

Frank Abegg

Energy Consulting Services

Name of Firm:

**Energy Consulting
Services, LLC**

Yrs With Firm/ Others:

1/ 36

Degrees/ Year/ Spec:

**BSEE - 1971
Bradley University
Electrical Engineering**

**MS Engr. Mgt. - 1976
University of Alaska,
Fairbanks**

**Mgt. Internship - 1987
University of Nebraska
Electric Utility Mgt.**

Active Registration:

4273-E/ Alaska - 1977

Experience:

Mr. Abegg has more than 35 years experience in the electric power industry. Frank also held both engineering and management positions at electric utilities in Alaska. His areas of responsibility included planning, licensing, construction, commissioning, and operation of power generation facilities. He has managed the operation and maintenance of diesel, gas turbine, and coal-fired power plants and district heating systems, including a crude oil pipeline. His areas of expertise include energy supply planning, negotiating and administering labor and fuel supply contracts, environmental permitting, risk management, power plant performance, maintenance management systems, power supply planning, and financial budgeting.

Frank worked at Golden Valley Electric Association (GVEA) in Fairbanks, Alaska for 17 years, where he managed the utility's power generation facilities and crude oil pipelines. GVEA's plants include a 25 MW pulverized coal-fired plant at Healy, a 40 MW oil-fired diesel and gas turbine plant in Fairbanks, a 26 MW oil-fired gas turbine at the Chena plant, and a 120 MW oil-fired regenerative gas turbine plant at North Pole, Alaska. Frank was GVEA's project manager on the 50 MW Healy Clean Coal Project, which was built by the State of Alaska next to GVEA's Healy #1 power plant.

Before joining GVEA, Frank worked 11 years for the Fairbanks Municipal Utilities System (FMUS). He was responsible for the operation and maintenance of a municipal power plant having 28 MW of coal-fired steam generation and 35 MW of oil-fired diesels and gas turbines. The FMUS plant also included district steam and hot water production and distribution facilities serving the downtown business area, along with a raw water pre-heating system for the adjoining municipal water treatment plant. He supervised both operations and maintenance of the plant, administered labor and fuel contracts, managed the annual budget, and provided engineering support on plant modifications and additions. Frank was project manager on the design, installation and commissioning of a 25 MW oil-fired gas turbine addition.

Project Experience includes:

- **60 MW Combined Cycle Plant Design:** Frank was project manager for GVEA overseeing the conceptual design and construction of a new 60 MW North Pole Expansion project at the existing North Pole plant. This assignment included managing GVEA Owner's Engineer and the company's project team to obtain permits, develop conceptual design, including a detailed scope of work, project schedule and budget for the RFP. After GVEA awarded the Contract. Frank administered the Contract during the design, procurement and start of construction of the facility under EPC – 2003 thru 2006
- **Ice Fog Reduction/Cooling Pond Study, Ft. Wainwright, Alaska.** Frank provided project management, as well as professional expertise in plant operations and systems, in identifying alternative cooling systems that would eliminate ice fog generated by the plant's cooling pond – 2000 to 2002

- **Battery Energy Storage System, Fairbanks, Alaska:** Frank provided project coordination services to ABB, the firm that constructed the 40 MW battery energy storage system for Golden Valley Electric Association (GVEA) in Fairbanks, Alaska. This system is the largest battery energy storage system in the world - 2002
- **25 MW Gas Turbine:** Frank assisted a project team in developing bid specifications for a gas turbine addition, including site improvements. Duties included evaluating and awarding the equipment supply and installation contracts, He provided quality assurance during construction, and witnessed the performance guarantee tests prior to final acceptance. He also performed the ambient noise survey to verify the gas turbine operation met required sound levels in an urban setting - 1976
- **Eielson AFB CHPP Emissions Reduction Study:** Frank's project team investigated methods for getting the Central Heat and Power Plant's coal-fired boilers into compliance with current State and Federal air emission regulations, specifically for particulate and opacity. The study reviewed the boiler operating and emissions monitoring practices of other coal-fired power plants in Interior Alaska and compared them to those of Eielson AFB's Central Heat and Power Plant (CHPP). The study recommended full-stream baghouses be installed on all six boilers. The study included an analysis of environmental permitting requirements, a conceptual design of the retrofitted CHPP with baghouses installed, and a budgetary cost estimate – 2000 to 2001.
- **Healy Clean Coal Project.** Frank provided consultant services to GVEA concerning the design and performance of this DOE-sponsored \$300+ million power plant – 1999 to 2003
- **Gas Turbine Performance Monitoring:** Frank designed, patented, and marketed a computerized gas turbine performance monitoring system that is used worldwide in the electric and oil/gas industry. The product was developed with the support of the Electric Power Research Institute (EPRI). Specific performance monitoring systems have been developed for General Electric, Pratt-Whitney, Solar, Westinghouse, and Ruston gas turbines, plus General Electric steam turbines – 1988 to 1997.
- **20 MW Steam Turbine Installation:** Frank was the on-site assistant to the General Electric field engineer during the installation and startup of a 20 MW steam turbine-generator. His duties included project record-keeping, parts inventory control, monitoring critical path schedule, and providing engineering assistance on the installation and checkout of electrical systems – 1971

Additional Projects:

Clear AFB CHPP Assessment 1999

UAF Power Plant Electrical Distribution System Study 2000

Ft. Greely CHPP Assessment (National Missile Defense) 2001

Shemya AFB CHPP Power Plant Assessment 2001

Eielson AFB Baghouse Project 2001-2002

Greater Fairbanks Military Complex Long Range Energy Supply Study - 2003