MUELLER Record

JULY • 1956

Recording Our Thoughts

For the second straight year, the gas utility and pipeline industry achieved a record low accident frequency rate. The American Gas Association revealed that 1955 data, based on reports from 392 gas utilities and pipelines representing 92 percent of the workers in the industry, shows 10.30 disabling injuries per million man-hours worked. This was 1.7 per cent lower than the frequency rate of 10.48 established in 1954.

The AGA pointed out that the new record marks the eighth successive annual decline in accident frequency rates from the post-war peak of 21.86 injuries per million man-hours in 1947. The number of disabling injuries per 100 employees declined to 2.11 in 1955, a new low which was 1.4 per cent under the 1954 rate of 2.14, the previous low.

Although the frequency rate for the industry was lowered, the 1955 severity rate was 2.7 per cent higher than the 1954 rate. Last year's severity rate for the gas utility industry was 710 days lost (charged to disabling injuries) per million man-hours worked.

The number of days charged to disabling injuries per 100 employees totaled 145.8, compared with 141.3 days per 100 employees lost in 1954, an increase of 3.2 per cent. The rise in the severity rate was due primarily to the increased number of employee fatalities

(Continued on page 18)

On The Cover

This Mueller Co. C1-36 Drilling Machine is being lowered into its storage case by Iowa-Illinois Gas and Electric Company men, A. C. McCorkle and J. J. Cvitanovich. For more information on how this company trains its men to operate and maintain its equipment, see page 3.

July • 1956

WALTER H. DYER, Editor
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MUELLER CO.

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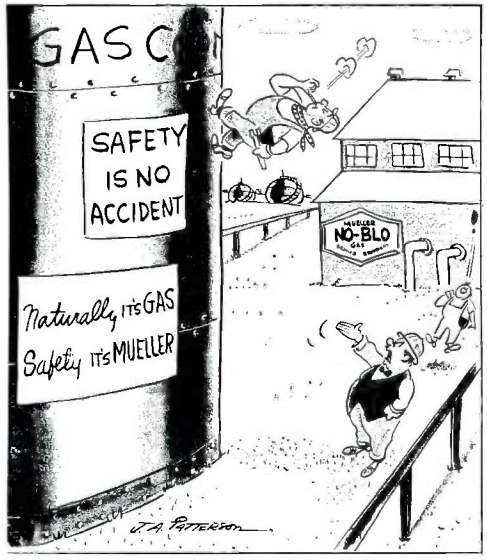


"Kareless, have you gone nuts? Put that cigarette out!!"

Journey To Journeyman

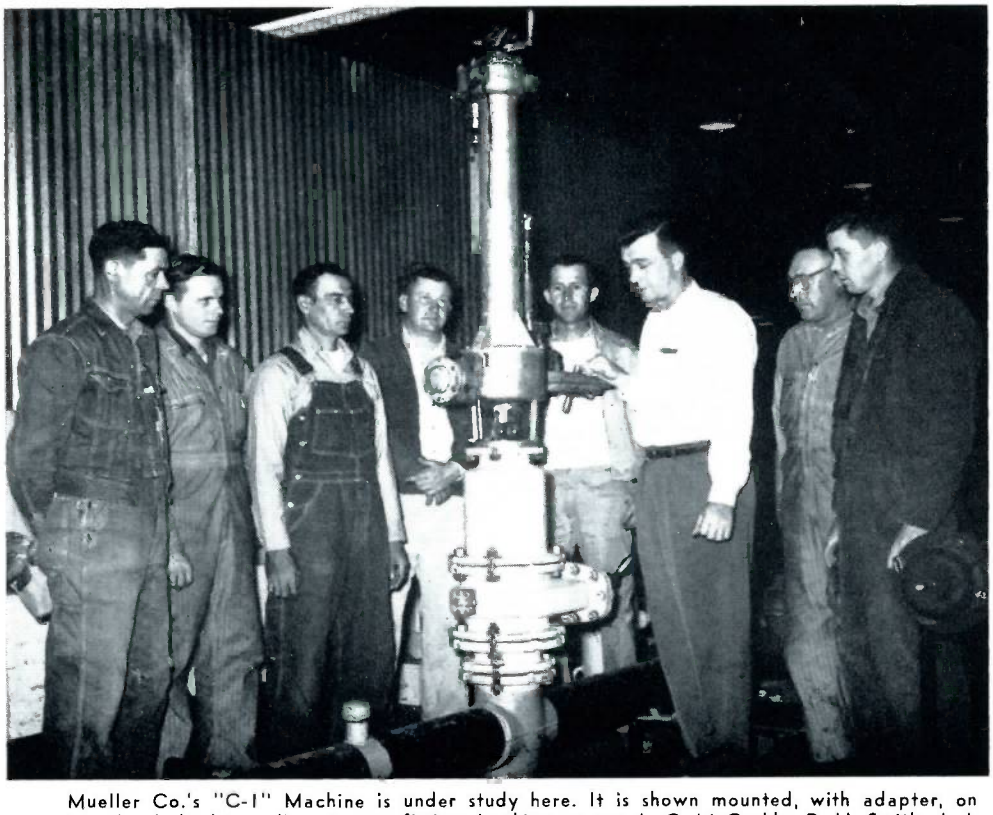
A FOUR-POINT program has established and maintained desired production standards and is paying handsome dividends for the gas department of Iowa-Illinois Gas and Electric Company, with principal offices in Davenport, Iowa.

The plan is highlighted by an initial training program that leads a new employee from apprentice to journeyman by means of a thorough three-year company school.

The establishment of this over-all program is to make it possible for the company to set, measure and evaluate the production of each crew, determining man-hours required for similar jobs. This information has resulted in operational economies and safer methods.

The program, as devised by Robert Hetherington, Gas Department Manager, and his staff, includes these four steps.

1. Establishment of construction and



Mueller Co.'s "C-1" Machine is under study here. It is shown mounted, with adapter, on a gate valve bolted to a line stopper fitting. Looking on are A. C. McCorkle, D. H. Smith, J. J. Cvitanovich, H. Wiese, R. E. Cornmesser, C. W. Morrow, N. L. McCasland and P. Clark.

maintenance methods with standard drawings covering those methods.

