

# Walter B. McCain, Jr.

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**Education**                      1982                                      Auburn University                                      Auburn, AL

- B.S., Electrical Engineering

**Experience**                      1995 – Present                                      Strategic Industrial Solutions                                      Birmingham, AL

**President**

- Incorporated a software integration company with emphasis on the natural gas industry.
- Provided consulting, engineering, software development and startup support to all aspects of automation projects including offshore platforms, liquid handling facilities, compressor stations, meter stations, regulator stations, dehydration plants, underground storage facility and liquid natural gas facilities.
- Developed and installed generic reciprocating engine software for use with setup files.
- Developed and installed generic safety RTU software for use with setup files.
- Developed and installed generic station set point control system with suction pressure, discharge pressure, discharge temperature, unit flow, low differential and high differential control.
- Developed and installed full control systems for various types of reciprocating, turbine and electric motor compressor units.
- Developed and installed cooling water, jacket water, oil and fin-fan temperature controls.
- Developed and installed liquid condensate metering, flow rate and run switching control.
- Developed and installed Emergency Shut Down (ESD) safety controls with bypass systems for offshore platforms, liquid handling facilities, compressor stations, dehydration plants and liquid natural gas facilities.
- Developed and installed liquid re-injection controls for offshore compressor station.
- Developed and installed air-to-fuel ratio control systems for reciprocating engines.
- Developed and installed unit safety shutdown systems with first out counters and storage arrays.
- Developed and installed ignition timing controls for two and four cycle reciprocating engines.
- Developed and installed simplified unit speed control system with governor logic.
- Developed and installed centrifugal anti-surge control systems with rate of change control, surge detection and shutdown logic.
- Developed and installed PID flow rate, pressure, liquid, differential, temperature, level and BTU control systems.

- Developed and installed BTU mixing control systems with loss of data override and shut in logic.
- Developed and installed electric motor control systems with start and stop sequences, and shutdown monitoring systems.
- Developed and installed dry bed natural gas dehydration control systems with regeneration flow control, heating cycles, cooling cycles and liquid measurement.
- Developed and installed liquid storage and flare gas control systems with meter system, valve sequencing, air ratio control and shutdown logic.
- Developed and installed unit unloader control system to maintain desired pressure set point.
- Developed and installed communications interfaces with CAT control panels, power monitors, various PLCs, SI gauges, ignition systems, emission control systems, temperature scanners, and third party RTUs, PLCs and DCS systems.
- Developed and installed unit valve controls for reciprocating and centrifugal compressors.
- Developed and installed safety control systems for LNG facilities. Controls systems monitored for fire, smoke, high temperature, low temperature (indicating an LNG leak), and combustible gas alarm conditions, and performed control actions based on these alarm conditions.
- Developed and installed yard valve control sequences for placing facilities online, offline and sequencing between online configurations.
- Developed and installed unit start sequences with failure modes.
- Developed and installed unit stop sequences with failure modes.
- Developed four-day training class for Bristol's 3335 RTU hardware systems.
- Developed four-day training class for Southern Natural Gas's automation systems.
- Developed four-day training class for Destin Pipeline LLC's meter station automation software load file.
- Developed functional automation design specifications for compressor stations, meter stations, regulator stations, dehydration plants and liquid natural gas facilities.
- Developed operational manuals for offshore platforms, liquid handling facilities, compressor stations, meter stations, regulator stations, dehydration plants and liquid natural gas facilities.
- Developed various procedures including downloading a Bristol RTU, developing recipe files for the generic reciprocating engine software, and developing recipe files for the safety system RTU.

1994–1995

Sonat

Birmingham, AL

**Senior Engineer - Compressor**

- Provided technical and administrative support for all aspects of compressor facility operations.
- Coordinated efforts of engine analysis program relating to test equipment procurement, training, guidelines and procedures.
- Started and administrated a reciprocating engine horsepower curve development program.
- Performed compressor design review for enhanced field operations and planning groups.

- Developed and implemented various software ignition timing, air-to-fuel ratio and governor control systems.

1988–1994                      Sonat                                      Birmingham, AL

**Senior Engineer - Automation**

- Provided technical and administrative support for all aspects of compressor automation including system functionality, software and equipment specifications, software development and installation, hardware procurement, and software and hardware troubleshooting.
- Specified, engineered, programmed, installed and tested Bristol Babcock ACCOL software programs for a vast array of different automation applications from small system enhancements to large projects including reciprocating engine and turbine controls, surge control, dehydration plant control, pressure, flow and temperature control, valve sequencing and auxiliary system control.
- Provided project management and startup testing for the levelization of compressor automation systems to ensure facility reliability, personnel safety, software consistency and simplified troubleshooting.
- Directed efforts to develop automation training material for operating and maintenance personnel that included 31 detailed training courses.
- Developed detailed software specifications for new automation systems and enhancements.
- Directed the installation of 92 Bristol Babcock and Texas Instrument meter station RTUs in a 7-month span.
- Directed automation team to audit all aspects of automation to improve system operations, administrative practices, procedures and guild lines.

1987–1988                      Sonat                                      Birmingham, AL

**Project Engineer – Special Projects**

- Directed project team in selecting and implementing a system wide preventive maintenance system including the development of all technical related procedures for electrical, measurement, communications, corrosion and automation.
- Directed project team in developing detailed outlines and testing procedures for a technical skill verification program.

1983–1986                      Sonat                                      Birmingham, AL

**Engineer – Communications**

- Responsibility for technical support of telecommunications and supervisor control and data acquisition (SCADA) systems.
- Developed specifications, purchased and directed installation of SCADA Harris RTUs.
- Directed \$11.5 million 600-channel microwave telecommunications system installation. Responsibilities included site selection and path profile review, equipment specification and procurement, and overseeing installation and startup.