

April 2005

Engineer Development Program



Gas Operations



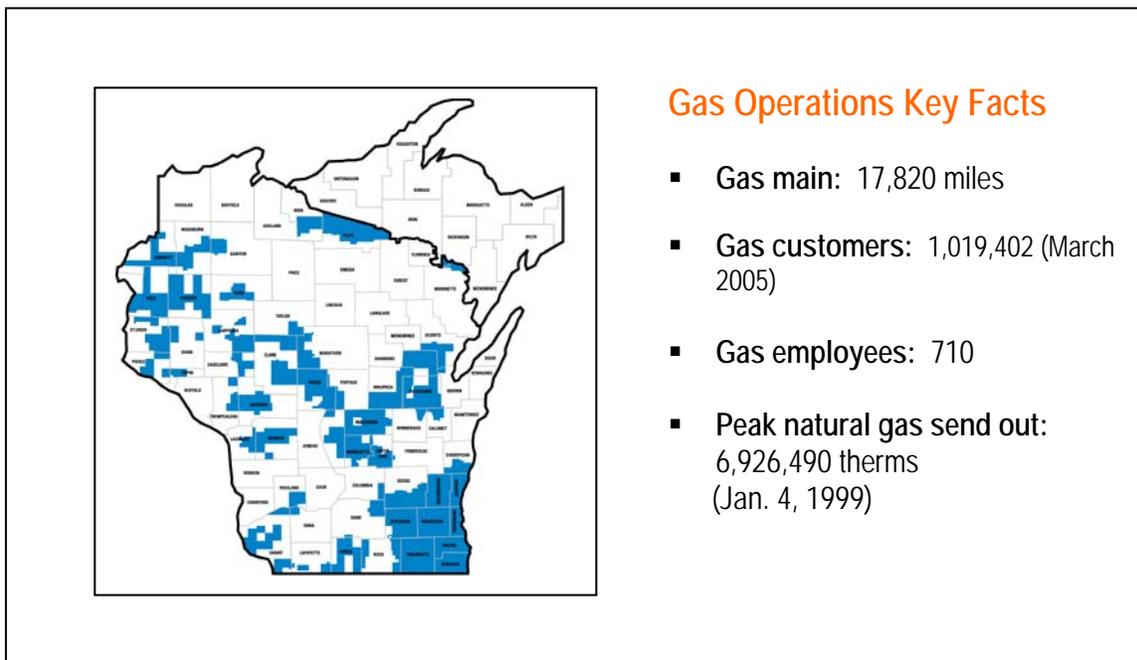
Introduction

We Energies, a utility subsidiary of Wisconsin Energy Corp., provides electricity, natural gas and steam service to approximately 2.4 million people in Wisconsin and portions of Michigan's Upper Peninsula.

We Energies offers challenging work, attractive benefits, competitive compensation and extensive services to help meet your personal and professional objectives. Our company success hinges upon our employees who build on our traditions of innovation and superior customer service. We strive for stability in our work force to help focus on excellence in our day-to-day operations.

The many talents, perspectives, experiences and backgrounds that our employees bring to their jobs reflect the diversity found in our organization. We value a work force diverse in gender, race, culture and age. Making diversity and cross-cultural sensitivity a corporate priority has resulted in a strong, team-oriented work force that values creativity and allows all employees to reach their full potential.

We train and develop our new engineers to become an integral part of our business. This document provides an overview of Gas Operations' engineering opportunities.



Natural Gas Production and Delivery

Natural gas is found underground in layers of rock. Energy companies such as BP-Amoco, Exxon-Mobile and Chevron-Exxon drill into the earth to bring the gas to the surface much in the way they drill for oil. Most of the natural gas used in the United States comes from domestic sources. Some is imported from Canada and Mexico, and a small amount is imported from overseas as liquefied natural gas.

Natural gas wells on land or on platforms in the sea drill into porous rock to pipe gas to the surface. In most wells, the pressure of the gas is enough to force it to the surface and into gathering lines, which link the wells to a central collection point where impurities are removed. The collection point is linked to the pipeline transmission system.

The natural gas pipeline transmission system transports natural gas throughout the United States. The system uses pressure to move the gas from production regions to local distribution companies. Local distribution companies, such as We Energies, take the natural gas from the pipeline transmission system at gate stations, where the pressure is reduced before distribution through smaller pipes to homes and businesses. Local distribution companies also add an odorant to natural gas at the gate stations to help detect leaks, which helps keep customers safe.

Engineering Responsibilities

Four Gas Operations groups work together to complete natural gas projects. Listed below are the engineering position types and responsibilities.

