

Engineering & Management Consulting Services



December 2014

**General Information and
Qualification Statement**

Serving the Natural Gas Industry Since 1960



Heath and Associates, Inc.

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Heath and Associates, Inc.

108 W. Warren St, Suite 300

Shelby, NC 28150

877-252-2347

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We are an engineering and management consulting firm. We serve a client base of 30-40 publicly and privately owned gas systems. The majority of our clients are located in the southeastern United States; however, we have national and international experience.

Heath and Associates is dedicated to the natural gas and energy industry. Our policy to completely reserve our services for this industry is formulated to develop a superior capability among our staff to solve today's gas industry problems.

Since 1960, Heath and Associates has served our clients in the energy industry. Heath's consulting performance is well grounded in a history of satisfied clients: utility companies, industrial and commercial corporations, governmental agencies, and new venture groups.

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CONTACT HEATH AND ASSOCIATES, INC

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HEATH AND ASSOCIATES, INC.

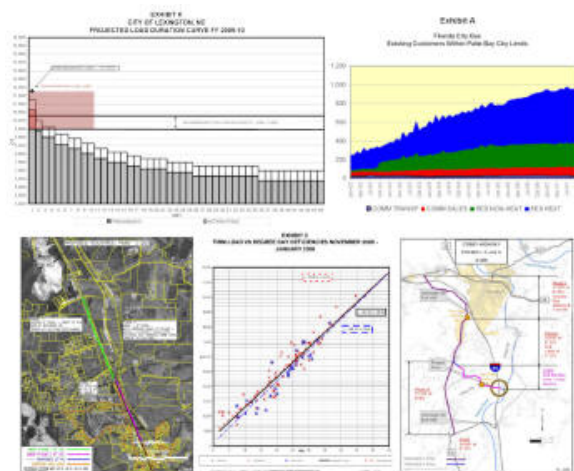
QUALIFICATIONS AND EXPERIENCE

MANAGEMENT STUDIES AND REPORTS

Heath and Associates, Inc., has successfully served the natural gas industry since 1960. We have conducted a variety of studies that address the operation and management of gas utilities. The majority of the studies can be categorized as system expansion feasibility, rate, gas supply, distribution flow analysis, or asset valuation reports.

We have performed many feasibility reports for significant expansions of existing gas distribution systems as well as for new gas distribution system initiation. The expansion studies have assisted our clients like the City of Shelby, the City of Monroe, the Jefferson Cocke County Utility District, the City of Fountain Inn, the Laurens Commission of Public Works, and the City of Lexington in successfully expanding their systems.

In these studies, project areas are identified and specific economic analyses computed. Heath and Associates ascertains the market potential of each project area via onsite surveys and develops forecasts for customer connections and typical usage by customer classification. We have extensive experience conversing and negotiating with industrial customers to identify potential loads and price sensitivity.



Construction conditions and cost estimates are a critical component of the economic feasibility analysis and are developed by our professional engineers who have many years of natural gas construction experience. Our expansion/feasibility reports are often used by our clients as a primary component of information packages used to secure financing.

Heath and Associates has helped our clients to construct many of the projects upon which the feasibility analysis was provided. Our record of accurately estimating costs and forecasting customer connections and loads is very good, and we invite you to confirm our performance with our clientele.



We have performed feasibility analyses for investor owned gas companies and entities desiring to establish new gas systems. Studies to establish new public or investor owned gas systems have been performed in many states. The service territory and capital requirements have varied from a few miles and less than two million dollars to over 800 miles and two hundred million dollars. Heath and Associates was instrumental in the establishment of Frontier Utilities of NC, and major expansions into eastern North Carolina by Carolina Power and Light's ENCNG division.

Heath and Associates is constantly monitoring gas supply costs and regulatory rulings that affect our client's gas supply strategies and rates. Heath and Associates conducts a number of cost-of-service rate studies each year. These rate studies include development of a comprehensive financial model of the system to evaluate various rates and scenarios. The model includes a forecast of customers and consumption and is related to the weather assumptions input. Gas supply costs and fixed operations and maintenance costs are also modeled. Our history of accurately setting rates and estimating net operating revenues result in many of our clients using Heath and Associates exclusively for their rate study needs.

Heath and Associates aids our clients in developing gas supply strategies. Gas supply and load forecasting studies are developed from a detailed review of the system operating statistics and the correlation of load requirements to climatological data. The load forecasting statistics developed enable clients to accurately manage their pipeline contracts and peak shaving requirements. Accurate load forecasting statistics are also utilized in daily nominating, seasonal forecasting, and budgeting.



Heath and Associates provides their clients technical operating reports that enable management to optimize their operations or troubleshoot system deficiencies. Cast iron replacement/maintenance plans and system distribution flow studies are examples of technical operating reports produced by Heath and Associates. Cast Iron replacement/maintenance plans assess and evaluate the condition of cast iron systems and develop a plan to maintain or replace these pipeline systems. Safety, regulatory compliance, and economics are integral parts of cast iron system studies. System distribution flow studies model a utility's flow rates and pressures to evaluate pipeline replacements, upgrades, or expansions. Heath and Associates' experienced staff can streamline the

consulting time involved in system distribution flow modeling quickly to identify problem areas and generate solutions.

Heath and Associates serves a client base of 20 - 30 gas systems in the Southeast and is on retainer with systems in North Carolina, South Carolina, and Tennessee. The majority of our clientele use Heath and Associates exclusively for their natural gas consulting needs.

