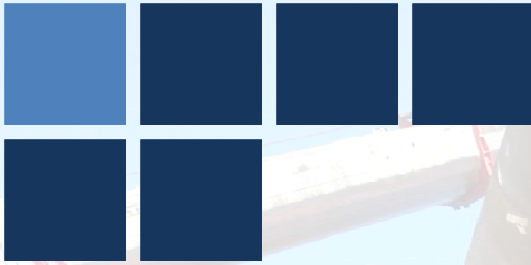
- ◆ Equipment design and procurement supports services
- ◆ Detailed design of portable flow lines and testing equipment
- ◆ Design of portable well test silencer and weir box
- ◆ Design of flow test sampling equipment and sampling separator
- ◆ Steam condensers and brine cooler design and supply
- ◆ Flow test supervision
- ◆ Wire line support services

Geothermal Project Feasibility Studies

VEIZADES works with a team of reservoir sub-consultants to prepare numerical and conceptual models, reservoir evaluations, drilling cost estimates, and power plant cycle evaluation and cost estimates. Additionally VEIZADES is active in the following:

- ◆ Preparation of Feasibility Studies
- ◆ Development of Project Pro forma's

Silencer and Weir Box, Germencik Turkey



Engineering Economics

- ◆ Project economic evaluation
- ◆ Produce material take-off lists
- ◆ Preparation of construction bid documents
- ◆ Project acquisition evaluation

Construction and Commissioning Support

Our services do not end with system design.

VEIZADES & ASSOCIATES, INC. engineers provide field support services on our projects. Behind every field engineer is a team of professional engineers available to provide constant support and timely on-site solutions to construction problems.

VEIZADES & ASSOCIATES, INC. provides facilities start-up and commissioning services. We also perform project construction management and field supervision.

Construction Site, The Geysers, USA



We Deliver
EXPERTISE

MANAGEMENT AND KEY PERSONNEL



Harry E. Veizades, PE, President

Harry Veizades gained a high-level of expertise with over 35 years of experience in the design and implementation of geothermal projects. Mr. Harry Veizades is the Principal Consultant for VEIZADES & ASSOCIATES, INC. and has acquired a specialized knowledge of the many geothermal projects in California and around the world. Mr. Harry Veizades has substantial experience coordinating projects for many city, county, and state agencies as well as for the public sector. Mr. Harry Veizades maintains his reputation as being responsive to clients' needs while providing strong technical expertise.

Mr. Harry Veizades holds a M.S. and B.S. in Civil Engineering from University of California, Berkeley. He is a registered Geotechnical and Civil Engineer in the state of California and registered as a Civil Engineer in the states of Nevada and Hawaii.

Mr. Harry Veizades' specific areas of expertise include, but are not limited to:

- ◆ Civil Engineering work
- ◆ Geothermal resource gathering system design
- ◆ Project Management, technical direction, and consultation
- ◆ Structural Engineering
- ◆ Foundation and pipe support design
- ◆ Value Engineering



Henry G. Veizades, Vice President



Henry Veizades has over 28 years experience in the design of geothermal projects. Mr. Henry Veizades holds a B.S. in Civil Engineering. He provides project direction and has been instrumental in providing responsive, cost-effective, on-site and remote consulting services to all our clients. His areas of expertise include:

- ◆ Conceptual design of geothermal projects
- ◆ Geothermal gathering and injection system design
- ◆ Design of access roads and geothermal well pads
- ◆ Stress analysis and flow analysis of geothermal piping systems
- ◆ Vent muffler design
- ◆ Construction management

Mehul A. Patel, PE



Mehul Patel has over 19 years experience in process and mechanical engineering for geothermal utility projects. Mr. Patel is the senior project manager for VEIZADES & ASSOCIATES, INC. His areas of expertise include:

- ◆ Feasibility study, conceptual design, and preliminary design
- ◆ Separation and pumping facilities design
- ◆ Pressure drop modeling of two-phase, steam, and brine
- ◆ Gas extraction and H₂S abatement systems design
- ◆ Power plant steam vent muffler design
- ◆ Economic analysis and total project cost estimation



We Deliver AROUND THE WORLD

LIST OF GEOTHERMAL CLIENTS

AltaRock Energy
Amoseas Indonesia, Inc.
BottleRock Power Corp.
CalEnergy International, Ltd – Indonesia
-Dieng Unit 1
California Energy Company, Inc. – USA
-Salton Sea
Calpine Operating Services Company, Inc. – USA
Central California Power Agency (CCPA) – USA
Comisión Federal de Electricidad – Mexico
Comisión Ejecutive Hidroelectrica Del Rio Lempa
Coso Operating Company, LLC – USA
-Coso Geothermal Power Plants
Daichi Jitsugyo Company, Ltd. – Japan
-Oguni Geothermal Power Plant
FPL Energy
Fuji Electric Company, Ltd.
Gardner Denver Nash
Geoglobal Power LLC – Chile
-Tolhuaca Study

Guris-Gurmat – Turkey
-Germencik Geothermal Power Plant
Instituto Costarricense de Electricidad – Costa Rica
-Miravalles Geothermal Power Plant
Kenya Power and Light Company – Kenya
LaGeo S.A. de C.V. – El Salvador
-Ahuachapan Geothermal
Lake County Sanitation District – USA
Landsvirkjun - Iceland
-Krafla Geothermal Field
Mandala Nusantara Ltd – Indonesia
-Wayang Windu Geothermal
Mammoth Pacific LP – USA
-Basalt Canyon Geothermal
Marco Power Group – Indonesia
Mighty River Power – New Zealand
-Kawerau Geothermal Power Plant
-Ngatamariki Geothermal Power Plant
Mission Power Engineering Company
NakNek Electric Association – USA



LIST OF GEOTHERMAL CLIENTS

Nevada Geothermal Power – USA	Santa Fe Geothermal, Inc.
Northern California Power Agency (NCPA) – USA	Taisei
Occidental Geothermal	Terra-Gen Power, LLC. – USA
Ormat, Inc. – USA	-Beowawe
-North Brawly Geothermal Power Plant	-Dixie Valley
Oxbow Corporation	Unocal Geothermal Indonesia – Indonesia
Pacificorp Energy – USA	-Salak Geothermal Power Plant
-Blundell Geothermal Power Plant	Utah Municipal Power Agency – USA
P.T. Inti Karya Persada Teknik – Indonesia	-Bonnett Geothermal
-Ulubelu Geothermal	Western Geo Power – USA
-Lahendong Geothermal	Yankee Caithness Corporation
Puna Geothermal Venture	Zorlu Petrogas – Turkey
Ram Power – Nicaragua	-Kizildere Geothermal
-San Jacinto Geothermal	

LIST OF NON-GEOTHERMAL CLIENTS

ACE Cogeneration Plant	Essar Oil Refinery
Cleantech America	Searles Valley Minerals
City of Ukiah Hydroelectric Plant	Tesoro-Golden Eagle Refinery



PROJECT LOCATIONS







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