2. Establishment of the proper types and quantities of tools and equipment to efficiently and safely perform the various operations.

3. Procurement and distribution of tools and equipment and establishment of a system for their control and maintenance.

4. Establishment of an initial training program which includes a review course for all journeymen, third and second year apprentices, and a full course in applicable subjects for the latter two and first year apprentices.

Before the educational program was launched, it was realized that the average new employee was not familiar with problems presented while working on gas mains and with gas equipment. What's more, it was felt that many of the company's veteran employees possibly were unfamiliar with the correct use of some equipment, especially the latest developments offered by such firms as Mueller Co.

NEED WAS APPARENT

It became apparent that a training program would be necessary if Iowa-Illinois Gas and Electric Company was to provide the best possible service to its customers in a safe and economical manner. For this reason, the four-point program was developed.

It is interesting to study further the components of each of the four steps.

The first step concerns the establishment of construction and maintenance methods with standard drawings covering these methods. It was determined what fittings should be used on each particular job and a complete set of drawings were made covering each operation. This enabled the apprentices to actually "see" the fitting as they studied its proper use in the gas system. New men also are taught the difference between low, intermediate and high pressure services and that the type of pipe would determine the proper fittings required in each instance.

Step two ties in closely with the opening phase of the program. In order to establish the proper types and quantities of tools and equipment to efficiently and safely perform the various operations required of a gas crew, it is first necessary, as stated above, to determine what fittings will be used, thereby making it possible to determine what machines are required. At the same time, types of fittings dictate to a large degree the type tools used.

From the standpoint of safety, the gas department naturally wanted to do all work on gas mains under pressure without the blowing of gas. This led to the company's decision to adopt the Mueller No-Blo Method and standardize on Mueller equipment and line stopper fittings.

The third step concerns the procurement and distribution of tools and equipment and a system for their control and maintenance. Iowa-Illinois Gas and Electric Company made it a policy to equip each crew truck with Mueller Co. machines, tools and fittings. A master list of items for each truck was placed with equipment assigned to each crew. The equipment is generally suitable for handling all service work. Many trucks carry Mueller E-4 and "L" drilling and tapping machines, and have a tool chart showing what is included in each set of equipment. These are listed by tool numbers; they also give the specific fitting by size with which tools are used.

In addition to normal equipment placed on each truck, crews oftentimes are faced

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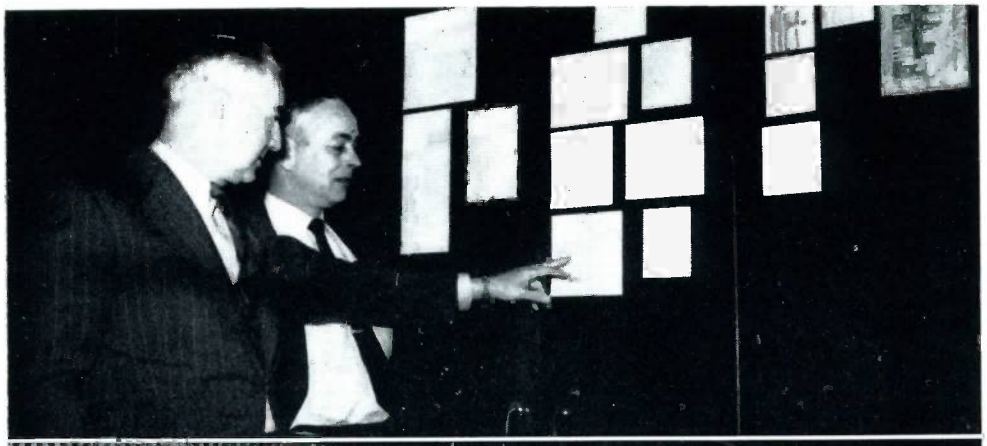
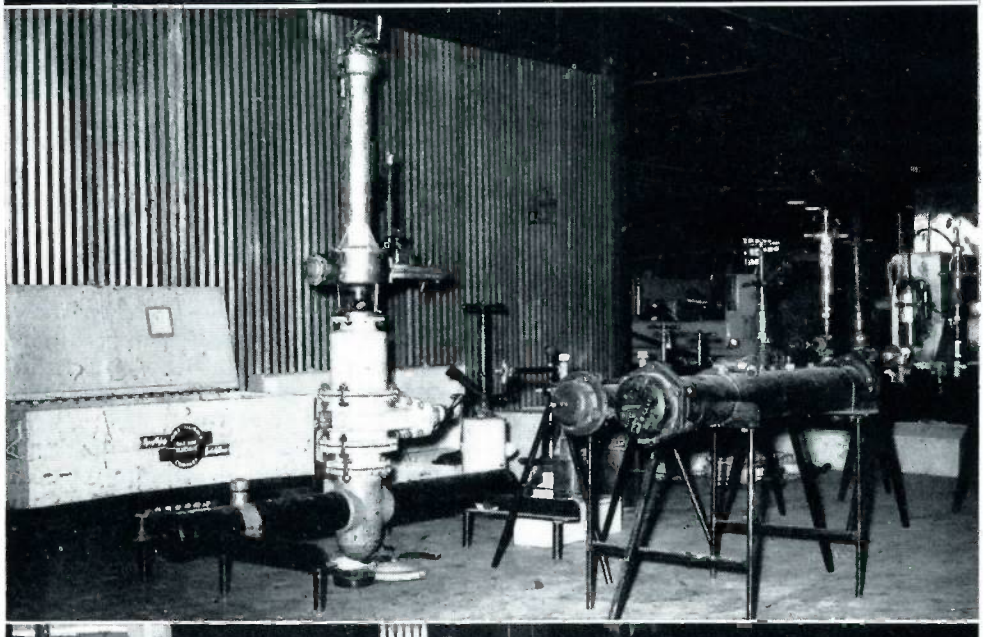
Student employees (bottom photo) in the Iowa-Illinois Gas and Electric Company training program get instruction in the No. 1 Line Stopper Unit. In the foreground two lines show the installation of various tees and gas stops. From left, the men are A. C. McCorkle, D. H. Smith, J. J. Cvitanovich, R. E. Cornmesser, P. Clark, C. W. Morrow, N. L. McCasland and H. Wiese. Mr. Morrow is a gas distribution supervisor and one of the company men trained to conduct the company's training program. The middle picture shows a Mueller Co. "C-1" Drilling Machine, at left, mounted on a gate valve attached to a line stopper fitting. At right are two pressurized lines, on supports, for the purpose of making practice connections. Storage cases, each containing a list describing equipment for the case, are shown in the background. At top, Nelson LeClair, Jr., Assistant Manager, Gas Department, points to one of several equipment lists posted in the company's tool room where crews may draw equipment for special jobs. Looking on is Ken Tohill, Mueller Co. sales representative.