Our firm assists clientele in the operation of their system as well as the preparation of system design and construction management for special projects. Heath and Associates has prepared operations and maintenance plans for thirty-nine gas systems in seven states. Heath and Associates also assists clients with Operator Qualification and Integrity Management programs and services.

Following is a list of management related studies that Heath and Associates has conducted in recent years. We invite potential clients to contact any of our clients and inquire as to our qualifications and performance.

MANAGEMENT RELATED STUDIES AND REPORTS

CLIENT	STUDY	YEAR
City of Lexington, NC	Natural Gas Vehicle Feasibility Study	2014
Greenwood Commissioners of Public Works, SC	Transmission Integrity Management Plan Audit	2013
City of Marianna, FL	Territorial Dispute Expert Witness Testimony	2012
Chester County Natural Gas Authority, Chester, SC	Upgrading plan for high pressure distribution system	2012
City of Wilson, Wilson, NC	Cost of Service Rate Study	2011
Jefferson Cocke County Utility District Newport, Tennessee	Capital Spending Study	2010
Various Clients	Conduct workshops and assist 24 systems with developing Distribution Integrity Management Plans	2010
Kapstone Kraft Paper Roanoke Rapids, NC	Feasibility Study for Natural Gas Pipeline	2010
Wilson Energy, Wilson, NC	Strategic Evaluation Summary Study	2010
Various Clients NC, SC, TN, KY	Update O&M plans for 14 Natural Gas Distribution Systems	2010
River Birch Landfill, Jefferson Parish, LA	Landfill Gas Marketing Assistance RFP	2009
City of Charlottesville, VA	Cost of Service Rate Study Update	2009
City of Elizabethtown, KY	Cost of Service Rate Study	2009
City of Lexington, North Carolina	Load forecasting/Gas Supply Study	2009
Powell Clinch Utility District, Lake City, Tennessee	Asset valuation for purchase of local gas distribution system	2008
City of Charlottesville, Virginia	Cost of Service Rate Study Update	2008
American Public Gas Association	Distribution Integrity Management Plan Development	2008
Jefferson Cocke County Utility District Newport, Tennessee	Capital Spending Plan and Marketing Policy Review	2008

City of Palm Bay, Florida	Feasibility Study to Purchase Local Gas System	2008
City of Monroe, North Carolina	Distribution System Flow Modeling Study	2008
Siemens Building Technologies, Inc, Baton Rouge, Louisiana	Pipeline Feasibility Study	2007
Laurens Commission of Public Works, South Carolina	Load Forecasting Study	2007
CMC Steel	Pipeline Feasibility Study	2007
City of Charlottesville, Virginia	System Expansion Study	2006
City of Shelby, North Carolina	Rate and Load Study Update	2007
City of Charlottesville, Virginia	Cost of Service Rate Study	2006
Progress Energy, Hines, Florida	Facilities Planning Study	2006
Jefferson Cocke County Utility District Newport, Tennessee	Cost of Service Rate Study	2006
City of Bessemer City, North Carolina	Cost of Service Rate Study	2005
Progress Energy, North Carolina	Public Awareness Plan	2005
City of Union, South Carolina	Load Forecasting/Gas Supply Study	2005
City of Union, South Carolina	RFP to sell Propane Air Facility	2005
North Carolina Electric Membership Corporation	Evaluation of Gas Supply Options	2004
Enerdyne Power Systems	Cost Estimate/Feasibility Analysis	2003
Richmond Department of Public Utilities, Virginia	Natural Gas Supply Study	2003
City of Shelby, North Carolina	Natural Gas Marketing Plan	2003
Richmond Department of Public Utilities, Virginia	Loss and Unaccounted for Study	2002
H-P Resources, Inc	Gas System Feasibility Study Delaware/Maryland	2000
City of Gaffney, South Carolina	Potential Purchase of Investor Owned Gas System	2000

ENGINEERING DESIGN & CONSTRUCTION MANAGEMENT

Engineering design and specifications can be developed addressing any type of natural gas distribution or transmission facility. Detailed specifications for material standards and installation methods along with contract documents for public bidding can be developed for each project. Our services include design, bidding, permitting, construction management, reconciliation of invoices, and overall project management. Heath and Associates is routinely involved in many design and construction management projects for natural gas and landfill gas distribution and transmission pipelines annually.

Following is a representative listing of projects upon which Heath and Associates provided detailed engineering design and construction management services.



ENGINEERING DESIGN AND CONSTRUCTION MANAGEMENT

CLIENT	PROJECT	YEAR
Jefferson Cocke County Utility District, Newport TN	City Gate Meter & Regulator Station, 1.25 miles of high pressure pipeline	2014
Laurens Commission of Public Works, SC	Bare steel replacement program, 21 miles of distribution pipeline, 814 service lines	2013-14
Appalachian Natural Gas Distribution Company, Abington, VA	Project routing and preliminary design for 6 miles of 16" transmission pipeline	2014
City of Shelby, NC	3 miles of distribution pipeline, 2 directional bores	2014
Jefferson Cocke County Utility District, Newport TN	5 miles of distribution pipeline	2014
Clinton Newberry Natural Gas Authority, SC	1 mile of transmission pipeline relocation	2013
City of Shelby, NC	.5 miles distribution pipeline relocation, 1 directional bore, 2 creek crossings	2013
Carol County Industrial Development Authority, VA	1 mile distribution pipeline, 2 school meter sets	2013
City of Lexington, NC	6 miles of distribution pipeline, 1 regulator station, 3 directional bores	2013
Clinton Newberry Natural Gas Authority, SC	5 miles of distribution pipelines, 2 regulator stations	2013
Jefferson Cocke County Utility District, Newport TN	13 miles of distribution pipeline, 3 regulator stations	2013
City of Shelby, NC	2.5 miles of high pressure distribution pipeline relocation, 1 regulator station	2012
Laurens Commission of Public Works, SC	1.5 miles of high pressure & distribution pressure pipeline for highway relocation	2012

