Resume of

CLIFFORD M. PRICE

ADDRESS 5511 Bentwood Elm St.
Spring, Texas 77379

Phone : (540) 225-2379 Mobile : (713) 376-9287
E-Mail : CandCResources@CandCPrice.com Alt. E-Mail : Cliff_Price@CompuServe.com
Web Site : www.CandCPrice.com

EDUCATION B.S., Mechanical Engineering, Drexel University
U.S. Navy Nuclear Power Training Program

LICENSES AND CERTIFICATIONS Registered Professional Engineer: Maryland

EXPERIENCE Over forty-eight years of experience in the design, construction and operation of utility power plants, cogeneration/trigeneration systems, and district heating/cooling applications. Experience includes project development, feasibility studies, due diligence, project management, construction support; technical specifications for major equipment and / or EPC services, engineering design and analysis; plant startup and operation; thermal performance testing, troubleshooting and analysis; development of computerized monitoring and diagnostic systems, and operator / engineer training. Familiar with most engineering codes and standards, MS-Project® management software, GateCycle™ and Thermoflow heat balance / modeling software, AutoCAD® drafting software, EtaPRO™ / Virtual Plant™ performance monitoring / modelling software, PI® data acquisition software, and all MS-Office® products.

2016 – Present **C&C Resources, LLC – Principal**

Augments clients' in-house Engineering Staff to provide general engineering support, technical modelling, and technical oversight for performance testing/reporting, power plant and district energy acquisitions, development projects, and implementation projects. Prepares / reviews technical specifications for major equipment and EPC contracts, and acts as Owner's Representative/Point-of-Contact for technical issues with regard to major equipment vendors and / or EPC contractors.

Provides due diligence engineering support to Owner(s) an as Independent Consultant, and has worked as part of a full-service, independent engineering team of experienced energy professionals and affiliated companies for various Combined-Cycle, Simple Cycle, and CHP/District Energy acquisitions. The team included Environmental, Operations, and Engineering experts and has the capability to provide Independent Engineering (IE) Reports for banks and private equity firm and new development projects.

1991-2016 **ENGIE North America (previously GDF SUEZ North America)**

Served as Director of Engineering for the Business Development Group responsible for conceptual design and performance of central power plants, industrial cogeneration plants, Combined Heat and Power (CHP) / district energy plants, and asset optimization projects. Previously responsible for developing and implementing a fleet-wide thermal efficiency / availability monitoring and improvement program, overseeing performance tests, and evaluating performance improvement projects.

Representative projects with this Company include:

- Served as Lead Development Engineer for several industrial cogeneration plants and two district energy / Combined Heat and Power (CHP) facilities. Also served as Lead Development Engineer for several large central plant projects being competitively bid into Mexico's Comisión Federal de Electricidad (CFE).

- Prepared the test protocol and served as test director of an ASME PTC-46 acceptance test for the sale of an 8-year old, 746 MW (nominal) combined-cycle power plant. Analyzed the test results and prepared the final test report.

- Evaluated various on-line performance monitoring and improvement platforms and recommended General Physics' EtaPRO™ system for all "high value" generating assets.

- Served as Lead Engineer for the refurbishment and upgrade of the HP-IP section of a (nominal) 500 MW fossil steam turbine at the Red Hills Power Plant. Prepared technical specifications and bid documents, evaluated proposals, negotiated technical and some commercial T&C's and prepared contact documents.

- Served as Lead Project Engineer during due diligence for the successful acquisition of ~1,626 MW of (primarily) hydroelectric assets from the FirstLight Power Corporation.

- Served as Lead Project Engineer during due diligence for the successful acquisition of an existing nominal 575 MW Combined-Cycle generating facility, as well as the ownership rights to a second, similar 575 MW permitted facility which had not yet begun construction.

- Served as Lead Project Engineer for the development of a 300 MW peaking facility, using predominantly secondary market equipment, to be erected adjacent to one of the Company's existing 740 MW Combined-Cycle Merchant facilities.