These three men originated the Iowa-Illinois Gas and Electric Company's three year training program. From left, they are Nelson LeClair, Jr., Assistant Manager, Gas Department; R. M. Hetherington, Manager, Gas Department; and J. J. Daniel, Engineer Assistant.

with jobs that call for equipment not supplied in each set. When this occurs, crews may draw from the tool room any equipment needed for a special job. Master lists are conveniently displayed in the tool room showing what is available.

A test case might be the following: A foreman instructs his crew to report to a particular area to perform a job. The men first check their truck set to determine if they have sufficient equipment to handle the task. Let's assume they are going to perform a two-inch stopping operation on steel pipe. Their regular set of equipment isn't sufficient to accomplish the assignment, so they report to the tool room and draw out a Mueller D-4 machine, stopping machine and necessary equipment.

The second part of step three—control and maintenance—is a matter of teaching employees the importance of properly caring for all equipment. Company officials found that by placing individual kits on each truck, the men became more conscious of the equipment's appearance. A sort of friendly rivalry among crews has resulted in their efforts to keep their equipment in the best possible condition.

Step four is the establishment of an initial training program that eventually leads each apprentice who successfully completes the program to the status of journeyman.

The first year mainman apprentice spends 40 hours in lecture and 16 hours in the laboratory for a total of 56 hours actual instruction. The course is divided into six phases covering these topics:

1. Elements of Gas Business
2. Safety
3. Public Relations
4. Construction Tools—Maintenance and Care
5. Truck Operations and Care
6. Material

Thorough examinations are given at the conclusion of each course and all apprentices must quality with a successful grade before passing to the second year of training.

The second year apprentice course includes 43 hours of lecture and 30 hours in the laboratory or a total of 73 hours training. Subjects covered are the following:

1. Construction Methods and Standards
2. Tapping equipment (including Mueller E-4 and D-4 Machines)

3. Maintenance Methods and Standards
4. Appliances
5. Radio procedures
6. Equipment Operation and Care

Examinations covering the second year's training must be passed before the apprentice may begin his third year of training. This third and final year of apprentice training consists of 42 hours lecture and 26 hours laboratory or 68 hours. These subjects are covered:

1. Leak Detection
2. Principles of Construction and Operation
3. Telemetering
4. Pipe Locators
5. Corrosion Mitigation
6. Tapping Equipment — Operation and Maintenance of the Mueller C-1 machine
8. Company Operation
7. Record Keeping

Successful candidates become journeymen at the end of their year, and graduating employees of Iowa-Illinois Gas and Electric Company's Gas Department School are experts in their own right. They know gas equipment and how to use it. This is particularly pleasing to such firms as Mueller Co. because equipment can be only as efficient as the man who operates it. Place Mueller Co. equipment in the hands of a trained crewman and the very best results may be expected.

Iowa-Illinois Gas and Electric Company believes in a clean and orderly store room, as evidenced by this picture showing storage racks for adapters, stopping machines and other Mueller equipment.

As part of the training program a complete instruction manual describing the proper operation and care of all Mueller tapping and drilling machines now used by the company is given to apprentices to study. Employees are taught to use these Mueller machines:

1. Mueller "L" Machine ("G" and "H" in some districts)
2. Mueller No. 30 Machine
3. Mueller E-4 Machine
4. Mueller D-4 Machine
5. Mueller H-17135 Stopping Machine Line Stopper Unit No. 1
6. Mueller C-1 Machine
7. Mueller H-17235 Stopping Machine Line Stopper Unit No. 2
8. Mueller H-17335 Stopping Machine Line Stopper Unit No. 3
9. Mueller H-17345 Completion Machine
10. Mueller H-17010 Stop Changer

Another part of the training program also serves as a fine testimonial for Mueller products. Iowa-Illinois Gas and Electric Company has a traveling No-Blo exhibit which is demonstrated before all new and veteran crewmen. As part of the school's laboratory work, each Mueller machine and fitting is described and all men are taught to operate the equipment properly. This exhibit, which is similar to the one Mueller Co. has been showing to gas companies throughout the United States, has been presented to all Iowa-Illinois Gas and Electric Company districts. Several supervisors and foremen have been trained to become instructors and these men go out into the field demonstrating the proper use of Mueller equipment.

This company has found another answer to an old problem—training crewmen in an organized and efficient manner to a point where they can safely handle the hazardous job of working on gas mains. While other gas companies may have found equally as efficient programs, this is the method favored by Iowa-Illinois Gas and Electric Company. The firm is to be commended for devising this training program.

Back To School

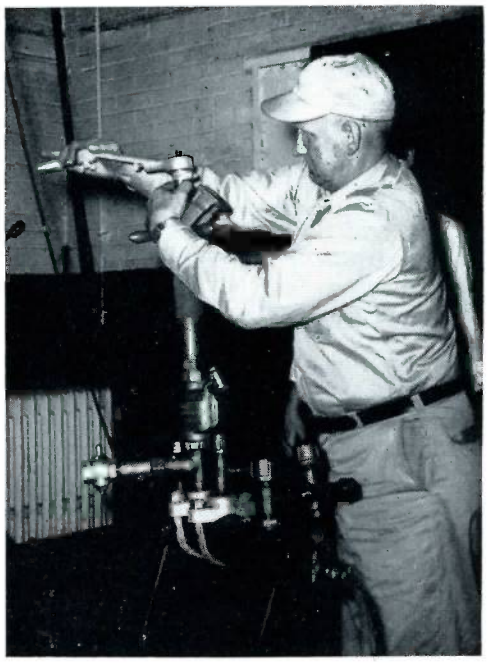
Recently Mueller Co. Sales Representative Jack Leahy conducted a demonstration of Mueller Co. No-Blo equipment at the East St. Louis, Illinois, property of the Illinois Power Company.