City of Kings Mountain, NC	New regulator station	2012
Jefferson Cocke County Utility District, Newport TN	8 miles of distribution pipeline	2012
Clinton Newberry Natural Gas Authority, SC	3 miles of distribution pipeline	2012
City of Kings Mountain, NC	Customized mapping of gas system	2012
Laurens Commission of Public Works, SC	1 mile of high pressure pipeline	2012
City of Lexington, NC	1.5 miles of high pressure pipeline	2011
Clinton Newberry Natural Gas Authority, SC	15 miles of distribution pipeline, 2 directional bores	2011
Jefferson Cocke County Utility District, Newport TN	4 miles of distribution pressure pipeline, 1 regulator station	2011
Laurens Commission of Public Works, SC	4 miles of distribution pipeline	2011
Clinton Newberry Natural Gas Authority, SC	8 miles of distribution pipeline	2011
City of Rocky Mount, NC	Design 6" steel pipeline attachment for new NCDOT bridge over Tar River	2011
Jefferson Cocke County Utility District, Newport TN	3 miles of 6"-2" Distribution pipeline	2011
Kapstone Kraft Paper Roanoke Rapids, NC	1 mile of 6" steel high pressure pipeline, 1 Regulator Station	2010
City of Monroe, NC	High Pressure Loop Upgrade study and design, 9 Regulator Stations	2010
Clinton Newberry Natural Gas Authority, SC	28 miles of 6"-2" distribution pipeline, 6 directional bores, 1 City Gate M&R Station	2010
Clinton Newberry Natural Gas Authority, SC	34 miles of 8"-2" distribution pipeline, 9 directional bores, 1 Regulator Station	2010
City of Lexington, NC	Prepare RFP to sell Propane Air Plant	2009

City of Monroe, NC	43 miles of 12" transmission pipeline, cross country and DOT ROW acquisition assistance, 42 directional bores , 5 major stream crossings	2009
City of Shelby, NC	1 mile of distribution pipeline with 1 major meter station & 2 regulator stns	2009
City of Monroe, NC	10 miles of 12" & 8" high pressure pipeline, 4 directional bores	2008
City of Shelby, NC	5 miles of 8" & 6" high pressure pipeline, 1 mile of 4" PE pipeline, one town border stn, 4 directional bores	2007
Siemens Building Technologies, Inc., Jackson, SC	16 miles of 12" polyethylene transmission pipeline, 6 directional bores	2007
City of Lexington, NC	8.7 miles of 6", 4", and 2" distribution pipeline, 14 directional bores	2006
Enerdyne Power Systems, Charlotte, NC	9 miles of 8" PE pipeline for a Landfill gas project. 2 Interstate crossings, 4 RR crossings, 16 directional bores.	2005
Jefferson Cocke County Utility District Newport, TN	9 miles of 6" transmission pipeline and 4" & 2" distribution pipeline, 2 directional bores, 2 regulator stns.	2005
Clinton Newberry Natural Gas Authority, SC	10 miles of 6" steel and PE pipelines, 2 regulator stations, 4 directional bores	2005
City of Elizabethtown, KY	City Gate Regulating and Metering Stn.	2004
Mirant Corporation and Anderson and Associates, VA	14 miles of 20" transmission pipeline in Danville, VA	2001

MEMBERSHIP AFFILIATIONS

American Public Gas Association
American Society of Mechanical Engineers
Carolina Public Gas Association
Tennessee Gas Association
Landfill Methane Outreach Program

WHY CHOOSE HEATH AND ASSOCIATES, INC.?

Highly respected consulting firm with over fifty years of experience exclusively dedicated to the natural gas industry.

Experienced with natural gas system design, construction, and system operations.

Constant monitoring of natural gas prices, regulatory actions, and operating concepts within the natural gas industry.

Experienced with exemplary record of accurate rate analysis and financial modeling.

Reputation for independent thinking and unbiased forthright conclusions and recommendations.

Extensive experience with natural gas system expansion evaluations.

Outstanding record of accurate projections of customer connections/load forecasts and construction cost estimating for system expansion projects.

Unparalleled client satisfaction.

HEATH AND ASSOCIATES, INC.

SERVICES OFFERED

Heath and Associates, Inc., offers a variety of services to address the needs of our clients. Management reports, studies, and consulting services can be prepared to address any aspect of utility operations. Engineering design and construction management services can be prepared for any type of natural gas system facility. Engineering analysis of existing/future operations or complex troubleshooting of system deficiencies can be addressed by our experienced staff. Heath and Associates offers our clients natural gas purchasing assistance related to analyzing gas supply needs, contract portfolio analysis, and monthly purchasing assistance to insure that clients obtain their supply at the most competitive prices.