- Researched various Integrated Gasification Combined-Cycle (IGCC) technologies to determine the feasibility of retrofitting such technology to an existing 2x1 natural gas-fired combined-cycle facility located directly adjacent to a low-grade lignite mine and a mine-mouth circulating fluid bed power plant.

- Served as Lead Project Engineer for the development of an 80 MW LM-6000 based combined-cycle expansion to the Nassau Cogeneration Facility in Long Island, New York.

- Served as Lead Project Engineer during development of a high reliability / high availability combined heat and power plant to serve a "six 9's cyber center" in downtown Manhattan, New York. The project was placed on hold following the September 11, 2001 terrorist attack but had been anticipated to provide approximately 28 MW of power to telecom or other high technology customers, along with all their chilling / air conditioning needs, and to export surplus electric power to the local utility.

- Served as Project Manager / Lead Project Engineer for the development and initial phase of construction for a 40 MW biomass fired cogeneration plant in downtown St. Paul, Minnesota. Construction management was turned over to a joint venture partner for completion This facility burns waste wood and other agricultural waste products in a 300 Mlb/hr 1250psig / 950 ºF stoker boiler and produces 40 MW_{net} of dispatchable power for Xcel Energy. Electricity is generated in an extraction / condensing steam turbine and up to 250 MMBtu/hr of cogenerated energy is provided to District Energy of St. Paul for use in their district heating and cooling systems. This

plant was erected on a restricted 1¼ acre site, adjacent to District Energy of St. Paul's existing heating and cooling plant and attained C.O.D. in December 2002.

- Served as Project Manager / Lead Project Engineer for the construction of Trigen Energy's District Heating System in Prince Edward Island, Canada. This system was based around an existing 100 ton per day, municipal waste incineration facility and includes a new 26 Mlb/hr heat recovery steam generator and a dry scrubber connected to the exhaust of three existing waste incinerators. It also includes a new 80 Mlb/hr wood/oil-fired boiler, a relocated (used) 10 Mlb/hr wood/oil-fired boiler and a 1,200 kW back-pressure steam turbine. The energy plant supplies 250 ºF hot water to a new 14 km heating distribution system, and 30 Mlb/hr of steam to an existing steam distribution system. As part of the project, several customer facilities were converted from steam to hot water heating. Two 600-ton hot water absorption chillers and a 230 kW back-pressure steam turbine generator were also installed at customer's facilities

- Served as Project Manager / Lead Project Engineer for the construction of Trigen-Peoples' District Energy Facility at the McCormick Place Exhibition Center in Chicago. This facility includes three of Trigen's patented low temperature "tri-generation" machines (gas turbine driven ammonia chillers with an integral motor-generator on a common shaft). Each of the "tri-generation" machines is rated at 2200 tons or 1 MW_e nominal output and provides 6-7 Mlb/hr of steam production via non-fired heat recovery. The facility also includes 240 Mlb/hr of new steam production equipment from two 80 Mlb/hr package boilers and an 80 Mlb/hr supplementary-fired, fresh air augmented heat recovery steam generator. It is interconnected to an 8,500,000-gallon low temperature thermal storage tank, containing a patented cooling medium, along with existing chilling equipment existing steam production equipment.

- Served in various capacities (Start-up Engineer/Plant Manager/Plant Engineer/Operations Superintendent) during the first 1½ years of operation at the Trigen-Nassau District Energy Facility; a 57 MW combined-cycle cogeneration plant which provides district heating and cooling services to government buildings in Nassau County as well as to other nearby facilities on Long Island, New York. This facility includes a 40 MW GE Frame 6 combustion turbine, a 15 Mw GE controlled-extraction condensing steam turbine, a 235 Mlb/hr supplementary-fired heat recovery steam generator, 15,200 tons of steam turbine-driven York centrifugal chilling equipment, and 570 Mlb/hr of auxiliary boiler equipment.