The demonstration is one that has been given by the Mueller Co. Sales Division to gas companies throughout the United States for several years.

The East St. Louis demonstration, which explained the operation of the Mueller "E-4" drilling machine, the No. 1 Line Stopper Unit and the H-17010 Stop Changer, was one of a series of demonstrations given at regularly scheduled safety meetings conducted by John Halvachs, Southern Group Gas Supervisor for Illinois Power Company.

Illinois Power Company feels that meetings such as these afford an excel-

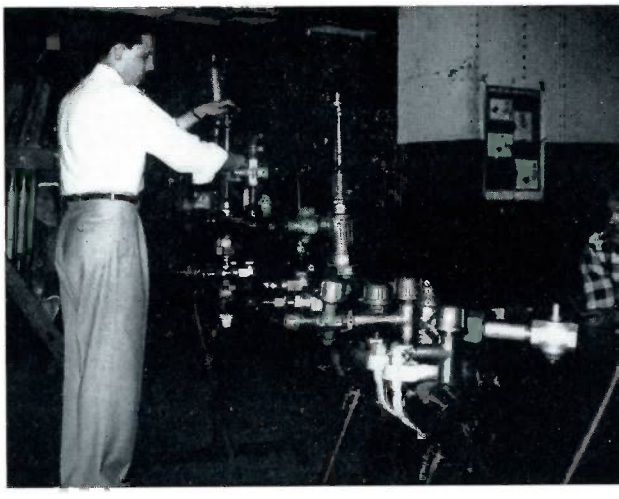
(Continued on page 18)



William Kaase, Pipe Fitter for Illinois Power Company trys his hand at turning the ratchet handle of the "E-4" Machine.

Assuming repairs have been made to the existing line, John Halvachs, left, General Division Superintendent, and Robert Jebavy, Gas Engineer, prepare to remove the machine. The boring bar brings up the stopper and Jack Leahy, Mueller Co. Sales Representative, points out that the gate valve must be closed before the machine is removed.

Mr. Leahy sets up an "E-4" Drilling Machine, with control chamber, and prepares to demonstrate a drill into a steel tee for members of the Illinois Power Company.



Mr. Leahy is taking advantage of the opportunity offered by the Mueller Co. Traveling No-Blo exhibit to demonstrate the No. 1 Line Stopper Unit to the Illinois Power Company properties in East St. Louis. Here, he demonstrates the Line Stopper Unit as used in a by-pass operation.

After the by-pass line is installed, connected at each end to an H-17135 Stopping Machine, and the old line is stopped off at the line stopper fitting by means of a rubber stopper—all accomplished by the Mueller Co. No-Blo method—then the old line is purged of remaining gas, as shown, and can be removed, repaired or other installations can be made. Taking part in Mr. Leahy's demonstration are, from left, Alex Gnavi, Assistant Gas Superintendent; Herb Moeller, Gas Superintendent; William Kaase, Fitter; Jack Eaves and Robert Hornbustle, both Assistant Gas Superintendents.

Gulf Interstate Plans $2 Million Pipeline Expansion

Gulf Interstate Gas Co., of Houston, Texas, has been authorized by the Federal Power Commission to construct and operate natural gas pipeline facilities estimated to cost $2,070,000.

The proposed construction consists of additions of one 2,000 horsepower compressor unit at each of the company's compressor stations, 2, 4, 6, and 8 located in Kentucky, Tennessee, Mississippi, and Louisiana. The additional horsepower will increase each station's rating to 10,000 horsepower.

The proposed construction will enable Gulf Interstate to increase its designed capacity from 375,000,000 cubic feet per day to 401,000,000.

Introducing: John E. Hockings

John E. Hockings, an assistant to Francis Carroll, Assistant Sales Manager, Gas Department, came to Mueller Co. at the Decatur plant in July, 1955, as a Sales Department assistant.

He was employed, both before and after service in the Navy, with Tucson Gas, Electric Light & Power Co. His former employer, Claude H. (Sparky) Webber, Vice-President in charge of Gas Distribution, highly recommended Mueller Co. to him.

Mr. Hockings' duties include the handling of correspondence with our customers. He often is called upon to recommend Mueller Co. products best suited for the requirements of customers, and to provide technical assistance to customers, as well as to sales representatives. Included in the material handled by this department are gas stops, drilling and tapping machines, gas transmission and distribution equipment including line stopper equipment and our No-Blo line of service material. Also included are pressure reducing and regulating valves and pressure relief valves for gas, water, air and oil.

John E. Hockings

Born in Racine, Wisconsin, Mr. Hockings grew up in Appleton, but moved to Tucson for his college work, taking a degree in general business from the University of Arizona. He is a member of Delta Sigma Phi social fraternity.

He was in the Navy from 1951 to 1954, stationed on the East Coast as a Lieutenant j.g. in the Supply Corps. After his Korean assignment he made a world cruise on board a destroyer, and spent six months on a Japanese destroyer training them in the operation of the ship, under the Mutual Defense Assistance program. He has recently returned from his annual two week Naval Reserve training cruise in Charleston, South Carolina.

Mr. Hockings' favorite hobbies are golf, hunting and traveling. He is married and has two daughters, Renda Sue, three, and Mary Margaret, eight months. Their home is at 2089 E. Whitmer, Decatur.

The Smog Problem: Can Natural Gas Solve This Industrial Center Menace?

West Coast smog research findings show that growing use of natural gas offers crowded industrial communities everywhere hope for victory in their battle against air pollution, according to Robert L. Chass, chief of the evaluation and planning staff of the Los Angeles County Air Pollution Control District.

Mr. Chass said extensive studies at industrial plants showed natural gas produced less than one-fifth as much smog-forming material as oil. He said the simple answer was that natural gas contains less impurities or undesirable contaminants than liquid or solid forms of fuel.