MANAGEMENT ASSISTANCE REPORTS

Cost of Service Rate Study

A detailed cost of service study will include allocating the operating and maintenance expenses and the cost of gas supply to each classification of retail customer. Financial statements for the previous years will be reviewed. Cost of administration, debt service, etc., will also be allocated to each rate classification. A financial model will be created to analyze various scenarios. The model can be used to evaluate changes in the number of customers, consumption patterns, weather sensitivity, and the proposed rates among other variables. Considering the impact to each customer classification, a rate adjustment may be recommended. Appropriate data will be analyzed and alternatives will be presented to management. Final results will be effectively communicated and graphically presented in the Cost of Service Rate Study Report.



Expansion Planning Study

Expansion planning studies include identification of areas of expected growth, preliminary system layout and construction costs, forecast of new customer connections, and an economic analysis of each targeted area. Potential expansion areas are examined on an individual project-by-project basis. Recommendations are summarized and capital spending plans developed to address the client's planning and budgeting needs.

Natural Gas Supply and Load Studies

The usage characteristics of a system are developed and correlated to climatological data to establish load requirements. Future load requirements as a result of system expansion and the connection of new customers are incorporated into the forecasting horizon. The load characteristics developed assist the client with daily dispatching, monthly purchasing requirements, and annual budgeting. An analysis of the system's gas supply contract and peak shaving facilities is conducted to determine optimum levels of peaking service and establish interstate/intrastate pipeline contract limits/options.

Distribution System Flow Analysis

The transmission and distribution system can be modeled with computer software to analyze the pressures and capabilities of any segment of the system. Loads are assigned to nodes within the network of pipelines by reviewing client sales records. The model is verified by incorporating historical operating conditions. The computer model enables the system to be optimized and the effect of future expansion/loads can be predicted.

Cast Iron System Maintenance and Replacement

Cast iron system maintenance and replacement studies address the ongoing maintenance and safety concerns of operating distribution systems containing cast and ductile iron pipe. Heath and Associates identifies the condition of the client's cast iron system piping by researching records and developing statistical operating histories. The cast iron piping is categorized, evaluated, and ranked to develop recommendations regarding maintenance or replacement. Replacement cost and construction methods are addressed and capital improvement plans are developed.

Comprehensive Planning Study

A comprehensive planning study (or master plan) can be developed incorporating the cost of service rate analysis, expansion planning, natural gas supply and load study, and system distribution flow analysis. The comprehensive planning study can also address system operating statistics, record keeping, organization and compliance requirements, suggest a marketing plan, and develop a gas purchasing policy. The comprehensive planning study, basically, can be tailored to include and address any aspect of the operation and management of the system.

ENGINEERING

Detailed Engineering Design and Specifications for Construction Projects

Engineering design and specifications can be developed addressing any type of natural gas distribution or transmission facility. Detailed specifications for material standards and installation methods along with contract documents for public bidding can be developed for each project. Our services include design, bidding, permitting, construction management, verification of invoices, and overall project management.



Construction Manuals

Manuals reflect up-to-date rules and Regulations by Department of Transportation and state commissions. Manual address material specification and construction procedures and practices for both steel and polyethylene pipeline construction. Construction safety procedures are included in the manuals.

Specifications for the Design and Installation of Propane Air/Peak-Shaving Facility

The economic feasibility of peak-shaving is determined and a review of the distribution system establishes the optimum location of the Propane/Air and LNG plants. Design, specifications, and construction management of peak-shaving facilities are available.

System Optimization Analysis Study

Analysis of the existing system identifies ways to obtain greater operating efficiency. This analysis forms the basis of recommendations for upgrading the system and presents the developed data for demonstrating more efficient operation.

Construction Management Service

All phases of gas industry construction management are available including design, specifications, permitting, mapping, fabrication drawings, contract development, project inspection, and new or expanding facility startup.

GAS PURCHASING SERVICE

Heath and Associates administers a natural gas purchasing pool that provides full service gas purchasing assistance to our clients. The purchasing service includes:

1. Develop bid specifications
2. Receive bids
3. Recommend bid acceptance to client
4. Scheduling and dispatching gas volumes
5. Arrange pipeline transportation
6. Correct imbalances
7. Advise on pipeline tariff option selections
8. Advise on futures hedging
9. Contract review
10. Promotion of client/supplier working relationships

Heath and Associates can alternatively assist clients in analyzing system needs and in preparing an RFP to select gas suppliers and/or aggregators, negotiate long term gas supply contracts, give advice on futures hedging/fixed price contracts, manage capacity

release contracts, and acquire specialty gas supply services such as peaking or storage supplies.

DOT COMPLIANCE SERVICES

Operations and Maintenance Plans

All natural gas utilities are required to have Operations and Maintenance plans. Heath and Associates develops operation and maintenance plans for clients which meet all Department of Transportation/Office of Pipeline Safety and State Utility Commission requirements. Plan manuals developed by Heath and Associates guide client personnel in the areas of reporting, system design, operations and maintenance procedures, and record keeping.

Plans contain generic minimum compliance requirements and are customized to the client's system. Procedures for responding to emergencies and abnormal operating conditions are included in the operations and maintenance plan. The manuals address material for construction, construction specifications and procedures, and the testing and rating of new facilities. The manuals aid clients in scheduling maintenance, identifying reporting requirements and deadlines, and creating appropriate forms and formats to keep records.