Planning Engineers

- File projects requiring Certificate of Authority from the Public Service Commission of Wisconsin (projects costing \$600,000 or more; DNR, DOT, Historical or Archeological requirements)
- Tariff issues – establishing economic models and pricing models
- System analysis – capacity and pressure studies
- Distribution system design policy – gas main extension guidelines, system capacity requirements, valving policies, etc.
- Maintaining and developing Integrity Management Program

System Operations Engineers

- Regulator station and pit designs
- Compliance inspection coordination – Initiation, monitoring and data review of surveys and inspections as required by federal and state code. Includes coordination of audits by the Public Service Commission of Wisconsin.
- Facility life cycle replacement planning
- Pipeline inspection operations required by Integrity Management – internal pipeline inspection, direct assessment, etc.

Construction/Design Engineers

- Construction design for gas main extensions and replacements
- Execute gas main construction
- Contingency planning for construction near critical gas facilities
- Project management oversight for main and service installation
- Responding to municipal road projects associated with gas facilities

Regulatory Compliance Engineer

- Writing, maintaining and implementing company policies and standards
- Facilitating audits by the Public Service Commission of Wisconsin
- Materials and equipment analysis
- Reviewing federal and state codes and regulations

- Evaluating field processes for design changes and improvements

Co-op / Intern

- Work assignments are made in above mentioned groups as well as land surveying.

Engineering Positions

The following describes positions at the fully qualified level. Employees with varying levels of technical expertise and experience may fill these positions.

Associate Engineer

- Performs routine engineering work requiring application of standard techniques, procedures and criteria in carrying out a sequence of related engineering tasks.
- Supervisor screens assignments for unusual or difficult problems and selects techniques and procedures to be applied on non-routine work.
- Receives close supervision on new aspects of assignments.
- Uses prescribed methods; performs specific and limited portions of broader assignments of an experienced engineer.

Minimum Requirement: B.S. in engineering

Engineer

- Plans and conducts work requiring judgment in independent evaluation, selection, adaptation and modification of standard techniques, procedures and criteria.
- Receives technical guidance on unusual or complex problems and supervisory approval on proposed plans for projects.
- Independently performs most assignments with instructions as to results expected.
- Devises new approaches to problems encountered.
- May provide work direction to other engineers or staff on assigned work.

Minimum Requirement: Two to seven years engineering experience

Senior Engineer

- Applies sound and diversified knowledge of engineering principles and practices in broad areas of assignments and related fields.
- Makes decisions independently on engineering problems and methods.
- Supervision and guidance relate largely to overall objectives, critical issues, new concepts and policy matters; consults with supervisor concerning unusual problems and developments.
- Requires use of advanced techniques and modification and extension of theories, precepts and practices of his/her field.
- Provides work direction, coordinates and reviews work of engineers or other staff.
- As individual researcher or staff specialist, carries out complex or novel assignments requiring development of new or improved techniques and procedures.

Minimum Requirement: Seven to 10 years engineering experience

Engineering Training and Continuing Education

Continuing education and technical development for engineering personnel is important because technology changes are occurring rapidly in the natural gas industry. The scope of technical development and continuing education for engineers in Gas Operations:

External Training

- Fisher Regulator Training
- Competent Person Training
- Welding Procedures/Standards Training Module
- New Equipment/Software Vendor Training
- Corrosion Training through the National Association of Corrosion Engineers (NACE)

Internal Training

- Plastic Fusion Certification
- DOT Operator Qualification Training/Testing
- Trench Safety Awareness Training
- Live Gas Training
- New Employee Training
- Performance competencies (communications, teamwork, etc.)
- Computer software training in Microsoft Office, Company E-mail System, Company Forms and Databases, Drawing Software, and other Engineering Specialty Software

Industry Seminars and Conferences

Opportunities exist to participate in seminars or conferences sponsored by external parties.

These seminars or conferences may include:

- American Gas Association (AGA) Conferences
- Midwest Energy Association (MEA) Conferences
- Wisconsin Utility Association (WUA) Conferences
- Office of Pipeline Safety Conferences

Tuition Reimbursement Program

We Energies Tuition Reimbursement Program enables engineering personnel to continue their education at accredited colleges and universities.

Professional Engineer Registration

We Energies values a personal commitment to pursuit and acquisition of Professional Engineer (PE) registration.

- Reasonable absences of employees from basic scheduled work for the purpose of obtaining Professional Engineer registration are permitted without deductions from wages.
- Employees are reimbursed for the fee associated with obtaining either Fundamentals of Engineering or Professional Engineer registration.
- Costs related to "refresher courses" preparatory to taking the registration exam are not covered under the above. (The cost of the "refresher course" itself, however, is covered under the Tuition Reimbursement Program.)

Recognition of Professional Engineer Status

- When an engineer receives PE registration AND is recommended by supervision, he/she may receive a base wage increase.
- Engineers are expected to maintain their PE registration.

Professional Organization Membership

We Energies encourages employee membership in professional organizations (ASME, ASCE, etc.) and active participation in diversity networks, community groups and events. The company sponsors 75 percent reimbursement to one professional organization for which an employee may have an individual membership.