"To our knowledge," said the Los Angeles engineer, "the cleanest fuel in existence today—with the possible exception of atomic energy—is natural gas."

Mr. Chass said atomic energy may prove a highly desirable "fuel" but that little is known at this time as to what it would dispel into the atmosphere if widely used by industry.

"We might not get air pollutants with atomic energy, but we might well get something else," he said. "We may not get the answer until it is put into wide use."

Commenting on Mr. Chass' statement, W. F. Rockwell, Jr., President of the Gas Appliance Manufacturers Association, said: "These findings by one of the country's foremost air pollution experts are in line with industry's experience across the nation. Growing use of natural gas, in an almost unlimited number of applications, is permitting the happy situation—undreamed of a few decades ago—whereby the condition of the air improves even as fuel use increases. This applies in millions of homes as well as in industry."

"We recognize, of course, that air pollution is a complex subject, and that the producers and consumers of fuels other than gas are working hard and making big strides on the problem.

"However, gas has outstanding advantages in that its impurities are removed before it goes out to the customer. For communities everywhere, this is a great new weapon in the battle against air pollution. For industry, it means better community relations, and admission of plants to many sectors where they might otherwise be barred.

"Industrial growth is closely following the natural gas pipe lines, and the communities involved can benefit without having to accept a penalty in the form of air pollution."

William Rasch Death Marks End to Era

The recent death of William T. Rasch, first president of the Gas Appliance Manufacturers Association, marked the end of an era which produced many "firsts" in the gas industry.

Mr. Rasch, a graduate of Columbia University, began his career with the Consolidated Gas Company, now the Consolidated Edison Company of New York, as its utilization engineer. He was in charge of the influential "Consolidated Gas Company Appliance Laboratory" often termed the forerunner of the American Gas Association Laboratory.

Mr. Rasch later became president of the American Gas Products Corporation, a division of the American Radiator & Standard Sanitary Corporation, New York City. He was the first president of GAMA, serving from 1935 to 1937, and was active in many AGA capacities.

In 1940 he became president of the Security Manufacturing Company and moved to Kansas City. Later this became the Rasch Manufacturing Company and Mr. Rasch served as its president until his recent retirement.

He was born in Jersey City in 1890 and died April 18 at Fort Lauderdale, Florida.

Operating Men Praised

1,500 Attend A.G.A. Distribution, Motor Vehicle, Corrosion Conference

THE American Gas Association Distribution, Motor Vehicles and Corrosion Conference held in Chicago had 1,500 registrants to turn out for the week-long meeting, May 7-10 at the Congress Hotel.

Included in the week of meetings was the AGA Transmission Conference held at the nearby Conrad Hilton Hotel. The Distribution Conference alone consisted of three general sessions and 16 other sessions devoted to specialized topics.

High tribute was paid to the operating men who keep gas flowing through the industry's mains. In his welcome, James F. Oates, Jr., Chairman of The Peoples Gas Light And Coke Co., Chicago, said upon joining his company in 1946 he made visits to all departments before meeting the operating people. Afterward he said he exclaimed, "Why all the rest of the departments are merely staff for operating!"

Mr. Oates told how his company converted from manufactured gas to natural gas in three steps. In 1931 the utility converted from 535 Btu to 800 Btu gas; this was stepped up to 900 Btu in 1951 and by July 1, 1956 the system will be on straight natural gas.

C. S. Stackpole, AGA managing director, also commended the role of operating men in the mushrooming expansion of the gas industry. He recalled the "world of tomorrow" predicted less than two decades ago and pointed out that many of these predictions are already realities.

Presiding at the opening session was F. H. Bunnell, Distribution Committee chairman. He gave the floor to V. F. Bittner, Operating Section Vice Chairman, for a report on the Section's activities during the past year.

Mr. Bittner concluded with the presentation of a new honor—the Service Award—to four past chairmen of Operating Section committees. Plaques were received by H. M. Blain, New Orleans Public Service Co., Distribution Committee Past Chairman; C. W. Beggs, Public Service Electric and Gas Co., Corrosion Committee Past Chairman; S. M. Foeller, Michigan Consolidated Gas Co., Automotive and Mobile Equipment Committee Past Chairman; and John MacLarty, Rochester Gas and Electric Co., Customer Service Committee Past Chairman.

Attending the meeting from Mueller Co. were Frank H. Mueller, Vice President and Director of Engineering; Robert K. Levey, Assistant General Sales Manager; Walter J. Bowan, Chief Engineer of Research and Development; Robert L. Rhodes, Senior Engineer; and Lorin Grossboll, C. W. Auer, R. K. Morris, Ray Roarick, F. R. Seevers and J. E. Williamson, all Sales Representatives.

Importunity Knocks

A housewife answered her doorbell to find a man collecting money for a poor woman in the block. He said the old woman owed for coal and groceries and was about to be evicted because she owed four month's rent.