Integrity Management Programs

Heath and Associates can provide operators with detailed Integrity Management Programs for **transmission** pipelines. Heath and Associates has invested many hours in the development of a core or master IMP Manual that can be used as a basis for developing a customized plan for a specific operator. The master IMP contains process development and critical planning guidance, detailed procedures and forms, recordkeeping and documentation aids, and a cross-reference to Subpart O of Part 192, ASME B31.8S, NACE RP502, and PHMSA Inspection Protocols. The master IMP addresses all sixteen elements required by Part 192.911. Heath and Associates can assist operators in upgrading current IMPs as well as implementing pipeline integrity assessments and compliance mandated activities. Heath and Associates Integrity Management Programs are currently in use in six states and have successfully passed inspections from PHMSA and/or State Utility Commissions.



Heath and Associates offers services to **distribution** systems that are developing and preparing to implementing IMPs for their distribution pipeline systems. Heath and Associates has and continues to work with the American Public Gas Association's Security and Integrity Foundation to develop a Model Integrity Management Program for

distribution system operators (SHRIMP). The Distribution Integrity Management Plan Rule (Part 192, Subpart P) became effective August 2, 2011 and requires all distribution systems to have an Integrity Management Plan. Heath and Associates can assist operators in a complete records organization, review and DIMP development, or review and enhance existing plans.

Public Awareness Plans

All natural gas utilities are required to have a written Public Awareness Plan. Heath and Associates, Inc., offers consulting services to gas utilities to help develop and implement Public Awareness Plans. Heath and Associates has developed sample distribution materials, forms, guidelines, and generic justification language to aid operators in Public Awareness implementation activities. We can provide a comprehensive written plan or provide supplemental consulting assistance to aid operators as they enhance their existing plans.

Operator Qualification Plans

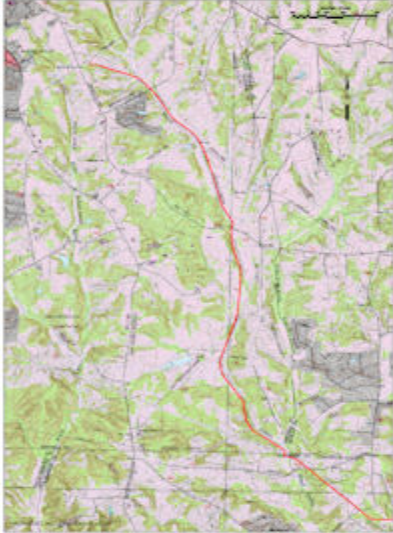
All natural gas utilities are required to have an Operator Qualification Plan. Heath and Associates, Inc., offers consulting services to gas utilities to help develop and implement Operator Qualification Plans. Heath and Associates has established key alliances with Safety and Compliance Evaluation, Inc. and Energy Worldnet, Inc. to incorporate packaged plans, database management systems, and training and qualification programs. The combination of Heath and Associates' operational and regulatory compliance experience along with the packaged OQ plans and management systems enable Heath and Associates to provide comprehensive solutions to assist gas utilities with Operator Qualification activities.

Operator Qualification

Heath and Associates offers training and testing/qualification of gas system and contract operating personnel. Heath and Associates offers several OQ schools which cover many of the covered tasks associated with Operations and Maintenance, Corrosion, and Construction. Customized training and evaluation for operating personnel can be developed. Heath and Associates also assists operators in the development of tests and evaluation criteria and with OQ plan modifications.

Safety Evaluations Study / Compliance Audits

On-site field inspections and a comprehensive review of safety and maintenance records are performed to identify safety concerns of client system. Safe, desirable operating functions are defined for each system. Existing operating policies are monitored and reviewed for safety and adequacy. An analysis of these practices is made and recommendations for necessary changes to bring the client's system into compliance are detailed. Specific review of operating procedures or facilities identified by client or DOT/OPS inspector will also be addressed in a system study.



OTHER SERVICES

Mapping Services

Gas utilities are required by the Department of Transportation/Office of Pipeline Safety to have and maintain system maps. Transmission pipeline operators are required to maintain and submit maps to DOT as per requirements of the National Pipeline Mapping System guidelines. Heath and Associates provides system mapping services using *AutoCAD* and other formats to create a comprehensive record of the utility's facilities that are compliant with the DOT/OPS requirements.

Mapping services include a layout of the roads, landmarks, and distribution pipelines as well as schematic and detailed drawings of the system facilities. Drawing layers can be created to address cathodic protection surveys, critical valve maintenance, emergency valve isolation, and leak survey histories. Maps can be provided in different sizes and customized to aid in system compliance record keeping. Background layers such as aerial photos, topographic and geologic maps can be incorporated into the system maps.

Expert Witness

Heath and Associates' registered professional engineers have experience and are recognized as expert witnesses at several state utility commissions. Testimony can be provided related to expansion projects, rates, construction issues, safety, and other areas of expertise.

Natural Gas Marketing Plan

Heath and Associates can conduct a review of a gas system's marketing plan and ongoing efforts. Informal or formal assistance in upgrading the marketing efforts or prioritizing these tasks can be provided. A comprehensive marketing plan can be developed that addresses traditional marketing efforts, potential marketing identification, and the marketing/implementation of new technologies such as Natural Gas Vehicles, distributed generation using microturbines or fuel cells, and natural gas cooling.

Customized Preventive Maintenance Program

This program identifies preventive maintenance needs and schedules required maintenance tasks. Additional tasks, defined by the client company, will also be addressed.