1980-1991 **General Physics Corporation**

Served as Director of Technical Services for General Physics' Fossil Services Division. Responsibilities included supervision of training, operations, and performance consulting projects for utility and industrial power generation facilities. Involved in developing and implementing heat rate monitoring software, preparing performance test/monitoring procedures, instructing heat rate and performance related classes, and troubleshooting plant performance problems. Representative projects for this Company have included:

- General Electric/Virginia Power Company
  Developed training material and instructed two one-week unit-specific courses on a 210 MW combined-cycle power plant currently under construction. The course was targeted for engineers, supervisors, and managers, with course content focused primarily on the theory, operation, maintenance, and controls for a prototype General Electric MS-7001F gas turbine, Vogt heat recovery steam generator, and any unique, unit-specific features of the conventional, balance-of-plant steam system. Also provided SPEEDTRONIC Mark IV instruction for operators at a facility installing new General Electric MS-7001EA gas turbines.

- Atlantic Electric Company
  Evaluated the existing heat rate test methods and test instrumentation for two coal-fired units. Developed new, formal test procedures and performed a "pre-test" uncertainty analysis for boiler efficiency testing, turbine cycle heat rate testing, and unit heat rate calculations.

- Niagara Mohawk Power Corporation, Huntley Station
  Directed the ASME acceptance testing of a rebuilt turbine generator installed in a forty year old regenerative cycle.

- Consolidated Edison Company, 59th Street Station
  Analyzed the existing heat rate report methodology, developed PEPSE® models, and developed a computerized calculation/reporting system for three steam production units. Also developed PEPSE® models for Con Ed's 74th Street Station and Waterside Station.

- New York State Electric and Gas Corporation
  Developed unit-specific performance test procedures for routine testing of the boilers, air heaters, turbines, and condensers at all pulverized-coal fossil generating stations. Developed software to perform all necessary calculations and to generate a test report.

- Thermal Information Program (TIP™)
  Developed the BASIC language software for a computerized controllable parameters monitor, along with interactive diagnostic flowcharts to assist unit operators in identifying/correcting the cause of off-bogey plant operating conditions. This system was the ultimate predecessor to General Physics' current EtaPRO™ performance monitoring system.

- Advanced Operator Training (AOT©)
  Managed the development of and instructed the Advanced Operator Training Program for supervisors and control room operators covering "operator controllable" performance losses.

- Fundamentals of Power Plant Performance for Utility Engineers©
  Provided classroom instruction for engineers and technicians on equipment design, operating practices, and performance testing to optimize plant efficiency.

- New York State Electric and Gas Corporation, Somerset Station
  Prepared curriculum outlines and training material for (Mechanical) Repairmen and Flue Gas Desulphurization (FGD) plant operators at this 625 MW coal-fired station. Also provided classroom instruction for the FGD operators and their supervisors.

- Pennsylvania Power and Light Company, Susquehanna Steam Electric Station
  Reviewed and approved systems turnover packages provided by the Integrated Startup Group on behalf of the Plant Staff. Prepared and evaluated systems design modifications.

- Electric Power Research Institute
  Performed analysis of normal and emergency plant operations for six conceptual standardized D.O.E. breeder reactor designs to identify where design improvements could enhance operability.

1978-1980 **Long Island Lighting Company**

Served as a plant engineer at the Shoreham Nuclear Power Station, an 820 MW boiling water reactor plant under construction. Prepared plant systems descriptions, lesson plans, operating

procedures, and surveillance test procedures. Also responsible for coordinating the review and acceptance of systems turned over to the Plant Staff from the Integrated Startup Group. Participated in the pre-license training program for Senior Reactor Operators.

1974-1978 **Westinghouse Electric Corporation**

Served as a shift supervisor at the S5G prototype plant at the Naval Reactors Facility near Arco, Idaho. Responsible for the operation and maintenance of the plant, plus the nuclear training qualification of approximately 200 Naval students per year. Also served as the Staff Training Supervisor responsible for training, evaluation, and biennial re-qualification of staff instructors.

Served as an Associate Engineer at the Bettis Atomic Power Laboratory. Participated in the design of mechanical features on naval reactor cores and evaluated manufacturing deviations during core construction.

1970-1973 **Moore Products Corporation**

Worked as a co-op student in various capacities for a company developing and producing pneumatic instrumentation and controls while attending Drexel University.