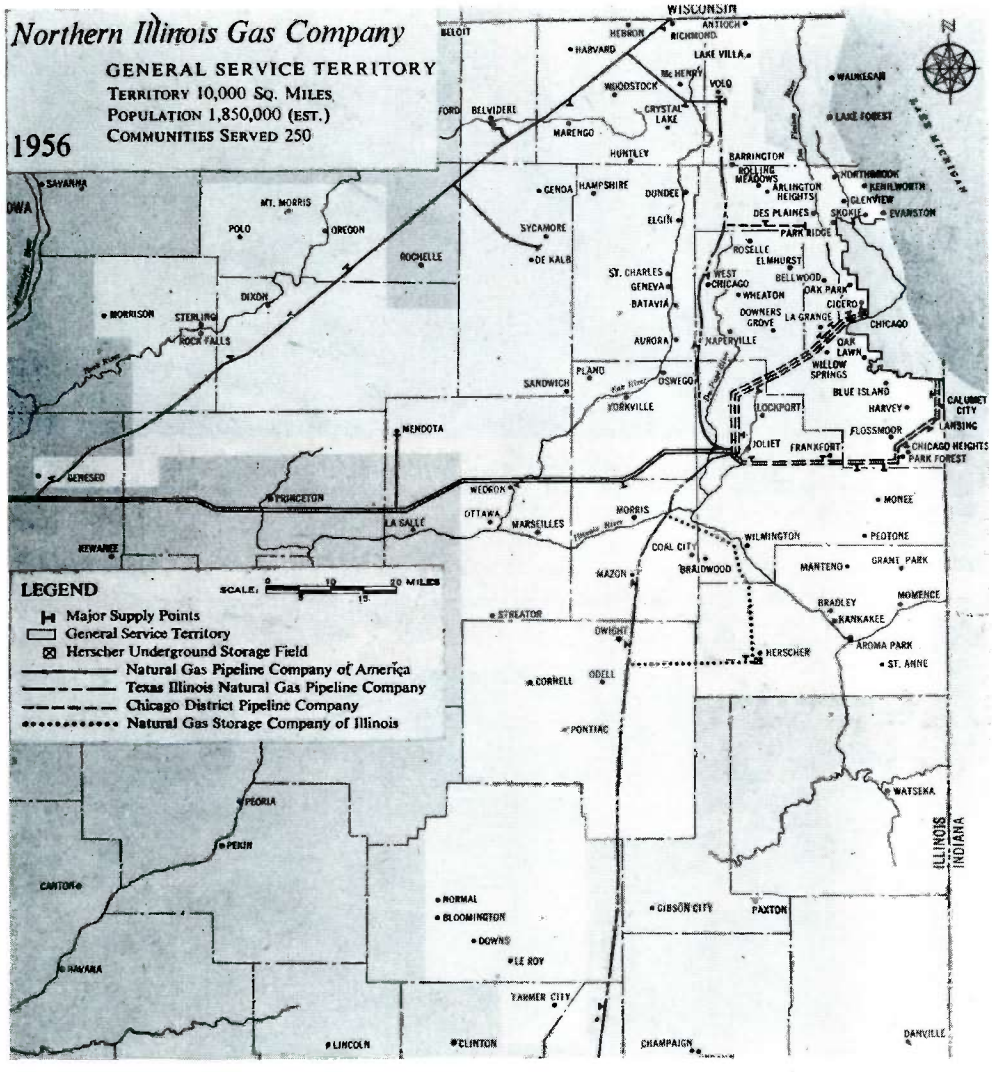
"Sire," the housewife said, "it's nice of you to take it on yourself to get money for the poor woman. Who are you?"

"I'm the landlord," the man answered.

Delegates to the Distribution conference were welcomed by James F. Oates, Jr. (right). Greeting Mr. Oates are F. H. Bunnell, left, Distribution Committee chairman, and V. F. Bittner, Operating Section Vice Chairman.

John B. Corrin, Jr., presiding at Friday's general session, greets speakers H. Henry Gellert, Seattle; C. F. Van Thullenar, U. S. Weather Bureau, Kansas City; and R. F. Bukacek, Institute of Gas Technology.

Youthful Giant



The Northern Illinois Gas Company serves natural gas to 250 communities in a 10,000 square mile, 18-county area outside Chicago. In 1946, there were 312,087 residential gas customers in that area; at the end of 1955 more than 525,000 were being served by NI-Gas. During the same period, the number of gas heat customers rose from about 35,000 to more than 201,000 . . . and the company still has about 110,000 on its gas heat waiting list!

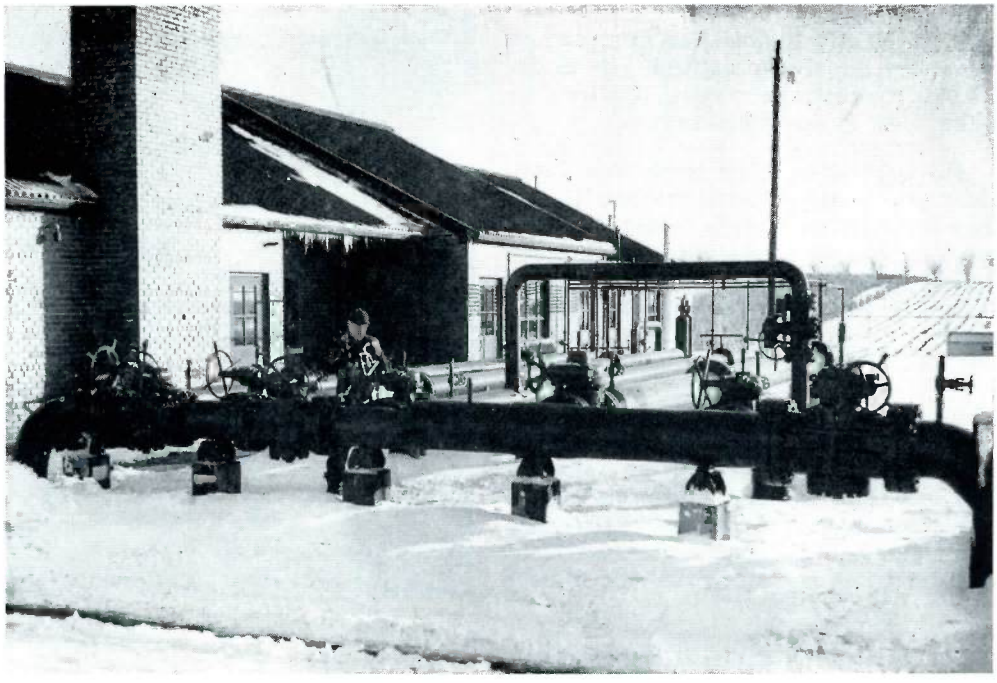
NORTHERN Illinois Gas Company is too busy supplying natural gas in its 10,000 square mile service territory to take bows in any glory saga.

Its more than 2,700 employees, however, are quietly proud of the way NI-Gas has developed in stature during the company's two-year existence. They confidently look to future progress that should strengthen the company's position as the second largest gas distributing utility in Illinois—the tenth largest in the nation. Employee enthusiasm stems from realization that the annual per cent increase of NI-Gas customers is about twice the national average, and the fact that average residential use by the more than 525,000 residential customers has steadily increased; last year, for example, use rose from 826 to 886 therms.