Customized Service Training and Needs

Customized engineering or management oriented consulting services are tailored to address specific client requests. A training program, which is prescribed by the client on any natural gas distribution subject matter, can be defined and delivered to the client's staff.

HEATH



HISTORY OF HEATH AND ASSOCIATES, INC.

Heath and Associates, Inc., was founded in 1960 by Charles C. Heath to provide engineering, management, and other services to natural gas utilities. Specializing in natural gas, Heath and Associates has served more than fifty utilities throughout the southeast and east coast of the United States. Heath and Associates has also served clients outside the United States in Canada, Puerto Rico, and the Middle East. Heath and Associates has served businesses and industry, primarily in North Carolina and South Carolina, in these states' efforts to attract new industry. Heath has traveled abroad with governors and other state officials as a fuel advisor in efforts to stimulate economic development interest from foreign countries and businesses.

Heath and Associates was an early leader in writing and interpreting the Natural Gas Safety Act of 1968. Heath and Associates has written thirty-nine operating and maintenance plans and construction manuals since the early 1970's. Since that time, Heath and Associates continues to update these manuals to reflect the various PHMSA amendments to the Act. Because of Heath and Associates' extensive experience with regulatory compliance and gas system operations, the APGA's Security and Integrity Foundation has selected Heath and Associates to develop a model Integrity Management Plan for gas system operators. Heath and Associates also assists operators in developing and implementing Operator Qualification and Pipeline Integrity Management programs to comply with the latest PHMSA regulations.

Over the past fifty years, Heath and Associates has done a multitude of feasibility and rate studies, as well as a broad spectrum of detailed engineering design for natural gas systems. Major comprehensive studies concerning planning, financial and operational performance, gas system funding and construction, and gas system studies have been done for the states of Kentucky, Vermont, and Maine, as well as for many small distribution companies. Engineering design and specifications for every aspect of natural gas distribution systems have been prepared, including the rebuilding of fourteen complete systems in the state of Kentucky alone.

Heath and Associates, Inc., assumed a leadership role in the feasibility, design, and specifications required for propane-air plants and other peaking facilities. Charles Heath

has personally worked in the propane air field since 1953 and has presented many papers to gas associations and technical conferences in addition to authoring several magazine articles on the use of propane-air for natural gas systems.

Heath and Associates, Inc., gas purchasing and transportation expertise dates back to the 1970's during gas shortages when Heath and Associates purchased natural gas supplies for industry from producers and arranged transportation to their clients. Today, Heath has contracts with many of its clientele to assist them in purchasing and arranging transportation in the constantly changing and complex world of gas supply acquisition.

Heath and Associates, Inc., reserves its service exclusively to the natural gas industry. Heath and Associates has watched the natural gas industry grow for over fifty years, especially in the southeast. During the 1950's and 1960's when natural gas was first made available to the upper southeastern states, natural gas prices were regulated and were artificially low. This availability of a new cheap energy source and a booming national economy created a rapid expansion in the natural gas industry during which Heath and Associates' engineering and management services assisted many developing gas systems. Heath and Associates helped its clients alter their strategies as the natural gas industry entered the 1970's and a period of gas shortages, high prices, and curtailments. Availability of natural gas, low prices, and deregulation of natural gas prices and transportation changed the natural gas industry in the 1980's.

The natural gas industry is now much more complex and requires more attention to the ever changing regulatory environment. FERC Order 636 has mandated that virtually all of the responsibility and risks associated with procuring gas supply be shouldered by the local distribution companies. The 21st century has brought uncertain economic times, volatile gas prices, dramatically changing regulatory requirements concerning pipeline safety, and security issues to the gas industry. By continually adapting to and capitalizing on the opportunities that the changing natural gas industry creates, Heath and Associates has maintained its association with its client base (many for over 40 years) and developed a variety of experience and expertise concerning management and engineering services.

Heath and Associates has grown to meet the expanding needs of our clients. E. Scott Heath, PE is President and CEO of the company. Our staff includes registered professional engineers with backgrounds in oil and gas production, natural gas contracting, large and small local distribution company operating experience, and various petroleum/mechanical/civil engineering project design and management experience. Heath and Associates is uniquely positioned to incorporate the latest technology with seasoned experience to deliver a premium service to our clients. Heath and Associates continues to grow with the natural gas industry as we are currently expanding our staff to meet the challenges of the 21st century.

E. Scott Heath, P.E.
President and CEO

EXPERIENCE:

HEATH AND ASSOCIATES, INC., Shelby, NC - 11/88 - present

Provides management and engineering consulting services to clients with natural gas/landfill gas systems and needs. The three primary areas of responsibility are project engineering and construction management, technical and financial studies and reports, and regulatory compliance consulting. Coordinates intra-company activities as President such as scheduling, billing, marketing, and office management.

Acted as project manager and lead engineer for over 700 miles of gas distribution and transmission pipelines. Develops detailed engineering and construction plans for new gas system additions, gas facilities for industries, and pipeline relocation or upgrade projects. Designs various pipeline appurtenances, city gate and smaller regulator stations, services, and measurement and metersets for end users. Prepares contract documents, coordinates public bidding, oversees and monitors construction projects. Advises clients on scheduling, materials acquisition, and budgeting of capital projects.