Northern Illinois Gas Company was incorporated late in 1953 as a subsidiary of Commonwealth Edison Company and in February, 1954, took ownership and commenced operation of the gas properties formerly owned and operated by the Public Service Company Division of Edison. In March, 1955, Edison distributed its last remaining holdings of Northern

Marvin Chandler became president of Northern Illinois Gas Company in November, 1954, following success in the security analyst field, particularly as a utility specialist. An energetic, around-the-clock "salesman" for Northern Illinois Gas, he traveled more than 40,000 miles expounding the merits of NI-Gas to 18 security analyst groups and others in 12 cities throughout the nation.

Operation headquarters in Bellwood is the nerve center for dispatching gas to the entire company. The building, which was enlarged last year, is the home of various general office departments (including sales, service, operating, transportation, engineering, real estate, claim, purchasing, advertising and publicity departments) as well as headquarters for the company's Central Division.



Northern Illinois Gas Company purchases its natural gas supply from Natural Gas Pipeline Company of America and the Texas Illinois Natural Gas Pipeline Company. Natural gas from Texas is received by NI-Gas at several supply points located throughout its territory. On a peak day last December 19, NI-Gas customers used 386,962,200 cubic feet of gas to establish a new 24-hour company send-out record.

Illinois Gas Company stock and the gas company became an independently owned distributing company whose service territory includes an 18-county area outside Chicago characterized by a favorable balance between industry, commerce and agriculture.

The increasing demands for natural gas by new and existing customers in the 250 community area served by NI-Gas has pressed the company to keep pace, but its initial successes indicate an illustrious future.

Jest For Fun

A man walked into his doctor's office with the worst case of shakes the doctor ever had seen. When he learned the man had them for years he asked, "Do you lead a very hectic night life?"

"Nope—almost never go out."

"How about smoking?"

"Never smoked in my life, Doc."

"Perhaps you drink too much."

"I don't know. What's too much?"

"Oh, say about a quart a day."

"A quart a day?" came the quivering voice. "Good gosh, Doc, I spill that much."

The colonel insisted that his cook serve a domestic, corn-fed turkey for Thanksgiving—no wild fowl. Came the day and the colonel cut into a beautiful, done-to-perfection bird, frowned cut again and said to his cook, "Didn't I tell you I wanted a domestic bird?"

"Yah, suh, dat's domestic, corn-fed fowl."

"Well, what about this shot I'm finding?"

The cook shuffled from one foot to the other. "Dat shot, colonel, suh, were meant fo' me."

Around the Gas Industry

The American Gas Association Accident Prevention Committee and the Rocky Mountain Gas Association are co-sponsoring the eighth annual accident prevention conference September 18 and 19 at the Shirley Savoy Hotel in Denver. It will feature safety awards, films, speakers and panel discussions.

More than 100 delegates from the United States and Canada are expected to attend. The presiding officer of the conference will be R. E. McEldowney, Safety Director of the United Fuel Gas Company of Charleston, West Virginia, and Chairman of the AGA Accident Prevention Committee.

Application for authority to construct 28.8 miles of pipeline in Virginia at an estimated cost of $3,380,000 has been filed by the Washington Gas Light Co., Washington, D. C., with the Federal Power Commission.

A $21,656,100 pipeline construction project is proposed by Trans-Carolina Pipeline Corp., of Raleigh, North Carolina, and application has been filed and accepted by the Federal Power Commission.

The main facilities included in the project are 70.7 miles of 18-inch pipeline from Moore, South Carolina, to a point on the border north of Lancaster, South Carolina; 80.7 miles of 16-inch line from the last named point to a point 12½ miles north of Laurinburg, North Carolina; 35.8 miles of 12¾-inch line from the latter point to Fayetteville; 85.3 miles of 10¾-inch line from Fayetteville to Farmville; shorter laterals require 60.3 miles of 8 5/8-inch pipe; 253.1 miles of 6 5/8-inch pipe; 254.2 miles of pipeline varying in diameter from 4½ inches to two inches. In addition to the 840.1 miles of transmission lines, meter stations and appurtenant facilities for their operation will be constructed.

The natural gas industry, as well as Mother Goose, has some little pigs that never go to the market. Yet they are not exactly stay-at-homes either. Large diameter natural gas transmission pipelines are cleaned at regular intervals by rotary scouring brushes called "pigs". These pigs are driven through the lines by gas pressure to remove impurities and scale from the pipeline walls that might retard the flow of gas.

For the past four years the gas utility companies have added new customers at a rate of better than 880,000 a year. With more than 21,500,000 customers now served with natural gas, this group represents nearly 75 per cent of all utility gas customers.

Total storage reservoir of the gas industry passed the two trillion cubic feet mark during 1955, according to the American Gas Association statistical report.

This ultimate capacity, which includes all native gas remaining in the reservoirs when storage operations were started, reached a total of 2,095,814,139 mcf in 1955. This was an increase of 237 million mcf over 1954.

Maximum gas in storage, the highest balance of input over output, stood at 1,150,000,000 mcf October 31, 1955, an increase of 139,000,000 mcf over 1954.

Facilities for underground storage represent a total investment of approximately $377,000,000, the AGA committee estimates. One-hundred, twenty-four compressor stations provide 348,000 horsepower available for storage in 1955. This is an increase of 48,000 horsepower over the previous year. Pennsylvania, West Virginia, Ohio and Michigan are still the four states in which most of the storage operations are carried on. Pennsylvania has taken the lead again in all the phases of storage operations with the other three close behind

W. J. Hill Appointed Sales Representative

William J. Hill has been appointed sales representative for Mueller Co. in Northern California, effective June 18.

Mr. Hill comes to Mueller Co. from the

William J. Hill

Western Utilities Supply Co. in Seattle, Washington. For the past seven years he has served that company as a sales representative in Oregon and is, as a result, thoroughly familiar with Mueller Co. products.

Prior to assuming his new position, he completed an intensive sales training program at Mueller Co. plants in Decatur and Chattanooga. His new headquarters will be Walnut Creek, California.

A Navy veteran of World War II, Mr. Hill is married and has two children.

AUTHORITY GRANTED

Texas Eastern Transmission Corp. of Shreveport and New York State Natural Gas Corp. of Pittsburgh have received temporary authority from FPC to construct and operate natural gas facilities in their jointly-owned Oakford storage field in Westmoreland County, Pennsylvania, at an estimated cost of $1,947,000.