Conducts comprehensive, economic, operational, planning, and retail rate studies. Works with clients to determine new areas they wish to serve with new and existing facilities. Helps clients evaluate economic feasibility of proposed projects as well as the preparation of comprehensive master planning reports. Provides financial guidance to clients by performing cost of service rate studies, system sale/acquisition evaluations, organizational efficiency studies, and other financial evaluations. Assists clients with load forecasting, developing gas supply strategies, and flow modeling activities. Analyzes agreements between Transmission Pipelines and clientele concerning rate adjustments, gas supplies and transportation costs, and filings with the FERC. Provides assistance on system reliability and other operational problems.

Provides consulting services as company's lead consultant in the field of regulatory compliance. Author of many O&M Plans, OQ Plans, and Transmission Integrity Management Plans. Advisor to APGA for the development of a model Distribution Integrity Management Plan to comply with emerging regulations. Performs compliance and operational safety audits for gas systems. Monitors changing regulatory requirements concerning construction practices, operational safety, and compliance with 49 CFR, Parts 190-199.

ARCO OIL AND GAS, 7/81 - 10/88

SENIOR GAS CONTRACTS ENGINEER, Midland, TX 1/88 - 10/88

Responsible for negotiating wellhead gas purchase contracts for several natural gas processing plants in Texas, Oklahoma, and Wyoming. Maintained contracts (approximately 2,000) and resolved co-owner and producer disputes over operational

procedures, accounting discrepancies, and payment questions. Evaluate economics for gas plant capital investments such as new well connections, compressor facilities, and processing agreements. Evaluate value of gas plants for divestment/acquisition possibilities with outside companies.

OPERATIONAL/ANALYTICAL ENGINEER, Midland, TX 3/86 - 10/88, Denver, CO 8/85 - 3/86, Tulsa, OK 8/82 - 8/84

Oversaw operations in various fields located in Texas Panhandle and central Oklahoma. Responsibilities and skills developed include estimating reserves; economic evaluation of development drilling, recompletions, acreage farmout, and property acquisition/sales; maintenance and optimization of waterflood operations; open and cased hole logging; design and selection of perforating, acidizing, and hydraulic fracturing treatments; preparing exhibits for and giving testimony in Texas and Oklahoma State Commission hearings. Accomplishments include receiving special award bonus for initiating recompletion/development drilling program in N.W. Stillwater which led to new reservoir discovery. Prepared several reservoir studies, proposed and supervised successful major stimulation program (50 wells) in Glenn Pool Field.

DRILLING ENGINEER, Tulsa, OK 8/84 - 8/85,

ENGINEERING DEVELOPMENT PROGRAM, Tyler, TX 7/81 - 8/82

Prepared well plans for drilling wells, detail completion/workover prognosis, and cost estimates. Evaluated bid sheets, select drilling rigs and contractors, obtained drilling permits. Worked one half of time in field supervising drilling rigs and various service company personnel. Worked with reservoir engineering staff preparing reserve estimates, remedial workover and completion recommendations.

CURRENT PROFESSIONAL ENGINEER REGISTRATION:

North Carolina	Tennessee	Louisiana
South Carolina	Virginia	
Alabama	Kentucky	
Florida	Georgia	

EDUCATION:

B.S. Mechanical Engineering, 1981
University of Tennessee
Graduated with Honors

AFFILIATIONS:

American Society of Mechanical Engineers
American Public Gas Association
Carolinas Public Gas Association
Tennessee Gas Association
Tau Beta Pi, Pi Tau Sigma - Honor Societies

Tommy H. Setzer, P.E.
Engineer

EXPERIENCE:

HEATH AND ASSOCIATES, INC. 11/95 - Present

Provides engineering and management consulting services to clients. Provides engineering designs of system improvements for transmission and distribution facilities. Requests, collects and consolidates operational statistics data into rational, easily understood tabular and graphical formats for rate studies, gas supply/load forecasting, flow studies and feasibility studies.

Works with clients to determine new areas they wish to serve with new and existing facilities. Helps clients evaluate economic feasibility of proposed projects. Provides assistance on system reliability and other operations problems.

Prepares detailed engineering designs to expand existing facilities to serve new areas, or to improve the natural gas flow and pressure to areas already being served. Designs distribution main, regulator stations, services, and metersets for new customers. Determines requirements for contracting, surveying, and purchasing of right-of-way.

Contacts other utilities, collects information on the type and size of facilities those utilities have in proposed construction areas, and considers this information when preparing designs.

Contacts controlling authorities involved in the construction areas, such as Departments of Transportation, Departments of Natural Resources, and U.S. Army Corps of Engineers, and prepares and submits necessary permit applications for highway, pipeline and railroad right-of-way encroachment, as well as environmental permits.

Prepares comprehensive specifications to meet company standards as well as state and federal regulations for the construction of the design. Supervises the preparation of project drawings. Recommends equipment and materials to clients. Prepares engineering and construction cost estimates. Develops construction sequence requirements and construction timetables.

Prepares bid packages and contract documents, answers contractor questions, oversees bid processes, evaluates bids, and provides construction management services. Aids in the resolution of disputes over methods and procedures, quality of work, adherence to specifications, accounting discrepancies, and payment questions.

YOUNG ENGINEERING INC. 1993-1994

ENGINEER, Charlotte, NC 1993-1994

Prepared forensic engineering reports of structural failures and inadequate structural behavior for insurance firms. Prepared as-built drawings of existing industrial,

commercial, and residential structures depicting materials, member sizing, and loading. Collected soil data using a soil auger and a dynamic cone penetrometer. Designed structural repairs, including replacing, adding or strengthening members, installing piers or underpinning, grouting beneath slabs, and installing trench drains.

Using preliminary construction plans and code requirements, determined wind, gravity, and earthquake loads. Selected roof decking, steel joists, beams, and columns. Designed column and wall footings. Designed steel/steel and steel/masonry/concrete connections.

Repaired/upgraded computers as necessary for entire office.

MIRAFI 1991-1992

CO-OP STUDENT, Charlotte, NC 1991-1992

Designed reinforced soil retaining walls based on interlocking blocks and Mirafi's soil reinforcement products (geogrids). Designed steep, reinforced slopes based on Mirafi's soil reinforcement products. Wrote software programs to aid in the design process.

PERSONAL CREATIONS/COPYRIGHTS OWNED:

MULTIPLICATION BY ROTE: A book designed to teach multiplication tables 1x through 12x.

VELOSPHERE-MINIMULTIMEDIA: Software used to prepare image-centric multimedia educational or training packages for use on Windows-based computers. A completed training package asks questions in training, review, and test mode. The responses are recorded when the created package is in test mode, and a comma delimited text record of grades is prepared which is suitable for import into most database programs.

VELONET: Software which creates a web site from a folder of images. Web site creator adds text, links, sound, and backgrounds to site design using common spreadsheet programs to prepare a table of desired attributes.

CURRENT PROFESSIONAL ENGINEER REGISTRATION:

North Carolina
South Carolina

EDUCATION:

Bachelor of Science, Civil Engineering, May 1993 (GPA: 3.48/4.0)
University of North Carolina at Charlotte, Charlotte, NC
Associate of Science Degree, May 1989 (GPA:4.0/4.0)
Isothermal Community College, Spindale, NC

PROFESSIONAL ORGANIZATIONS:

American Society of Civil Engineers
Engineers Without Borders

EXPERIENCE:

HEATH AND ASSOCIATES, INC. Shelby, NC – Engineering Intern (2014 – present)

Provide engineering and management consulting services to natural gas companies and municipalities.

Assist with preparing a customized Distribution Integrity Management Plan for individual gas systems. Provide assistance with tracking mechanisms and filings of paperwork as it pertains to regulatory audits/ease of accessibility.

Monitor governmental agencies regulatory requirements concerning operational practices, safety, construction practices, and compliance. Assist clients with their Operations and Maintenance plans, Operator Qualification adherence, Public Awareness programs, and DIMP compliance.

Assist with field data acquisition and design of system improvements or relocations for transmission and distribution pipeline facilities. Perform flow modeling for system improvements.

Work with regulatory agencies involved in the project construction areas, such as Departments of Transportation and Environmental Protection, prepare and submit necessary permit applications for highway right-of-way encroachment. Develop environmental permitting including navigable waterways, erosion and sediment control, and land disturbance permits.

Assist with the preparation of construction specifications to meet client needs and company standards as well as state and federal regulations for the construction of the design. Recommend equipment and materials to clients. Optimize the pipe size and material to meet the needs of our clients. Prepare bid packages, oversee bid processes, evaluate bids, and provide construction management services.

FOOD LION Gastonia, NC – Dairy/Frozen Food Manager (2/13 – 7/14)

Maintained product levels to meet the demand of the customers. Complied with all food safety policies to ensure sanitary standards were met.

EDUCATION:

B.S. Civil Engineering, 2011
North Carolina State University

AFFILIATIONS:

American Society of Civil Engineers

CLIENT REFERENCES

City of Shelby

Brad Cornwell, Director of Utilities
Post Office Drawer 207
Shelby, North Carolina 28150
Phone: 704/484-6866

Clinton Newberry Natural Gas Authority

Stan Bryson, General Manager
Post Office Drawer 511
1643 Springdale Drive
Clinton, South Carolina 29325
Phone: 864/833-1862

Southwestern Virginia Gas Company

R. Allen Cobler, Jr., Assistant Vice
President
208 Lester Street
Martinsville, Virginia 24112
Phone: 726/632-5662

APGA/SIF

John Erickson
Vice President of Operations
American Public Gas Association
201 Massachusetts Avenue NE, Suite C-4
Washington, DC 20002
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City of Lexington

Chris Smith, Director of Public Utilities
28 West Center Street
Lexington, North Carolina 27292
Phone: 336/248-3970

Duke Energy

Mark Witecki,
299 First Avenue North
Saint Petersburg, Florida 33701
Phone: 727/820-5401

Jefferson Cocke County Utility District

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122 Highway 25E
Newport, Tennessee 37821-8804
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City of Monroe

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300 West Cromwell Street
Post Office Box 69
Monroe, North Carolina 28111-0069
Phone: 704/282-4601

Laurens Commission of Public Works

John Young, General Manager
Post Office Box 349
Laurens, South Carolina 29360
Phone: 864/984-0481

City of Kings Mountain

Nick Hendricks, Energy Services Director
P.O. Box 429
Kings Mountain, North Carolina 28086
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Siemens Building Technologies, Inc.

Steve White
12526 Pecan Hill Ct.
Huntersville, NC 28078
Phone: 704/504-2028

City of Elizabethtown

Charlie Bryant, City Administrator
P.O. Box 550
Elizabethtown, Kentucky 42701
Phone: 270-735-6121