Recording . . .

(Continued from page 2)

and permanent total disabilities in 1955.

On the other hand, the AGA said, the natural gas branch of the industry was successful in also lowering its severity rate as well as its frequency rate. There were 10.08 disabling injuries per million man-hours worked in the natural gas segment of the industry, 3.0 per cent fewer than in 1954.

The manufactured and mixed gas companies' frequency rate increased 2.5 per cent, from 10.90 injuries per million man-hours worked in 1954 to 11.7 in 1955. Severity rates in 1955 varied in much the same manner as frequency rates. Natural gas utilities and pipelines lowered their severity rate 3.0 per cent while the rate for manufactured and mixed gas companies increased 37.8 per cent.

While there is no method of accurately measuring the part played by Mueller Co. in lowering the frequency rate—the primary safety target of the industry—adoption of the use of Mueller No-Blo equipment certainly can be credited with having some part in the reduction of accidents among gas industry employees. In addition this equipment also has increased the safety of the consumer, another group in which the gas industry is vitally interested.

It is perhaps significant that Mueller No-Blo equipment was widely accepted and placed into use throughout the United States during this same period, 1947-56.

Back to School

(Continued from page 8)

lent opportunity to review the use of tools and equipment used by their men as well as to acquaint them with new methods and procedures.

Any gas company desiring a No-Blo demonstration may contact Mueller Co. in Decatur, Illinois, or a Mueller sales representative.

Husband, struggling with budget, to wife: We should have saved during the depression so we could live through this prosperity."

MUELLER®

Lub-O-Seal® meter stops...

ABSOLUTE

PROTECTION

1 GAS TIGHT "O" ring seals at top and bottom of key offer absolute assurance against leakage to the atmosphere. The precisely ground key is lapped into the stop body, preventing leakage through the port when the stop is closed.

2 LUBRICATED KEY The entire seating surface of the key is pressure lubricated through an independent port in the body. Lubricant is stored under pressure by the "O" rings. Vertical grooves in key lubricate stop each time it is operated, assuring easy turning.

3 TAMPERPROOF Heavy bronze washer is secured to the lower end of the stem with a blind pinned key. The original factory adjustment is retained even if the nut threads are stripped or if nut is removed from stem.

These and other advanced features of the Mueller Lub-O-Seal gas meter stop can help you eliminate meter stop replacement. Consult your Catalog G-97, your Mueller Representative or write direct for complete information.

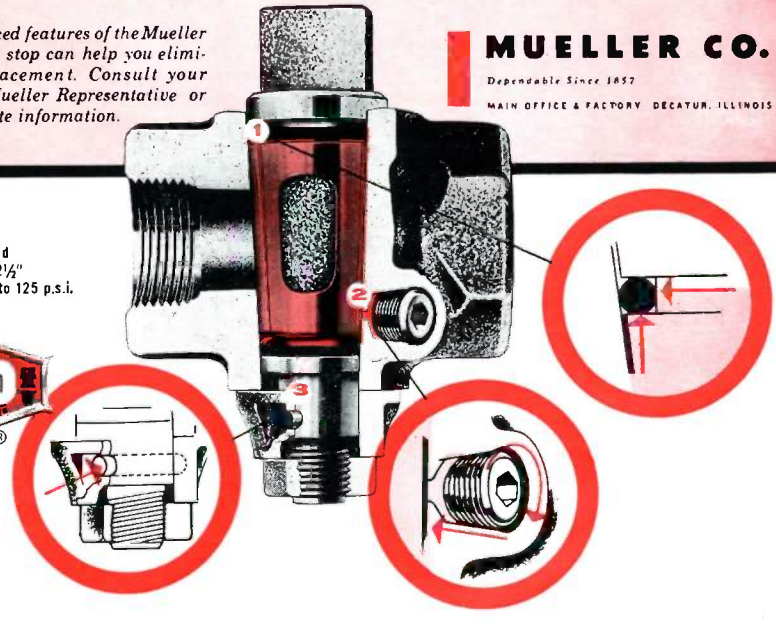
MUELLER CO.

Dependable Since 1857

MAIN OFFICE & FACTORY DECATUR, ILLINOIS

H-11170 Plain Head
H-11175 Lock Wing
Black or galvanized
Sizes ¾" through 2½"
Working pressure to 125 p.s.i.

MUELLER NO-BLO® GAS DISTRIBUTION PRODUCTS



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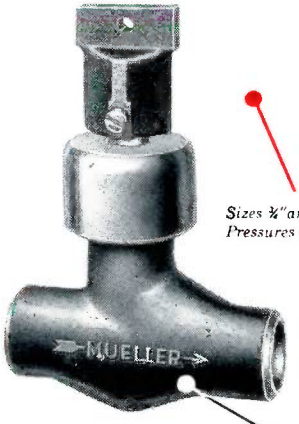

Sizes ¾" and 1"
Pressures to 1200 p.s.i.

No-Blo® Steel Valve. For high pressure service lines. Machined from steel forging. Available with threaded or welding inlets and outlets. "O" rings around stem and in cap prevent leakage to the outside. Metal to metal line contact of stem and seat assures gas-tight shut-off. The No-Blo Steel Valve can be completely reconditioned under full line pressure without escape of gas by using the Mueller E-4 Drilling Machine and gate valve. Easily operated from above ground through curb box.

POSITIVE CONTROL at the curb

Inverted key curb stop

Positive shut-offs are assured with precision ground key which is individually lapped into the stop body. This assures pressure tightness at the port and prevents leakage through the stop when closed. Key is firmly seated with spring pressure and line pressure. "O" ring seals at top and bottom of key prevent leakage to outside. Light down pressure on shut-off rod unseats key for easy turning. A wide selection of inlets and outlets will easily adapt it to any type of service line.

Sizes ¾" through 2"
Pressures to 125 p.s.i.

Contact your Mueller Representative or write direct for complete information.

MUELLER NO-BLO GAS DISTRIBUTION PRODUCTS

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Dependable Since 1857
MAIN OFFICE & FACTORY DECATUR, ILLINOIS